PERIODIC REVIEW REPORT
FEBRUARY 2014 – DECEMBER 2019

BEDFORD VILLAGE WELLS – SHOPPING ARCADE SITE
BEDFORD, NEW YORK 10506

NYSDEC Site No. 360006
Work Assignment No. D007620-45

Submitted to:

NEW YORK STATE OF OPPORTUNITY. Department of Environmental Conservation

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1.0 Introduction

This Periodic Review Report (PRR) has been prepared for the Bedford Village Wells – Shopping Arcade Site (referred to as the Bedford Village Wells – Shopping Arcade Site, Bedford Village Wells Site or "the Site") and covers the period from February 2014 through December 2019. The report was prepared in accordance with the New York State Department of Environmental Conservation (NYSDEC or the "Department") Division of Environmental Remediation (DER) Work Assignment (WA) No. D007620-45 Notice to Proceed dated October 11, 2018, the NYSDEC-approved Scope of Work dated February 19, 2019 (WA No. D007620-45) and NYSDEC DER-10, Technical Guidance for Site Investigation and Remediation (NYSDEC DER-10).

The PRR includes site management activities completed by Aztech Technologies, Inc. (Aztech (2015)), NYSDEC (2015, 2016 and 2017) and TRC Engineers, Inc. (TRC (2019)) and incorporates Site data and information from prior reports. The PRR presents the following information:

- A summary of pertinent background information;
- A brief description of the Site remedy and remaining contamination;
- Evaluations of:
  - Site monitoring protocols, procedures and documentation;
  - Condition of the established remedy;
  - Compliance with the Record of Decision (ROD), Amended ROD (AROD) and the Site Management Plan (SMP);
  - Remedy performance, effectiveness and protectiveness; and
- The institutional control and engineering control (IC/EC) certification (Section 6.0).

1.1 Site Location, Ownership, and Description

The Bedford Village Wells – Shopping Arcade Site, Site No. 360006, is a Class 4 Inactive Hazardous Waste Disposal Site. The Site property is an irregularly shaped 10-acre parcel of land (Section, Lot and Block No. 84.7-1-10), located at 644-656 Old Post Road, in the Village of Bedford, Westchester County, New York. The Site is partially developed with a single-story strip mall (i.e., Shopping Arcade) and parking lot. Refer to **Figure 1** for a Site Location Map. The Site is currently owned by Lashins Arcade Company, LLC and the Shopping Arcade is active with multiple retail tenants. The remainder of the Site is wooded/undeveloped land. The area surrounding the Site is a mixture of residential and commercial properties and the off-site area affected by site-related groundwater contaminants includes several residential and commercial properties near and adjacent to Old Post Road, Tarleton Road, and Court Road. Three ponds are located to the northeast, east and southwest of the Site. The ponds discharge to a tributary of the Mianus River, which is located less than 0.5 miles southeast of the Site. Refer to **Figure 2** for a Site Layout Map.

1.2 Investigation/Remediation History

Several dry-cleaning businesses reportedly operated at the Site from approximately 1958 to 1972. In 1978, the Westchester County Department of Health (WCDOH) tested private water-supply wells near the Site and detected volatile organic compounds (VOCs) in the wells. The source of the VOCs was traced to the Shopping Arcade and the Site was listed in the Registry of Inactive Hazardous Waste Disposal Sites in 1983. A Remedial Investigation/Feasibility Study (RI/FS) was completed between 1987 and 1989 and a ROD for the Site was issued in 1990. The RI identified chlorinated volatile organic compounds (CVOCs) related to the dry-cleaning operations (tetrachloroethene (PCE) and trichloroethene (TCE) and degradation by-products 1,2-dichloroethene (DCE) and vinyl chloride (VC)) and gasoline-related compounds (benzene, toluene, ethylbenzene and xylene (BTEX)) as the primary groundwater contaminants of concern (COCs) for the Site. The source of the groundwater contamination was determined to be improper disposal of dry-cleaning solvents in a septic system associated with the Shopping Arcade and a former gasoline station located on or adjacent to the Site property. The remedy in the ROD included on-site groundwater extraction and treatment, development of a new community water supply to supply homes and businesses affected by the contamination and installation of in-house activated carbon filters for affected commercial/residential properties until the new water supply could be established. The ROD specified PCE, TCE, DCE, VC, benzene, toluene and xylene as the primary COCs for the Site.

In 1991, the Town of Bedford purchased a local water supply and extended the distribution system to the off-site properties affected by the Site. NYSDEC provided the funding to purchase the water supply, install a second supply well, expand the capacity of the pump house, and complete the distribution system. In 1995, approximately 16 cubic yards of soil were removed from the source area west of the Shopping Arcade. After the public water supply was completed in 1997, low levels of VOCs were detected in the water-supply wells. As a precautionary measure, NYSDEC installed a treatment system (i.e., air stripper) on the water supply in 1998 to remove the contaminants.

Following installation of the public water supply, PCE was detected in groundwater at concentrations above the NYS Drinking Water Standard (5 micrograms per liter (µg/L)) in two private water-supply wells (one residence on Court Street and one residence on Old Post Road). At the time, the residences were not connected to the public water supply. As a result, a point-of-entry treatment (POET) system consisting of prefiltration, granular activated carbon (GAC) and ultraviolet (UV) disinfection was installed at the Old Post Road residence and the Court Street residence was connected to the public water supply system. The POET system was operated, maintained and monitored by NYSDEC until February 2014 when VOC concentrations decreased to acceptable levels and the system was taken off-line.

Since the primary goals of the ROD were accomplished by the source removal action, development of the public water supply and installation of the POET system, the ROD was amended in March 2002. The AROD included the following modifications:

- The requirement for groundwater extraction and treatment was removed and replaced with monitored natural attenuation (MNA);

- The Site was reclassified in the Registry of Inactive Hazardous Waste Disposal Sites to Class 4 (i.e., properly closed but requires continued site management consisting of operation, maintenance and/or monitoring); and,
- A long-term monitoring program was developed which included semi-annual sampling of four monitoring wells (MW-3M, MW-4B, MW-6B, and MW-6M) for five years, and subsequent annual sampling of the wells until groundwater standards were achieved for site-related compounds.

1.3 Remaining Contamination

Remaining contamination at the Site includes low-level VOC concentrations in overburden and shallow bedrock groundwater.

1.4 Regulatory Requirements/Cleanup Goals

The remedial action objectives and cleanup goals for the Site include the following:

- Eliminate, to the extent practicable, ingestion of groundwater impacted by the Site that does not attain New York State Department of Health (NYSDOH) drinking water standards.
- Eliminate, to the extent practicable, further off-Site migration of groundwater that does not attain NYSDEC Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1 Class GA Standards and Guidance Values (Class GA Values).

2.0 Institutional and Engineering Control Plan Compliance

2.1 Institutional Controls

The Bedford Village Wells Site is managed under the New York State Superfund Program. The Site's inclusion on the Registry of Inactive Hazardous Waste Disposal Sites, ROD, AROD and SMP act as the Institutional Controls (ICs) for the Site. The Site does not have an environmental easement, which defines use restrictions; however, the AROD specifies that groundwater beneath the Site cannot be used as a drinking water resource without treatment and requires the use of public water at the Site and at properties within the contaminated area surrounding the Site. Based on the results of the site inspection completed by TRC and a review of Site information provided by others, groundwater/public water use activities at the Site and in the surrounding area were consistent with the requirements of the AROD during the reporting period.

2.2 Engineering Controls

Currently, there are no Engineering Controls (ECs) in-place at the Site. The POET system at the residence on Old Post Road was taken off-line in 2014 when VOC concentrations decreased to acceptable levels and was removed by AECOM Technical Services Northeast (AECOM) in August/September 2018.

3.0 Monitoring and Sampling Plan Compliance

A SMP (Aztech Technologies, Inc., 2014) was prepared to manage the Site until groundwater standards are achieved for site-related compounds. The SMP was prepared in accordance with NYSDEC DER-10 and NYSDEC template documents. The SMP specifies the following monitoring and sampling activities for the Site:

Summary of SMP Site Monitoring and Sampling Plan August 2014			
Site Management Activity	**Frequency**	**Location**	**Laboratory Analysis**
Site inspection	With each groundwater sampling event and within 5 days following a severe weather event	Site property and affected off-Site area	Not Applicable
Groundwater sampling	Every 5 quarters	MW-3M, MW-4B, MW-5B, MW-5S, MW-6B, MW-6M, MW-7B, MW-U7, MW-8B, and MW-8M	Target Compound List (TCL) VOCs by United States Environmental Protection Agency (USEPA) Method 8260
Groundwater Monitoring Report	Following each groundwater sampling event	Not Applicable	Not Applicable
Site Inspection Report	Following each inspection event	Not Applicable	Not Applicable
Periodic Review Report	Every 3 years[1]	Not Applicable	Not Applicable

The following SMP modifications have been approved by NYSDEC; however, it should be noted that the SMP has not been revised to include the changes:

[1] Page 19 of the SMP specifies one PRR will be submitted for the Site every 5 years. Page 21 of the SMP specifies one PRR will be submitted for the Site every 3 years. Based on prior reports, it appears the required PRR submittal frequency is one report every 3 years.

- An increase in the routine site inspection frequency from one inspection every 5 quarters to one inspection annually.
- The addition of two monitoring wells MW-U8 and MW-U9 to the groundwater sampling program.
- Sampling and analysis of per- and polyfluoroalkyl substances (PFAS) by USEPA Method 537 (modified) and 1,4-dioxane by USEPA Method 8270 and Selected Ion Monitoring (SIM) at three monitoring wells MW-3M, MW-6M and MW-7B (one-time event).

3.1 Site Inspections

3.1.1 Inspection Procedures

Site inspections are performed concurrently with groundwater sampling events or, on an as-needed basis (i.e., after severe weather events that may affect the monitoring well network). The inspections include a site walkthrough, completion of the site-wide inspection checklist, photographic documentation of site conditions, inspection of the condition of existing monitoring wells, and monitoring well gauging.

3.1.2 Inspection Results

Two site inspections were completed this reporting period. The NYSDEC completed a site inspection on August 23, 2016 and TRC completed a site-wide inspection on March 19, 2019. The following presents a summary of the site inspection results:

- Of the 15 site monitoring wells, 12 wells (MW-3M, MW-4B, MW-5B, MW-5S, MW-6B, MW-6M, MW-7B, MW-U7, MW-8B, MW-8M, MW-U8 and MW-U9) were located and 3 wells (MW-1B, MW-4S and MW-10) were not located.
- The flush-mounted protective cover for monitoring well MW-4B was covered by soil and grass, and it was determined that the well does not have a concrete surface pad.
- The concrete surface pads for monitoring wells MW-5S and MW-U8 lifted significantly, apparently due to frost action.
- The hinges on the protective covers for monitoring wells MW-U7 and MW-U9 are missing.
- The locks on the 12 monitoring wells were rusted and inoperable. As a result, the locks were removed and replaced.
- The Site is currently occupied and used as a Shopping Arcade.
- No recent or active construction projects were noted at or near the Site.

The site inspection documentation is presented in **Appendix A.**

3.2 Groundwater Gauging and Sampling

3.2.1 Monitoring Well Network

A network of groundwater monitoring wells has been installed to monitor groundwater conditions within the overburden and shallow bedrock at the Site. Presently, the monitoring well network consists of the following 12 wells as shown on **Figure 2**:

- MW-3M – overburden well, directly downgradient of the source removal area (within 150 feet).
- MW-4B – shallow bedrock well, directly downgradient of the source removal area (within 500 feet).
- MW-5B – shallow bedrock well, cross-gradient to the south of the source removal area (within 700 feet).
- MW-5S – overburden well, cross-gradient to the south of the source removal area (within 700 feet).
- MW-6B – shallow bedrock well, directly downgradient of the source removal area (within 750 feet).
- MW-6M – overburden well, directly downgradient of the source removal area (within 750 feet).
- MW-7B – deep bedrock well, upgradient of the source removal area (within 400 feet) with a total depth to bottom at approximately the same elevation as the top of bedrock beneath the former source area.
- MW-U7 – overburden well, cross-gradient to the north of the source removal area (within 400 feet).
- MW-U8 – overburden well, cross-gradient to the north of the source removal area (within 400 feet).
- MW-8B – shallow bedrock well, cross-gradient to the north of the source removal area (within 550 feet).
- MW-8M – overburden well, cross-gradient to the north of the source removal area (within 550 feet).
- MW-U9 – overburden well, cross-gradient to the north of the source removal area (within 400 feet).

3.2.2 Water Level Measurements

Two rounds of water level measurements were completed at the Site this reporting period prior to the groundwater sampling events in August 2016 and March 2019. The NYSDEC completed the August 2016 measurements and TRC completed the March 2019 measurements. Groundwater levels were measured in the 12 monitoring wells shown on **Figure 2**. Monitoring wells were gauged for total well depth, depth to water, and although not expected, depth to non-aqueous phase liquid (NAPL). No LNAPL, odors or discoloration was encountered during the water level measurement events. Groundwater level measurements from the August 2016[2] and March 2019 events are presented below.

[2] The Top of Casing (TOC) elevation was reported incorrectly in the 2014 PRR for monitoring well MW-7B as 371.04 feet. The correct elevation for TOC for monitoring well MW-7B is 471.04 feet, which is the TOC elevation used for both the 2016 and 2019 groundwater surface elevation calculations.

Summary of Groundwater Level Measurements August 2016 and March 2019					
Monitoring Well	**Top of Riser Elevation (feet)**	**DTW August 2016 (feet bgs)**	**DTW March 2019 (feet bgs)**	**Groundwater Surface Elevation August 2016 (feet)**	**Groundwater Surface Elevation March 2019 (feet)**
MW-3M	398.29	13.68	8.90	384.61	389.39
MW-4B	370.69	4.82	2.63	365.87	368.06
MW-5B	374.18	8.85	5.99	365.33	368.19
MW-5S	374.02	8.70	6.55	365.32	367.47
MW-6B	367.25	0.87	0.00	366.38	367.25
MW-6M	367.21	3.53	2.56	363.68	364.65
MW-7B	471.04	66.14	22.92	404.90	448.12
MW-U7	NA	9.80	7.41	NA	NA
MW-U8	NA	9.91	7.53	NA	NA
MW-8B	371.62	5.48	3.26	366.14	368.36
MW-8M	371.62	5.41	3.27	366.21	368.35
MW-U9	NA	10.04	7.62	NA	NA

Notes:

DTW – Depth to water

NA – Not available

bgs – Below ground surface

Depth to groundwater water level measurements and monitoring well survey data were used to calculate groundwater surface elevations and prepare contour maps for the March 2019 event. Contour maps were prepared for the overburden and shallow bedrock monitoring wells and are presented on **Figures 3** and **4**. Based on a review of the water level elevation data, the predominant direction of groundwater flow in the overburden and shallow bedrock wells is northeast, which is consistent with prior reports.

3.2.3 Groundwater Sampling Results

Five rounds of groundwater samples were collected from the Site monitoring wells this reporting period, in May 2015, December 2015, August 2016, July 2017, and March/April 2019. Aztech completed the May 2015 sampling event, NYSDEC completed the December 2016, August 2016 and July 2017 sampling events, and TRC completed the March/April 2019 sampling event. A summary of the wells sampled, and laboratory analyses performed as part of each sampling event is presented below:

- May 2015 – Ten monitoring wells (MW-3M, MW-5B, MW-5S, MW-6B, MW-6M, MW-7B[3], MW-U7, MW-8B, MW-8M and MW-U9) for TCL VOCs.
- December 2015 – Five monitoring wells (MW-3M, MW-5B, MW-5S, MW-6B, and MW-6M) for TCL VOCs.
- August 2016 and July 2017 – Twelve monitoring wells (MW-3M, MW-4B, MW-5B, MW-5S, MW-6B, MW-6M, MW-7B[3], MW-U7, MW-8B, MW-8M, MW-U8, and MW-U9) for TCL VOCs.
- March/April 2019 – Three monitoring wells (MW-3M, MW-6M, and MW-U7) for PFAS and 1,4-dioxane (March 2019). Twelve monitoring wells (MW-3M, MW-4B, MW-5B, MW-5S, MW-6B, MW-6M, MW-7B, MW-8B, MW-8M, MW-U7, MW-U8 and MW-U9) for TCL VOCs (April 2019).

Groundwater samples for VOC analysis were collected via Passive Diffusion Bags (PDBs). Groundwater samples for PFAS and 1,4-dioxane analyses were collected in accordance with the NYSDEC guidance document titled "Collection of Groundwater Samples for Perfluorooctanoic Acid (PFOA) and Perfluorinated Compounds (PFCs) from Monitoring Wells Sample Protocol", dated June 2016. Sample collection methods were consistent with the Field Activities Plan, including modifications for sampling for PFAS. High density polyethylene (HDPE) tubing and equipment compatible with the recommendations for PFAS purging protocols were used.

Standard chain-of-custody procedures were followed for all samples. As part of the March/April 2019 event, quality control samples, including matrix spike and matrix spike duplicates, were collected at a minimum frequency of one per 20 samples in accordance with the Quality Assurance Project Plan. Trip blanks were included in each cooler containing samples for VOC analysis. In addition, one equipment blank sample was collected for PFAS analysis to document that no PFAS contamination was introduced by the sampling method/equipment. Category B data deliverable packages were requested.

Summaries of the results of the analyses of the groundwater samples are presented in **Tables 1** and **2**. **Figure 5** presents a summary of the results of the analyses of the groundwater samples for VOCs above the Class GA Values. Groundwater sampling logs for the March/April 2019 event are presented in **Appendix B**. Data Usability Summary Reports for the March/April 2019 sampling event are presented in **Appendix C.** A summary of VOCs detected and concentrations above Class GA Values this reporting period is presented below.

[3] Monitoring well MW-7B is the original location ID; however, the location ID was inadvertently labeled as MW-7 in prior reports and sampling events. Monitoring well MW-7B and MW-7 refer to the same bedrock monitoring well location.

VOCs Detected at Concentrations Above Class GA Values in Groundwater May 2015 – April 2019									
VOC **Class GA Value** **Unit**		**ACE** **50** **µg/L**	**BZ** **1** **µg/L**	**cis-1,2-DCE** **5** **µg/L**	**DCD-FMA** **5** **µg/L**	**sec-Butylbenzene** **5 µg/L**	**PCE** **5** **µg/L**	**TCE** **5** **µg/L**	**trans-1,2-DCE** **5** **µg/L**
Monitoring Well	**Sample Date**								
MW-3M	8/16	ND	ND	ND	**11**	ND	3.6	ND	ND
MW-4B	8/16	**72**	ND	**10**	ND	ND	**7.3**	**16**	ND
	7/17	11 J	ND	**12**	ND	ND	**15**	**18**	0.28 J
	4/19	ND	ND	**11**	ND	---	**21**	**24**	ND
MW-5B	8/16	**100**	ND	ND	ND	ND	1.2	ND	ND
MW-5S	8/16	**85**	ND	ND	ND	ND	ND	ND	ND

VOCs Detected at Concentrations Above Class GA Values in Groundwater May 2015 – April 2019									
VOC **Class GA Value** **Unit**		**ACE** **50** **µg/L**	**BZ** **1** **µg/L**	**cis-1,2-DCE** **5** **µg/L**	**DCD-FMA** **5** **µg/L**	**sec-Butylbenzene** **5 µg/L**	**PCE** **5** **µg/L**	**TCE** **5** **µg/L**	**trans-1,2-DCE** **5** **µg/L**
Monitoring Well	**Sample Date**								
MW-6B	5/15	**12**	ND	0.91 J	ND	---	**5.7**	0.91 J	ND
	12/15	ND	**2.7**	0.59	ND	ND	2.2	0.61	ND
	8/16	ND	**1.1**	0.65	ND	ND	2.9	0.67	ND
	7/17	9.2 J	ND	0.77	ND	ND	**6.0**	0.76	ND
	4/19	ND	ND	1.6	ND	---	**5.2**	1.3	ND
MW-6M	8/16	14	**1.3**	4.5	ND	**5.2**	ND	1.7	**5.6**

Notes:

Bold value indicates result above Class GA Value

ACE – Acetone

BZ – Benzene

cis-1,2-DCE – cis-1,2-Dichloroethene

DCDFMA – Dichlorodifluoromethane

PCE – Tetrachloroethene

TCE – Trichloroethene

trans-1,2-DCE – trans-1,2-Dichloroethene

µg/L – Micrograms per liter

J – Estimated value

ND – Not detected above quantitation limit

--- – No data available for indicated compound

Trends for total CVOCs are used to evaluate the effectiveness of the Site remedy (e.g., source removal action and MNA). Trend graphs for total CVOCs in monitoring wells MW-3M, MW-4B, MW-6M and MW-6B are presented on **Figure 6**. A discussion of the trends observed in each monitoring well is presented below.

Monitoring Well MW-3M

Monitoring well MW-3M is the closest downgradient overburden well to the Site. During the current reporting period, no Site-related CVOCs were detected at concentrations exceeding Class GA Values. The trend for total CVOCs in monitoring well MW-3M appears to be stable or declining, with total CVOC concentrations less than 5 µg/L for each of the five sampling events in the reporting period **(Figure 6)**. Historically, PCE has been the CVOC detected in this well. In May 2015 and April 2019 PCE was not detected in groundwater at this location (**Figure 5**). In December 2015, August 2016 and July 2017 PCE was detected at concentrations below Class GA Values, marking the first reporting period without an exceedance of PCE in the well.

Monitoring Well MW-4B

Monitoring well MW-4B is the closest downgradient bedrock well to the Site. Overall, the concentration trend from December 2000 to present shows a decrease in total CVOC concentrations in this monitoring well (**Figure6**). Historically, total CVOC concentrations have ranged from approximately 20 µg/L to 100 µg/L in this well with an overall decreasing trend through 2014. However, the data from this reporting period shows a steady increase in total CVOCs at this location. Most notably, the concentration of DCE in this monitoring well has been stable; while PCE and TCE concentrations have increased (**Figure 5**).

Monitoring Well MW-6M

Monitoring well MW-6M is an overburden well in the residential area that is directly downgradient of the Site. Overall, the concentration trend from December 2000 to present shows a decrease in total CVOC concentrations in this monitoring well (**Figure 6**). Historically, total CVOC concentrations have ranged from approximately 15 µg/L to 45 µg/L at this location between 2000 and 2003. Since 2003, the trend for total CVOCs in monitoring well MW-6M has been relatively stable, with total CVOC concentrations varying between approximately 0 µg/L and 12 µg/L (**Figure 6**).

Concentrations of other VOCs were also observed in monitoring well MW-6M during the reporting period. Benzene and sec-Butylbenzene were detected at concentrations above Class GA Values in 2016. Several other VOCs, most likely related to the former gas station, were detected at concentrations below Class GA

Values in monitoring well MW-6M. Previous reports state that these observations are typical for this monitoring well.

Monitoring well MW-6B

Monitoring well MW-6B is a bedrock well located near monitoring well MW-6M. Overall, the concentration trend from December 2000 to present shows a decrease in total CVOC concentrations in this monitoring well (**Figure 6**). Historically, CVOC concentrations ranged between approximately 8 µg/L and 18 µg/L between 2000 and 2003. Between 2003 and 2014, total Site-related CVOCs in monitoring well MW-6B have been relatively stable, with concentrations typically ranging from approximately 3 µg/L to 6 µg/L. However, the data from this reporting period show that the concentrations of total Site-related CVOCs in groundwater has increased slightly (within the same order of magnitude) at this location. PCE is the primary CVOC compound leading to the upward trend in concentrations during this reporting period (**Figure 5**).

Site Wide COVC Distribution

The current Site-wide distribution of total CVOC concentrations in groundwater is presented on **Figure 7.** Inferred total CVOC concentrations are shown for bedrock groundwater only. Total CVOC concentrations were not plotted for overburden groundwater because concentrations of total Site-related CVOCs were not detected above 5 µg/l during the most recent sampling event (April 2019).

As shown on **Figure 7**, the highest concentrations of Site-related CVOCs in groundwater are located in the bedrock hydraulically downgradient from the former source area in monitoring well MW-4B, and likely represent the residual groundwater plume at the Site. Total CVOC concentrations decrease significantly in bedrock from monitoring well MW-4B to monitoring well MW-6B in the direction of groundwater flow. This shows that the CVOC plume has decreased and only low-level impacts continue to be observed in the bedrock in a limited area downgradient of the former source area.

Emerging Contaminants

A summary of the results of the analysis of 1,4-dioxane and PFAS in groundwater is presented below. The results of the analyses are also presented in **Table 2**.

Emerging Contaminants Detected in Groundwater March 2019				
Sample Location **Sample Date**		**MW-3M** **03/20/2019**	**MW-6M** **03/20/2019**	**MW-U7** **03/20/2019**
Analyte	**Units**	**Results**	**Results**	**Results**
1,4-Dioxane	**µg/L**	ND	**0.15 J**	ND
Perfluorobutanoic acid (PFBA)	**ng/L**	**7.0**	ND	**2.0**
Perfluoropentanoic acid (PFPeA)	**ng/L**	**9.3**	**15**	**3.8**
Perfluorohexanoic acid (PFHxA)	**ng/L**	**6.9**	**16**	**3.7**
Perfluoroheptanoic acid (PFHpA)	**ng/L**	**8.0**	**7.7**	**2.5**
Perfluorooctanoic acid (PFOA)	**ng/L**	**23**	**31**	**16**
Perfluorononanoic acid (PFNA)	**ng/L**	**1.2 J**	**1.7 J**	**0.64 J**
Perfluorodecanoic acid (PFDA)	**ng/L**	ND	**0.67 J**	ND
Perfluorobutanesulfonic acid (PFBS)	**ng/L**	**8.2**	**17**	**4.3**
Perfluorohexanesulfonic acid (PFHxS)	**ng/L**	**4.8**	**27**	**2.9**
Perfluoroheptanesulfonic acid (PFHpS)	**ng/L**	**0.70 J**	**0.78 J**	**0.36 J**
Perfluorooctanesulfonic acid (PFOS)	**ng/L**	**24**	**25**	**7.8**
Perfluorooctane Sulfonamide (PFOSA)	**ng/L**	ND	ND	**5.1**
N-Ethyl-N-((heptadecafluorooctyl) sulphonyl) glycine (N-EtFOSAA)	**ng/L**	ND	ND	**41**
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2 FTS)	**ng/L**	ND	ND	**23**
PFOA + PFOS	**ng/L**	**47**	**56**	**23.8**

Notes:

Bold value indicates compound was detected

µg/L – Micrograms per liter

ng/L – Nanograms per liter

J – Estimated value

ND – Not detected above quantitation limit

4.0 Cost Summary

The total estimated cost of the site management activities for 2019 (January 1, 2019 through December 31, 2019) is approximately $36,375. Site management activities included an annual site inspection, sampling and analysis of 12 monitoring wells for TCL VOCs, analysis of samples from three wells for 1,4-dioxane and PFAS, and preparation of a Periodic Review Report. The total includes engineering and subcontractor costs, as well as expenses associated with the project. It should be noted that the total does not include costs incurred by NYSDEC in support of the project. A summary of the 2019 site management costs is presented below:

Summary of Site Management Costs
January 1, 2019 through December 31, 2019

Cost Item	Amount Expended (January 1, 2019 through December 31, 2019)	Percent of Total Cost
Engineering Support		
TRC	$31,350.00	86%
Subcontractors		
TestAmerica	$2,675.00	8%
Expenses		
TRC	$2,350.00	6%
Total Cost	**$36,375.00**	----

The following provides a review of each cost item:

- Engineering support includes labor costs associated with project management (e.g., WA Package preparation, monthly invoicing, project scheduling and coordination, etc.), site inspections, groundwater sampling, and reporting (i.e., site inspection report, DUSR, and PRR).
- Subcontractors include analytical laboratory costs associated with the groundwater sampling event.
- Expense costs include travel, equipment, and supplies in support of the site inspection, groundwater sampling event and routine site maintenance activities.
- Reporting costs include data validation, DUSRs, electronic data deliverable (EDD) preparation, evaluation of historical data, and PRR preparation.

5.0 Conclusions and Recommendations

The following conclusions and recommendations are based on the findings of the site management activities completed this reporting period, as well as a review of information obtained from prior reports.

5.1 Conclusions

- **Compliance with the ROD, AROD and SMP:** Site and groundwater use are consistent with the restrictions set forth in the ROD, AROD and SMP. Groundwater monitoring activities were completed this reporting period; however, the location and number of wells sampled as part of each event and the timing of the sampling events varied. Site inspections, site inspection reports, groundwater monitoring reports and PRRs were not completed at the frequency specified in the SMP. The ICs operated as intended this reporting period despite not being fully implemented.
- **Performance and Effectiveness:** The POET system at the residence on Old Post Road was taken off-line in 2014 since influent contaminant concentrations met standards. The system was removed this reporting period. Monitoring wells MW-7B, MW-U7, MW-8B, MW-8M, MW-U8, and MW-U9 did not have any exceedances of Class GA Values during the reporting period. Monitoring wells MW-3M, MW-5B and MW-5S only had one exceedance each of non-Site related VOCs this reporting period. The exceedances were slightly above the Class GA Values and occurred during the 2016 sampling event. Site-related VOC concentrations detected in monitoring wells MW-4B, MW-6M, and MW-6B were within historical ranges. With the exception of MW-4B, concentration trends in the monitoring wells are stable or declining.
- **Protectiveness:** The remedy continued to be protective of human health and the environment this reporting period.

5.2 Recommendations

- Site inspections and site inspection reports should continue to be completed at the frequency specified in the SMP.
- The concrete surface pads at monitoring wells MW-4B, MW-5S and MW-U8 should be replaced. The protective covers at monitoring wells MW-U7 and MW-U9 should be repaired or replaced. Top of ground surface, protective cover and polyvinyl chloride (PVC) riser elevations should be surveyed for the 12 site monitoring wells following the repairs.
- Water level measurements should continue to be collected at the 12 site monitoring wells during inspection and groundwater monitoring events.
- The six monitoring wells with no reported exceedances of VOCs in groundwater samples during the reporting period should be removed from the sampling list. These wells include monitoring well MW-7B, MW-U7, MW-8B, MW-8M, MW-U8, MW-U9. Two wells with one exceedance of

non-Site related VOCs in groundwater samples collected during the 2016 event should also be removed from the sampling list. These wells include monitoring well MW-5S and MW-5B.

- The frequency of the groundwater monitoring events should be changed from one event every 5 quarters (next event scheduled for Q2 2020), to one event every 3 years (next sampling event proposed for Q1 2022).
- The frequency of the PRRs should be changed from one report every 3 years to one report every 5 years. The certification period should be calendar year beginning January 1st to calendar year ending December 31st, with the next PRR covering the reporting period beginning January 1, 2020 and ending December 31, 2025.
- The SMP should be revised to reflect the above changes/modifications if the changes are acceptable to the NYSDEC.

6.0 Certification of Engineering and Institutional Controls

For each institutional or engineering control identified for the Site, I certify that all of the following statements are true:

- The institutional and/or engineering control employed at this Site is unchanged from the date the control was put in place, or last approved by DER;
- Nothing has occurred that would impair the ability of such control to protect public health and the environment; and,
- Nothing has occurred that would constitute a violation or failure to comply with any Site Management Plan for this control.

TRC Engineers, Inc.

Prepared By: 

Nathan T. Kranes, P.G

Project Manager

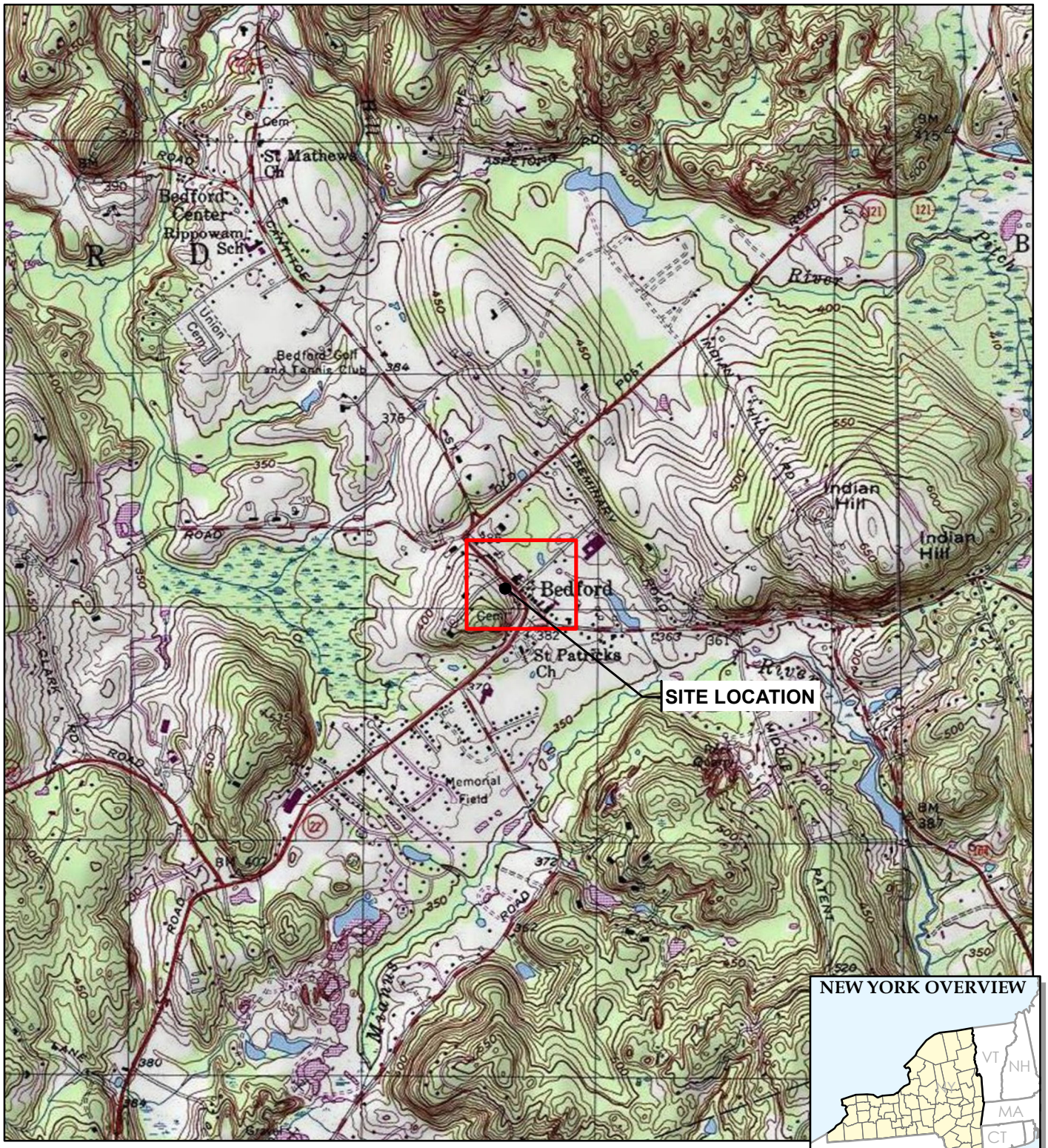
Reviewed By: 

James J. Magda, P.G.

Technical Reviewer

7.0 References

- New York State Department of Environmental Conservation, New York State Superfund Record of Decision, Bedford Village Wells – Shopping Arcade Site, March 1990.
- NYSDEC Division of Water, Technical and Operational Guidance Series (TOGS 1.1.1) – Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, June 1998, Errata Sheet January 1999, and Addenda April 2000 and June 2004.
- New York State Department of Environmental Conservation, Amended Record of Decision, Bedford Village Wells – Shopping Arcade (Registry No. 3-60-006) and Hunting Ridge Mall (Registry No. 3-60-009), March 2002.
- New York State Department of Health, Reclassification Package, Bedford Village Wells – Shopping Arcade, Site ID #360006, April 2002.
- 6 NYCRR 375, Remedial Program Requirements, December 14, 2006.
- New York State Department of Environmental Conservation (NYSDEC) Division of Environmental Remediation (DER)-10, Technical Guidance for Site Investigation and Remediation, May 2010.
- Aztech Technologies, Inc., 2014 Periodic Review Report (February 15, 2011 through February 15, 2014) for the Bedford Village Wells – Shopping Arcade, July 23, 2014.
- Aztech Technologies, Inc., Site Management Plan for Bedford Village Wells – Shopping Arcade, August 5, 2014.
- New York State Department of Environmental Conservation, Division of Environmental Remediation, Bureau of Program Management, Work Assignment (WA) Notice to Proceed, October 11, 2018.
- TRC Engineers, Inc. Standby Engineering Contract Work Assignment (WA) No. D007620-45, NYSDEC-approved Scope of Work, February 19, 2019.



BASE MAP FROM USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLE SERIES.

1 " = 2,000 '
1:24,000

0 2,000 4,000 FEET

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PROJECT:
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
BEDFORD VILLAGE WELLS - NYSDEC SITE NO. 360006
644-656 OLD POST ROAD
BEDFORD, NEW YORK

TITLE:
SITE LOCATION MAP

DRAWN BY:	D. BARLEY
CHECKED BY:	N. KRANES
APPROVED BY:	J. MAGDA
DATE:	OCTOBER 2019
PROJ. NO.:	320919.0000
FILE:	Bedford_Village_001.mxd

FIGURE 1

\\apaenvfile01\gis\1-PROJECTS\NYSDEC\320919_Bedford_Village\Bedford_Village_001.mxd -- Saved By: JNICHOLS on 9/25/2019, 12:19:18 PM

Basemap: Esri, DigitalGlobe, GeoEye, USGS

1 " = 200 '
1:2,400

0 200 400 FEET

Approximate Overburden Monitoring Well Location
Approximate Bedrock Monitoring Well Location
Approximate Tax Parcel Boundary

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PROJECT:
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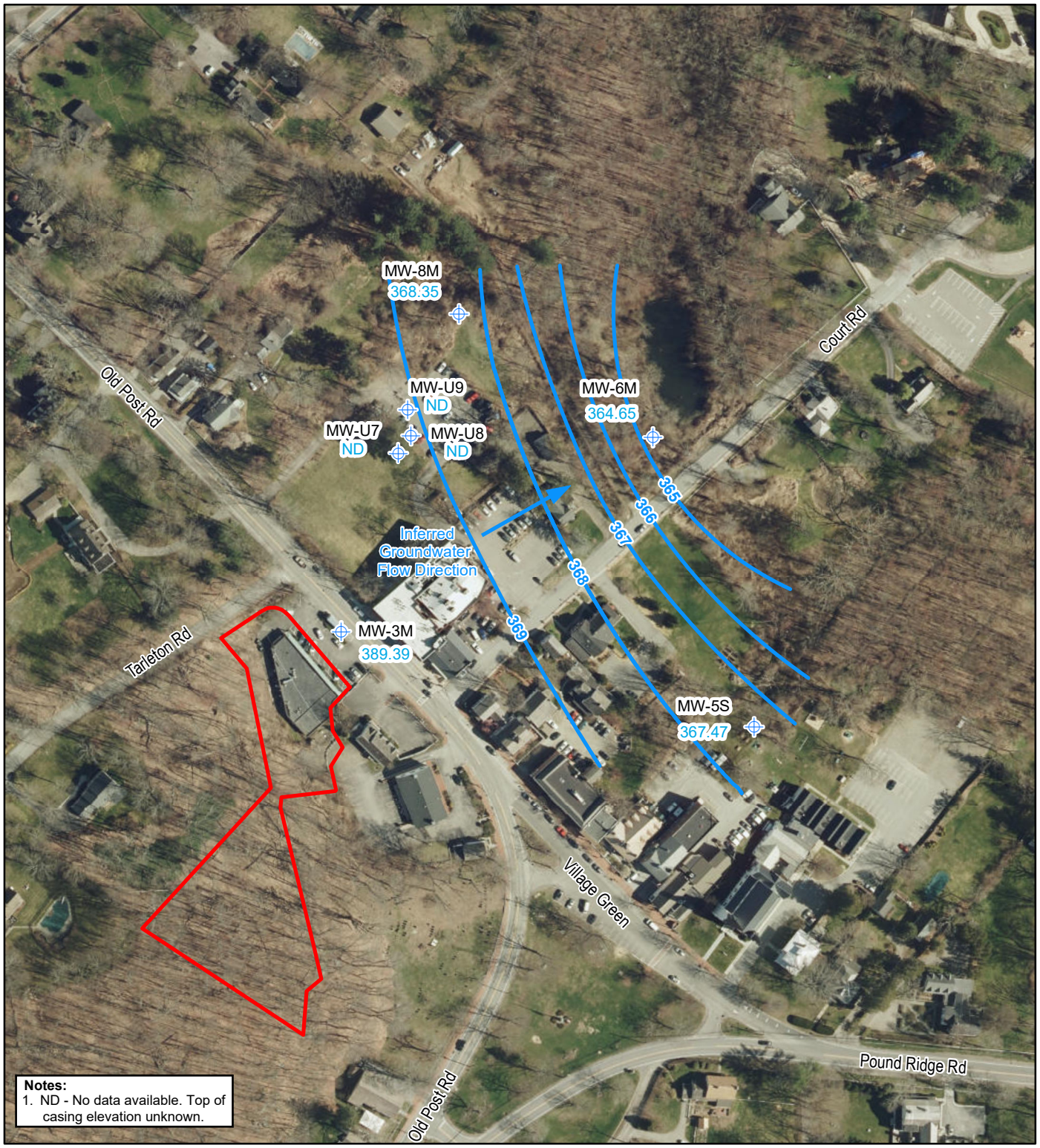
BEDFORD VILLAGE WELLS - NYSDEC SITE NO. 360006
644-656 OLD POST ROAD
BEDFORD, NEW YORK

TITLE:
SITE LAYOUT MAP

DRAWN BY:	D. BARLEY
CHECKED BY:	N. KRANES
APPROVED BY:	J. MAGDA
DATE:	OCTOBER 2019
PROJ. NO.:	320919.0000
FILE:	Bedford_Village_002.mxd

FIGURE 2

\\apaenvfile01\gis\1-PROJECTS\NYSDEC\320919_Bedford_Village\Bedford_Village_002.mxd -- Saved By: JNICHOLS on 8/27/2019, 16:25:39 PM



Basemap: Esri, DigitalGlobe, GeoEye, USGS

1 " = 200 '
1:2,400

0 200 400 FEET

368 Groundwater Elevation Contour (Feet)

MW-5S 367.47 Approximate Overburden Monitoring Well Location and Groundwater Surface Elevation (Feet)

ApproximateTax Parcel Boundary

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PROJECT:
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
BEDFORD VILLAGE WELLS - NYSDEC SITE NO. 360006
644-656 OLD POST ROAD
BEDFORD, NEW YORK

TITLE:
OVERBURDEN GROUNDWATER SURFACE ELEVATIONS AND CONTOURS - MARCH 2019

DRAWN BY:	D. BARLEY
CHECKED BY:	N. KRANES
APPROVED BY:	J. MAGDA
DATE:	OCTOBER 2019
PROJ. NO.:	320919.0000
FILE:	Bedford_Village_003.mxd

FIGURE 3

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Basemap: Esri, DigitalGlobe, GeoEye, USGS

1 " = 200 '
1:2,400

0 200 400 FEET

368 Groundwater Elevation Contour (Feet)

MW-5S 367.47 Approximate Bedrock Monitoring Well Location and Groundwater Surface Elevation (Feet)

Approximate Tax Parcel Boundary

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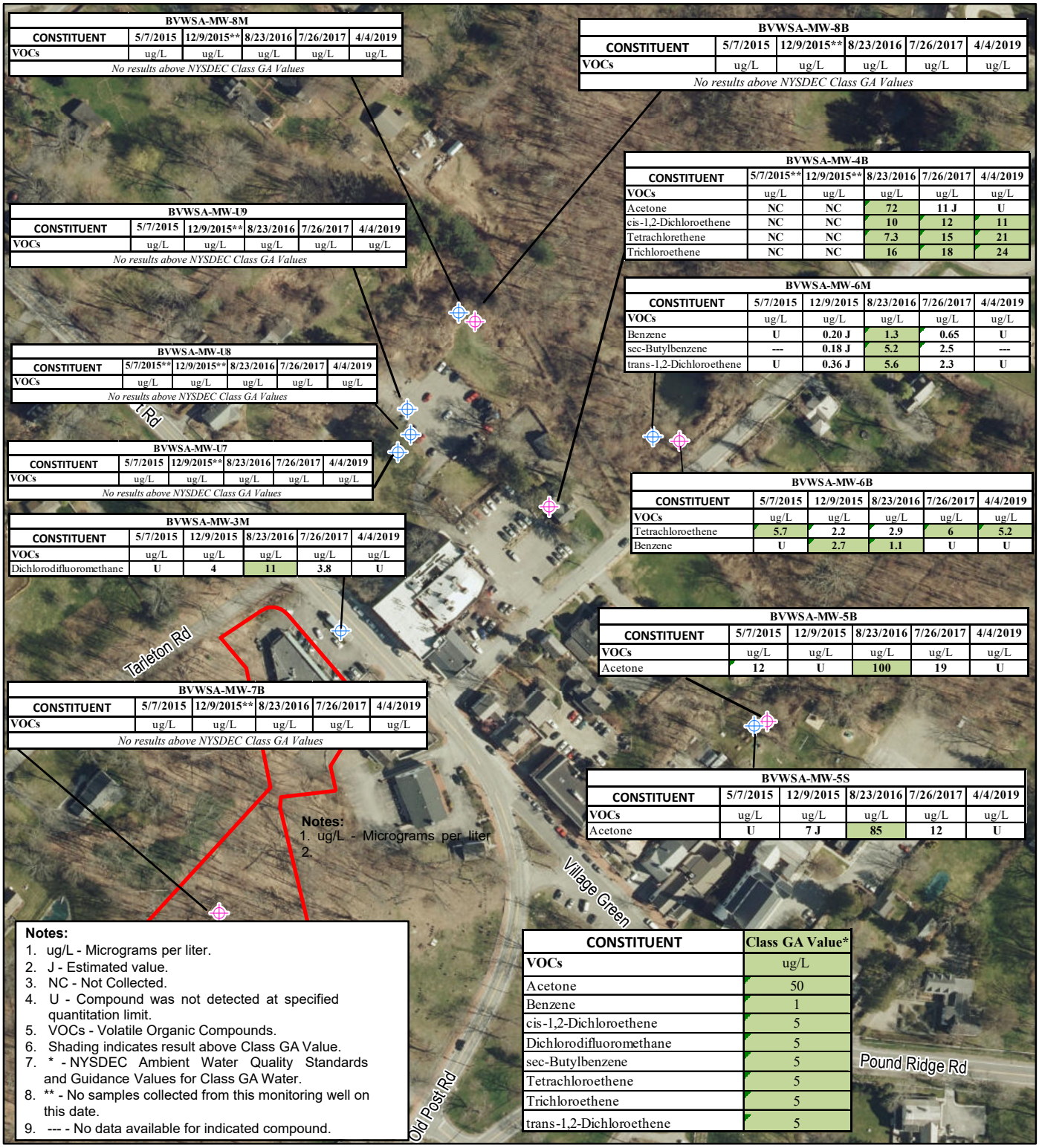
PROJECT:
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
BEDFORD VILLAGE WELLS - NYSDEC SITE NO. 360006
644-656 OLD POST ROAD
BEDFORD, NEW YORK

TITLE:
BEDROCK GROUNDWATER SURFACE ELEVATIONS AND CONTOURS - MARCH 2019

DRAWN BY:	D. BARLEY
CHECKED BY:	N. KRANES
APPROVED BY:	J. MAGDA
DATE:	OCTOBER 2019
PROJ. NO.:	320919.0000
FILE:	Bedford_Village_004.mxd

FIGURE 4

\\apaenvfile01\GIS\1-PROJECTS\NYSDEC\320919_Bedford_Village\Bedford_Village_004.mxd -- Saved By: JNICHOLS on 10/1/2019, 17:10:32 PM



BVWSA-MW-8M

CONSTITUENT	5/7/2015	12/9/2015**	8/23/2016	7/26/2017	4/4/2019
VOCs	ug/L	ug/L	ug/L	ug/L	ug/L
No results above NYSDEC Class GA Values					

BVWSA-MW-8B

CONSTITUENT	5/7/2015	12/9/2015**	8/23/2016	7/26/2017	4/4/2019
VOCs	ug/L	ug/L	ug/L	ug/L	ug/L
No results above NYSDEC Class GA Values					

BVWSA-MW-U9

CONSTITUENT	5/7/2015	12/9/2015**	8/23/2016	7/26/2017	4/4/2019
VOCs	ug/L	ug/L	ug/L	ug/L	ug/L
No results above NYSDEC Class GA Values					

BVWSA-MW-4B

CONSTITUENT	5/7/2015**	12/9/2015**	8/23/2016	7/26/2017	4/4/2019
VOCs	ug/L	ug/L	ug/L	ug/L	ug/L
Acetone	NC	NC	72	11 J	U
cis-1,2-Dichloroethene	NC	NC	10	12	11
Tetrachlorethene	NC	NC	7.3	15	21
Trichloroethene	NC	NC	16	18	24

BVWSA-MW-U8

CONSTITUENT	5/7/2015**	12/9/2015**	8/23/2016	7/26/2017	4/4/2019
VOCs	ug/L	ug/L	ug/L	ug/L	ug/L
No results above NYSDEC Class GA Values					

BVWSA-MW-6M

CONSTITUENT	5/7/2015	12/9/2015	8/23/2016	7/26/2017	4/4/2019
VOCs	ug/L	ug/L	ug/L	ug/L	ug/L
Benzene	U	0.20 J	1.3	0.65	U
sec-Butylbenzene	---	0.18 J	5.2	2.5	---
trans-1,2-Dichloroethene	U	0.36 J	5.6	2.3	U

BVWSA-MW-U7

CONSTITUENT	5/7/2015	12/9/2015**	8/23/2016	7/26/2017	4/4/2019
VOCs	ug/L	ug/L	ug/L	ug/L	ug/L
No results above NYSDEC Class GA Values					

BVWSA-MW-6B

CONSTITUENT	5/7/2015	12/9/2015	8/23/2016	7/26/2017	4/4/2019
VOCs	ug/L	ug/L	ug/L	ug/L	ug/L
Tetrachloroethene	5.7	2.2	2.9	6	5.2
Benzene	U	2.7	1.1	U	U

BVWSA-MW-3M

CONSTITUENT	5/7/2015	12/9/2015	8/23/2016	7/26/2017	4/4/2019
VOCs	ug/L	ug/L	ug/L	ug/L	ug/L
Dichlorodifluoromethane	U	4	11	3.8	U

BVWSA-MW-5B

CONSTITUENT	5/7/2015	12/9/2015	8/23/2016	7/26/2017	4/4/2019
VOCs	ug/L	ug/L	ug/L	ug/L	ug/L
Acetone	12	U	100	19	U

BVWSA-MW-7B

CONSTITUENT	5/7/2015	12/9/2015**	8/23/2016	7/26/2017	4/4/2019
VOCs	ug/L	ug/L	ug/L	ug/L	ug/L
No results above NYSDEC Class GA Values					

BVWSA-MW-5S

CONSTITUENT	5/7/2015	12/9/2015	8/23/2016	7/26/2017	4/4/2019
VOCs	ug/L	ug/L	ug/L	ug/L	ug/L
Acetone	U	7 J	85	12	U

Notes:
1. ug/L - Micrograms per liter.
2. J - Estimated value.
3. NC - Not Collected.
4. U - Compound was not detected at specified quantitation limit.
5. VOCs - Volatile Organic Compounds.
6. Shading indicates result above Class GA Value.
7. * - NYSDEC Ambient Water Quality Standards and Guidance Values for Class GA Water.
8. ** - No samples collected from this monitoring well on this date.
9. --- - No data available for indicated compound.

CONSTITUENT	Class GA Value*
VOCs	ug/L
Acetone	50
Benzene	1
cis-1,2-Dichloroethene	5
Dichlorodifluoromethane	5
sec-Butylbenzene	5
Tetrachloroethene	5
Trichloroethene	5
trans-1,2-Dichloroethene	5

Basemap: Esri, DigitalGlobe, GeoEye, USGS

1 " = 200 '
1:2,400

0 200 400 FEET

Approximate Overburden Monitoring Well Location
Approximate Bedrock Monitoring Well Location
Approximate Tax Parcel Boundary

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PROJECT:
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
BEDFORD VILLAGE WELLS - NYSDEC SITE NO. 360006
644-656 OLD POST ROAD
BEDFORD, NEW YORK

TITLE:
VOLATILE ORGANIC COMPOUND EXCEEDANCES IN GROUNDWATER

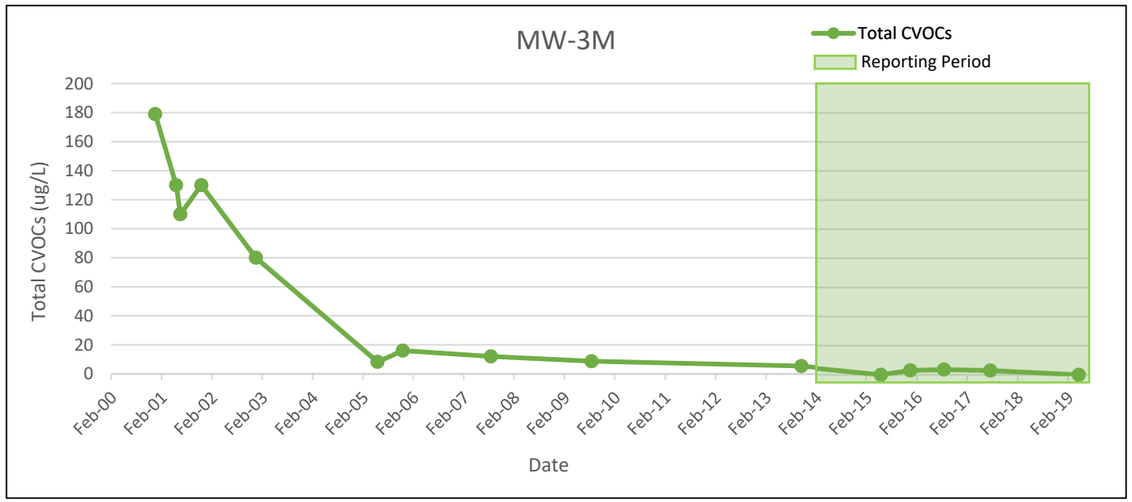
DRAWN BY:	D. BARLEY
CHECKED BY:	N. KRANES
APPROVED BY:	J. MAGDA
DATE:	OCTOBER 2019
PROJ. NO.:	320919.0000
FILE:	Bedford_Village_005.mxd

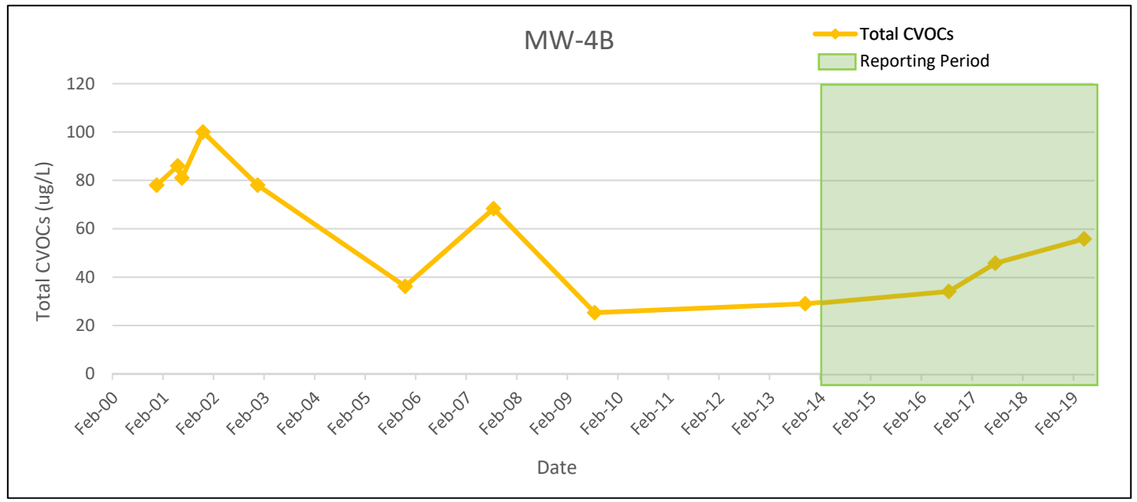
FIGURE 5

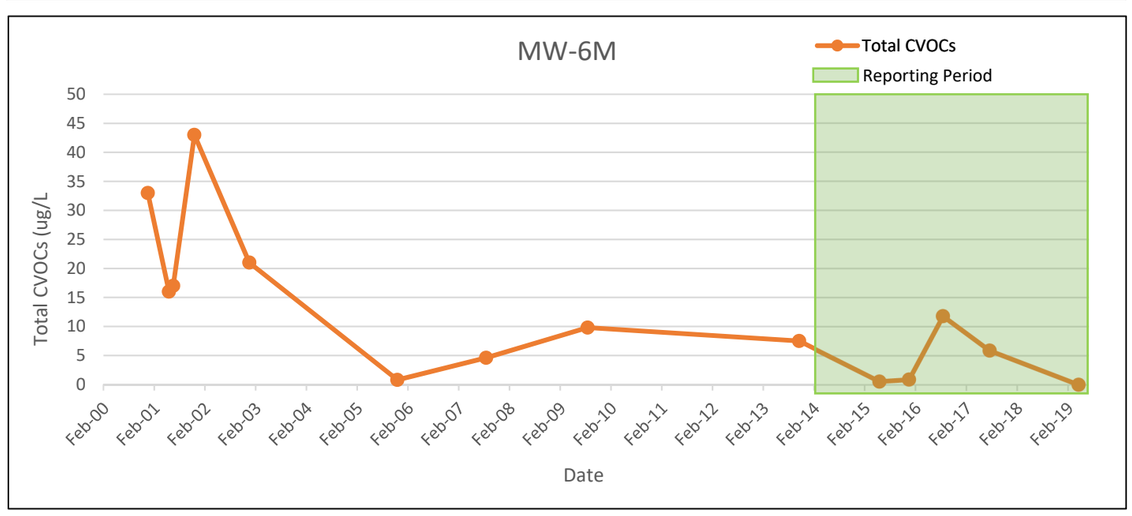
S:\1-PROJECTS\NYSDEC\320919_Bedford_Village\Bedford_Village_005.mxd -- Saved By: DBARLEY on 8/29/2019, 15:46:23 PM

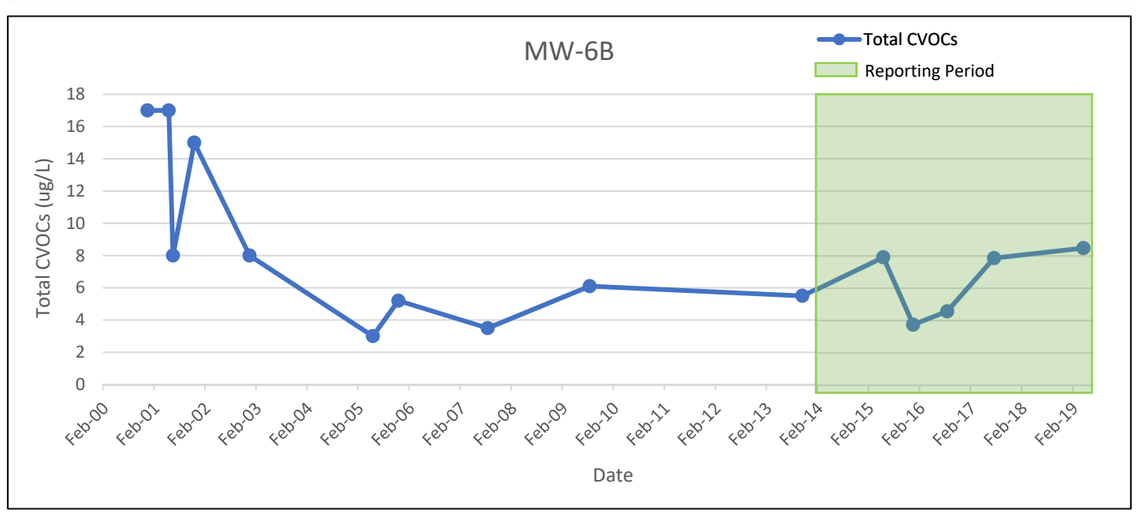
Figure 6

New York State Department of Environmental Conservation
Bedford Village Wells – NYSDEC Site No. 360006
644-656 Old Post Road
Bedford, New York
Total CVOC Concentration Trends in Groundwater

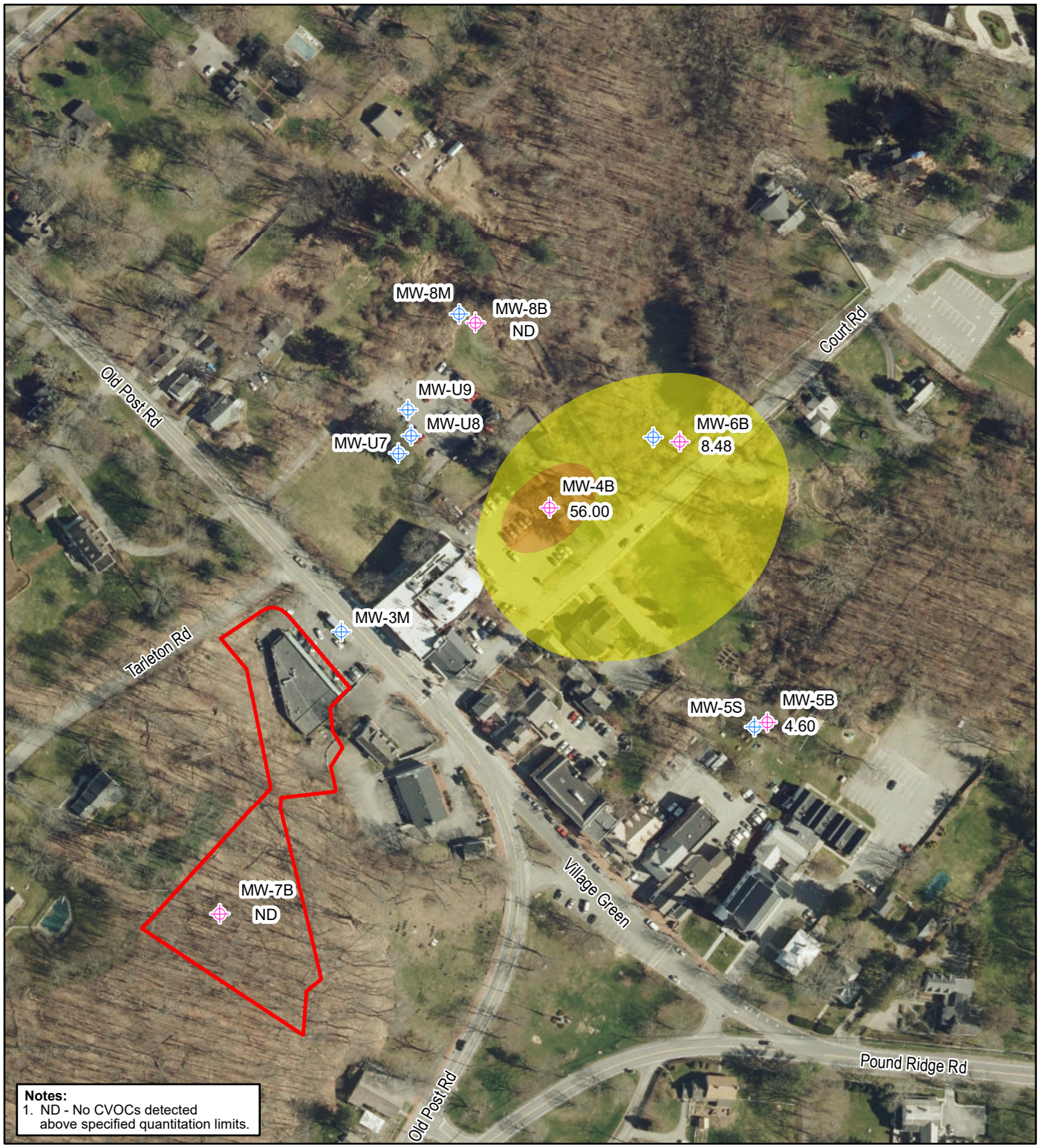








Notes:
CVOCs – Chlorinated Volatile Organic Compounds
µg/L – Micrograms per Liter
CVOCs included in total COVCs calculation are tetrachloroethene, trichloroethene, cis-1,2-dichloroethene, trans-1,2-dichloroethene, vinyl chloride and chloroform.



Basemap: Esri, DigitalGlobe, GeoEye, USGS

1 " = 200 '
1:2,400

0 200 400 FEET

>5 ug/L Total CVOCs

>50 ug/L Total CVOCs

MW-5B 4.60 Approximate Bedrock Monitoring Well Location and Total CVOC Concentration (ug/L)

Approximate Tax Parcel Boundary

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PROJECT:
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
BEDFORD VILLAGE WELLS - NYSDEC SITE NO. 360006
644-656 OLD POST ROAD
BEDFORD, NEW YORK

TITLE:
TOTAL CHLORINATED VOLATILE ORGANIC COMPOUNDS (CVOCs) IN BEDROCK GROUNDWATER - APRIL 2019

DRAWN BY:	D. BARLEY
CHECKED BY:	N. KRANES
APPROVED BY:	J. MAGDA
DATE:	OCTOBER 2019
PROJ. NO.:	320919.0000
FILE:	Bedford_Village_007.mxd

FIGURE 7

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Table 1
New York State Department of Environmental Conservation
Bedford Village Wells - Shopping Arcade Site, Bedford, New York
Summary of Results of Analysis of Groundwater for Volatile Organic Compounds - May 2015 to April 2019

Sample Location:		BVWSA-MW-3M					BVWSA-MW-4B			BVWSA-MW-5B					BVWSA-MW-5S				
Laboratory Sample ID:		480-80118-8	480-92460-5	480-104988-9	480-121847-11	480-151489-10	480-104988-1	480-121847-6	480-151489-4	480-80118-4	480-92460-4	480-104988-11	480-121847-9	480-151489-12	480-80118-3	480-92460-3	480-104988-10	480-121847-10	480-151489-13
Sample Date:		5/7/2015	12/9/2015	8/23/2016	7/26/2017	04/04/2019	8/23/2016	7/26/2017	04/04/2019	5/7/2015	12/9/2015	8/23/2016	7/26/2017	04/04/2019	5/7/2015	12/9/2015	8/23/2016	7/26/2017	04/04/2019
Matrix:		GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
Unit:		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
VOLATILE ORGANIC COMPOUNDS (VOCs)	**Class GA Value* (µg/L)**	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results
1,1,1-Trichloroethane	5	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U
1,1,2,2-Tetrachloroethane	5	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U
1,1,2-Trichloroethane	1	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U
1,1,2-Trichloro- 1,2,2-trifluoroethane	5	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U
1,1-Dichloroethane	5	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U
1,1-Dichloroethene	5	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U
1,2,4-Trichlorobenzene	5	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U
1,2-Dibromo-3-chloropropane	0.04	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U
1,2-Dichlorobenzene	3	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U
1,2-Dichloroethane	0.6	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U
1,2-Dichloropropane	1	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U
1,3-Dichlorobenzene	3	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U
1,4-Dichlorobenzene	3	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U
2-Butanone (MEK)	50	**6.5 J**	10 U	10 U	10 U	10 U	20 U	20 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Hexanone	50	5.0 U	10 U	10 U	10 U	5.0 U	20 U	20 U	5.0 U	5.0 U	10 U	10 U	10 U	5.0 U	5.0 U	10 U	10 U	10 U	5.0 U
4-Methyl-2-pentanone	NC	5.0 U	10 U	10 U	10 U	5.0 U	20 U	1.0 U	5.0 U	5.0 U	10 U	10 U	10 U	5.0 U	5.0 U	10 U	10 U	10 U	5.0 U
Acetone	50	**36**	**6.6 J**	10 U	**12**	10 U	**72**	**11 J**	10 U	**12**	10 U	**100**	**19**	10 U	10 U	**7.0 J**	**85**	**12**	10 U
Benzene	1	1.0 U	**0.55**	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**0.30 J**	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U
Bromodichloromethane	50	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U
Bromoform	50	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U
Bromomethane	5	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U
Carbon disulfide	60	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U
Carbon tetrachloride	5	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U
Chlorobenzene	5	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U
Dibromochloromethane	50	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U
Chloroethane	5	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U
Chloroform	7	1.0 U	**0.31 J**	**0.42 J**	**0.36 J**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U
Chloromethane	5	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U
1,4-Dioxane	NC	1.0 U	0.50 U	0.50 U	0.50 U	R	1.0 U	1.0 U	R	1.0 U	0.50 U	0.50 U	0.50 U	R	1.0 U	0.50 U	0.50 U	0.50 U	R
cis-1,2-Dichloroethene	5	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	**10**	**12**	**11**	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	**0.53**	1.0 U
cis-1,3-Dichloropropene	0.4[(a)]	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U
Cyclohexane	NC	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U
Dichlorodifluoromethane	5	1.0 U	**4.0**	**11**	**3.8**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U
Ethylbenzene	5	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U
1,2-Dibromoethane	0.0006	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U
Isopropylbenzene	5	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U
Methyl acetate	NC	2.5 U	0.50 U	0.50 U	0.50 U	2.5 U	1.0 U	1.0 U	2.5 U	2.5 U	0.50 U	0.50 U	0.50 U	2.5 U	2.5 U	0.50 U	0.50 U	0.50 U	2.5 U
Methyl tert-butyl ether	10	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	**0.35 J**	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	**0.39 J**	0.50 U	**1.1**	**1.2**	1.0 U
Methylcyclohexane	NC	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U
Methylene chloride	5	1.0 U	0.50 U	0.50 U	2.5 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	0.50 U	0.50 U	2.5 U	1.0 U	1.0 U	0.50 U	0.50 U	2.5 U	1.0 U
n-Butylbenzene	5	---	0.50 U	0.50 U	0.50 U	---	1.0 U	0.50 U	---	---	0.50 U	0.50 U	0.50 U	---	---	0.50 U	0.50 U	0.50 U	---
N-Propylbenzene	5	---	0.50 U	0.50 U	0.50 U	---	1.0 U	1.0 U	---	---	0.50 U	0.50 U	0.50 U	---	---	0.50 U	0.50 U	0.50 U	---
sec-Butylbenzene	5	---	0.50 U	0.50 U	0.50 U	---	1.0 U	1.0 U	---	---	0.50 U	0.50 U	0.50 U	---	---	0.50 U	0.50 U	0.50 U	---
Styrene	5	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U
t-Butanol	NC	---	10 U	10 U	10 U	---	20 U	20 U	---	---	10 U	10 U	10 U	---	---	10 U	10 U	10 U	---
tert-Butylbenzene	5	---	0.50 U	0.50 U	0.50 U	---	1.0 U	1.0 U	---	---	0.50 U	0.50 U	0.50 U	---	---	0.50 U	0.50 U	0.50 U	---
Tetrachloroethene	5	1.0 U	**3.0**	**3.6**	**2.9**	1.0 U	**7.3**	**15**	**21**	**4.7**	**1.1**	**1.2**	**3.8**	**4.6**	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U
Toluene	5	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	**0.28 J**	1.0 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U
trans-1,2-Dichloroethene	5	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	**0.28 J**	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U
trans-1,3-Dichloropropene	0.4[(a)]	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U
Trichloroethene	5	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	**16**	**18**	**24**	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U
Trichlorofluoromethane	5	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U
Vinyl acetate	NC	---	2.5 U	2.5 U	2.5 U	---	5.0 U	5.0 U	---	---	2.5 U	2.5 U	2.5 U	---	---	2.5 U	2.5 U	2.5 U	---
Vinyl chloride	2	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	**0.99 J**	**0.95 J**	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U
Xylenes, total	5[(b)]	2.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	2.0 U

Notes:

µg/L - micrograms per liter.

ID - Identification.

J - Estimated value.

NC - No criterion.

R - Rejected data point.

U - Compound was not detected at specified quantitation limit.

Values in **bold** indicate the compound was detected.

Shading indicates result above Class GA Value.

* - NYSDEC Ambient Water Quality Standards and Guidance Values for Class GA Water.

--- - No data available for indicated compound.

(a) 0.4 µg/L applies to the sum of *cis*- and *trans*- 1,3-dichloropropene.

(b) There is no Standard or Guidance Value for total xylenes. The Standard for o-xylene, m-xylene, and p-xylene is 5 µg/L.

(c) Location ID changed from MW-7B to MW-7 during the 2015 sampling event. MW-7 has been used in all subsequent events as the Sample Location ID.

Table 1
New York State Department of Environmental Conservation
Bedford Village Wells - Shopping Arcade Site, Bedford, New York
Summary of Results of Analysis of Groundwater for Volatile Organic Compounds - May 2015 to April 2019

Sample Location:		BVWSA-MW-6B					BVWSA-MW-6M					BVWSA-MW-7B[c]				BVWSA-MW-8B			
Laboratory Sample ID:		480-80118-1	480-92460-1	480-104988-6	480-121847-7	480-151489-9	480-80118-2	480-92460-2	480-104988-7	480-121847-8	480-151489-7	480-80118-9	480-104988-8	480-121847-12	480-151489-5	480-80118-7	480-104988-2	480-121847-5	480-151489-1
Sample Date:		5/7/2015	12/9/2015	8/23/2016	7/26/2017	04/04/2019	5/7/2015	12/9/2015	8/23/2016	7/26/2017	04/04/2019	5/7/2015	8/23/2016	7/26/2017	04/04/2019	5/7/2015	8/23/2016	7/26/2017	04/04/2019
Matrix:		GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
Unit:		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
VOLATILE ORGANIC COMPOUNDS (VOCs)	**Class GA Value* (µg/L)**	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results
1,1,1-Trichloroethane	5	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
1,1,2,2-Tetrachloroethane	5	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
1,1,2-Trichloroethane	1	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
1,1,2-Trichloro- 1,2,2-trifluoroethane	5	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
1,1-Dichloroethane	5	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
1,1-Dichloroethene	5	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
1,2,4-Trichlorobenzene	5	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
1,2-Dibromo-3-chloropropane	0.04	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
1,2-Dichlorobenzene	3	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	**0.24 J**	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
1,2-Dichloroethane	0.6	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
1,2-Dichloropropane	1	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
1,3-Dichlorobenzene	3	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
1,4-Dichlorobenzene	3	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
2-Butanone (MEK)	50	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Hexanone	50	5.0 U	10 U	10 U	10 U	5.0 U	5.0 U	10 U	10 U	10 U	5.0 U	5.0 U	10 U	10 U	5.0 U	5.0 U	10 U	10 U	5.0 U
4-Methyl-2-pentanone	NC	5.0 U	10 U	10 U	10 U	5.0 U	5.0 U	10 U	10 U	10 U	5.0 U	5.0 U	10 U	10 U	5.0 U	5.0 U	10 U	10 U	5.0 U
Acetone	50	**12**	10 U	10 U	**9.2 J**	10 U	**11**	10 U	**14**	**29**	10 U	**12**	**7.0 J**	**10**	10 U	**12**	**14**	**13**	10 U
Benzene	1	1.0 U	**2.7**	**1.1**	0.50 U	1.0 U	1.0 U	**0.20 J**	**1.3**	**0.65**	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
Bromodichloromethane	50	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
Bromoform	50	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
Bromomethane	5	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
Carbon disulfide	60	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
Carbon tetrachloride	5	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
Chlorobenzene	5	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
Dibromochloromethane	50	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
Chloroethane	5	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
Chloroform	7	**0.39 J**	**0.35 J**	**0.35 J**	**0.33 J**	**0.38 J**	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
Chloromethane	5	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
1,4-Dioxane	NC	1.0 U	0.50 U	0.50 U	0.50 U	R	1.0 U	0.50 U	0.50 U	0.50 U	R	1.0 U	0.50 U	0.50 U	R	1.0 U	0.50 U	0.50 U	R
cis-1,2-Dichloroethene	5	**0.91 J**	**0.59**	**0.65**	**0.77**	**1.6**	1.0 U	**0.54**	**4.5**	**1.6**	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
cis-1,3-Dichloropropene	0.4[a]	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
Cyclohexane	NC	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
Dichlorodifluoromethane	5	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
Ethylbenzene	5	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	**1.1**	**0.36 J**	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
1,2-Dibromoethane	0.0006	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
Isopropylbenzene	5	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	**0.28 J**	**5.0**	**1.8**	**0.96 J**	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
Methyl acetate	NC	2.5 U	0.50 U	0.50 U	0.50 U	2.5 U	2.5 U	0.50 U	0.50 U	0.50 U	2.5 U	2.5 U	0.50 U	0.50 U	2.5 U	2.5 U	0.50 U	0.50 U	2.5 U
Methyl tert-butyl ether	10	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
Methylcyclohexane	NC	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
Methylene chloride	5	1.0 U	0.50 U	0.50 U	2.5 U	1.0 U	1.0 U	0.50 U	0.50 U	2.5 U	1.0 U	1.0 U	0.50 U	2.5 U	1.0 U	1.0 U	0.50 U	2.5 U	1.0 U
n-Butylbenzene	5	---	0.50 U	0.50 U	0.50 U	---	---	0.50 U	**0.82**	0.50 U	---	---	---	0.50 U	---	---	0.50 U	0.50 U	---
N-Propylbenzene	5	---	0.50 U	0.50 U	0.50 U	---	---	0.50 U	**0.92**	**0.24 J**	---	---	---	0.50 U	---	---	0.50 U	0.50 U	---
sec-Butylbenzene	5	---	0.50 U	0.50 U	0.50 U	---	---	**0.18 J**	**5.2**	**2.5**	---	---	---	0.50 U	---	---	0.50 U	0.50 U	---
Styrene	5	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
t-Butanol	NC	---	10 U	10 U	10 U	---	---	10 U	10 U	**20**	---	---	---	10 U	10 U	---	10 U	10 U	---
tert-Butylbenzene	5	---	0.50 U	0.50 U	0.50 U	---	---	0.50 U	0.50 U	**0.22 J**	---	---	---	0.50 U	0.50 U	---	0.50 U	0.50 U	---
Tetrachloroethene	5	**5.7**	**2.2**	**2.9**	**6.0**	**5.2**	**0.56 J**	0.50 U	0.50 U	**0.88**	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
Toluene	5	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
trans-1,2-Dichloroethene	5	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	**0.36 J**	**5.6**	**2.3**	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
trans-1,3-Dichloropropene	0.4[a]	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
Trichloroethene	5	**0.91 J**	**0.61**	**0.67**	**0.76**	**1.3**	1.0 U	0.50 U	**1.7**	**1.1**	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
Trichlorofluoromethane	5	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
Vinyl acetate	NC	---	**0.97 J**	2.5 U	2.5 U	---	---	**0.79 J**	2.5 U	2.5 U	---	---	---	2.5 U	2.5 U	---	---	2.5 U	2.5 U
Vinyl chloride	2	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
Xylenes, total	5[b]	2.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	**0.19 J**	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	2.0 U

Notes:

µg/L - micrograms per liter.

ID - Identification.

J - Estimated value.

NC - No criterion.

R - Rejected data point.

U - Compound was not detected at specified quantitation limit.

Values in **bold** indicate the compound was detected.

Shading indicates result above Class GA Value.

* - NYSDEC Ambient Water Quality Standards and Guidance Values for Class GA Water.

--- - No data available for indicated compound.

(a) 0.4 µg/L applies to the sum of *cis-* and *trans-* 1,3-dichloropropene.

(b) There is no Standard or Guidance Value for total xylenes. The Standard for o-xylene, m-xylene, and p-xylene is 5 µg/L.

(c) Location ID changed from MW-7B to MW-7 during the 2015 sampling event. MW-7 has been used in all subsequent events as the Sample Location ID.

Table 1
New York State Department of Environmental Conservation
Bedford Village Wells - Shopping Arcade Site, Bedford, New York
Summary of Results of Analysis of Groundwater for Volatile Organic Compounds - May 2015 to April 2019

Sample Location:		BVWSA-MW-8M				BVWSA-MW-U7				BVWSA-MW-U8			BVWSA-MW-U9			
Laboratory Sample ID:		480-80118-6	480-104988-12	480-121847-4	480-151489-2	480-80118-10	480-104988-5	480-121847-3	480-151489-11	480-104988-4	480-121847-2	480-151489-6	480-80118-5	480-104988-3	480-121847-1	480-151489-8
Sample Date:		5/7/2015	8/23/2016	7/26/2017	04/04/2019	5/7/2015	8/23/2016	7/26/2017	04/04/2019	8/23/2016	7/26/2017	04/04/2019	5/7/2015	8/23/2016	7/26/2017	04/04/2019
Matrix:		GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
Unit:		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
VOLATILE ORGANIC COMPOUNDS (VOCs)	**Class GA Value* (µg/L)**	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results
1,1,1-Trichloroethane	5	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
1,1,2,2-Tetrachloroethane	5	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
1,1,2-Trichloroethane	1	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
1,1,2-Trichloro- 1,2,2-trifluoroethane	5	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
1,1-Dichloroethane	5	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
1,1-Dichloroethene	5	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
1,2,4-Trichlorobenzene	5	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
1,2-Dibromo-3-chloropropane	0.04	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
1,2-Dichlorobenzene	3	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
1,2-Dichloroethane	0.6	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
1,2-Dichloropropane	1	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
1,3-Dichlorobenzene	3	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
1,4-Dichlorobenzene	3	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
2-Butanone (MEK)	50	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Hexanone	50	5.0 U	10 U	10 U	5.0 U	5.0 U	10 U	10 U	5.0 U	10 U	10 U	5.0 U	5.0 U	10 U	10 U	5.0 U
4-Methyl-2-pentanone	NC	5.0 U	10 U	10 U	5.0 U	5.0 U	10 U	10 U	5.0 U	10 U	10 U	5.0 U	5.0 U	10 U	10 U	5.0 U
Acetone	50	**12**	**13**	**15**	10 U	10 U	**6.8 J**	**13**	10 U	**8.1 J**	**19**	10 U	**13**	**7.4 J**	**7.5 J**	10 U
Benzene	1	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
Bromodichloromethane	50	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
Bromoform	50	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
Bromomethane	5	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
Carbon disulfide	60	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
Carbon tetrachloride	5	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
Chlorobenzene	5	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
Dibromochloromethane	50	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
Chloroethane	5	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
Chloroform	7	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
Chloromethane	5	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
1,4-Dioxane	NC	1.0 U	0.50 U	0.50 U	R	1.0 U	0.50 U	0.50 U	R	0.50 U	0.50 U	R	1.0 U	0.50 U	0.50 U	R
cis-1,2-Dichloroethene	5	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
cis-1,3-Dichloropropene	0.4[a]	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
Cyclohexane	NC	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
Dichlorodifluoromethane	5	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
Ethylbenzene	5	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
1,2-Dibromoethane	0.0006	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
Isopropylbenzene	5	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
Methyl acetate	NC	2.5 U	0.50 U	0.50 U	2.5 U	2.5 U	0.50 U	0.50 U	2.5 U	0.50 U	0.50 U	2.5 U	2.5 U	0.50 U	0.50 U	2.5 U
Methyl tert-butyl ether	10	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
Methylcyclohexane	NC	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
Methylene chloride	5	1.0 U	0.50 U	2.5 U	1.0 U	1.0 U	0.50 U	2.5 U	1.0 U	0.50 U	2.5 U	1.0 U	1.0 U	0.50 U	2.5 U	1.0 U
n-Butylbenzene	5	---	0.50 U	0.50 U	---	---	0.50 U	0.50 U	---	0.50 U	0.50 U	---	---	0.50 U	0.50 U	---
N-Propylbenzene	5	---	0.50 U	0.50 U	---	---	0.50 U	0.50 U	---	0.50 U	0.50 U	---	---	0.50 U	0.50 U	---
sec-Butylbenzene	5	---	0.50 U	0.50 U	---	---	0.50 U	0.50 U	---	0.50 U	0.50 U	---	---	0.50 U	0.50 U	---
Styrene	5	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
t-Butanol	NC	---	10 U	10 U	---	---	10 U	10 U	---	10 U	**2.9 J**	---	---	10 U	10 U	---
tert-Butylbenzene	5	---	0.50 U	0.50 U	---	---	0.50 U	0.50 U	---	0.50 U	0.50 U	---	---	0.50 U	0.50 U	---
Tetrachloroethene	5	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
Toluene	5	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
trans-1,2-Dichloroethene	5	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
trans-1,3-Dichloropropene	0.4[a]	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
Trichloroethene	5	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
Trichlorofluoromethane	5	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
Vinyl acetate	NC	---	2.5 U	2.5 U	---	---	2.5 U	2.5 U	---	2.5 U	2.5 U	---	---	2.5 U	2.5 U	---
Vinyl chloride	2	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
Xylenes, total	5[b]	2.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	2.0 U

Notes:
µg/L - micrograms per liter.
ID - Identification.
J - Estimated value.
NC - No criterion.
R - Rejected data point.
U - Compound was not detected at specified quantitation limit.
Values in **bold** indicate the compound was detected.
Shading indicates result above Class GA Value.
* - NYSDEC Ambient Water Quality Standards and Guidance Values for Class GA Water.
--- - No data available for indicated compound.
(a) 0.4 µg/L applies to the sum of *cis-* and *trans-* 1,3-dichloropropene.
(b) There is no Standard or Guidance Value for total xylenes. The Standard for o-xylene, m-xylene, and p-xylene is 5 µg/L.
(c) Location ID changed from MW-7B to MW-7 during the 2015 sampling event. MW-7 has been used in all subsequent events as the Sample Location ID.

Table 2
New York State Department of Environmental Conservation
Bedford Village Wells - Shopping Arcade Site, Bedford, New York
Summary of Results of Analysis of Groundwater for SVOCs and PFAS - March 2019

		Sample Location:	BVWSA-MW-3M		BVWSA-MW-6M		BVWSA-MW-U7	
		Laboratory Sample ID:	480-150737-1		480-150737-2		480-150737-3	
		Sample Date:	03/20/2019		03/20/2019		03/20/2019	
		Matrix:	GW		GW		GW	
Analyte	Unit	**Guidance Value***	Results		Results		Results	
1,4-Dioxane	ug/L	NC	0.20	U	**0.15**	**J**	0.20	U
Perfluorobutanoic acid (PFBA)	ng/L	NC	**7.0**		5.3	U	**2.0**	
Perfluoropentanoic acid (PFPeA)	ng/L	NC	**9.3**		**15**		**3.8**	
Perfluorohexanoic acid (PFHxA)	ng/L	NC	**6.9**		**16**		**3.7**	
Perfluoroheptanoic acid (PFHpA)	ng/L	NC	**8.0**		**7.7**		**2.5**	
Perfluorooctanoic acid (PFOA)	ng/L	70	**23**		**31**		**16**	
Perfluorononanoic acid (PFNA)	ng/L	NC	**1.2**	**J**	**1.7**	**J**	**0.64**	**J**
Perfluorodecanoic acid (PFDA)	ng/L	NC	1.9	U	**0.67**	**J**	1.9	U
Perfluoroundecanoic acid (PFUnA)	ng/L	NC	1.9	U	1.8	U	1.9	U
Perfluorododecanoic acid (PFDoA)	ng/L	NC	1.9	U	1.8	U	1.9	U
Perfluorotridecanoic acid (PFTrDA)	ng/L	NC	1.9	U	1.8	U	1.9	U
Perfluorotetradecanoic acid (PFTeA)	ng/L	NC	1.9	U	1.8	U	1.9	U
Perfluorobutanesulfonic acid (PFBS)	ng/L	NC	**8.2**		**17**		**4.3**	
Perfluorohexanesulfonic acid (PFHxS)	ng/L	NC	**4.8**		**27**		**2.9**	
Perfluoroheptanesulfonic acid (PFHpS)	ng/L	NC	**0.70**	**J**	**0.78**	**J**	**0.36**	**J**
Perfluorooctanesulfonic acid (PFOS)	ng/L	70	**24**		**25**		**7.8**	
Perfluorodecanesulfonic acid (PFDS)	ng/L	NC	1.9	U	1.8	U	1.9	U
Perfluorooctane Sulfonamide (PFOSA)	ng/L	NC	1.9	U	1.8	U	**5.1**	
N-methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ng/L	NC	19	U	18	U	19	U
N-Ethyl-N-((heptadecafluorooctyl)sulphonyl) glycine (N-EtFOSAA)	ng/L	NC	19	U	18	U	**41**	
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2 FTS)	ng/L	NC	19	U	18	U	**23**	
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2 FTS)	ng/L	NC	19	U	18	U	19	U
PFOA + PFOS	ng/L	70	**47**		**56**		**23.8**	

Notes:

ng/L - Nanograms per liter.

ug/L - Micrograms per liter.

J - Estimated value.

NC - No NYSDEC standards exist for this analyte.

U - Analyte was not detected at specified quantitation limit.

Values in bold indicate the compound was detected.

SVOCs - Semi-Volatile Organic Compounds.

PFAS - Per- and poly-fluorinated alkyl substances.

* - NYSDEC Ambient Water Quality Standards and Guidance Values for Class GA Water do not exist for PFAS.

The USEPA has set health advisory levels of 70 ng/L for PFOA and PFOS (individual or combined concentrations), which are provided for reference.

TRC		**DATE: Tuesday, March 19, 2019**
		REPORT NO. 20190319
		PAGE NO. 1 OF 2
		PROJECT NO. 320919.0000.0000
		LOGBOOK NO. -- PAGES -- to --

DAILY FIELD ACTIVITY REPORT

PROJECT	Bedford Village Wells Shopping Arcade
LOCATION	Bedford, New York
ATTACHMENTS	Photo Log, MW Inventory 8/23/16

WEATHER	TIME	TEMP.	PRECIP.	WIND (MPH)	WIND (DIR)
Clear	1100	45°F	None	0-5	ENE
Clear	1400	50°F	None	0-5	ENE

SITE CONDITIONS: Clear

WORK GOAL FOR DAY: Site Inspection, conduct groundwater sampling

PERSONNEL ON SITE:

NAME	AFFILIATION	ARRIVAL TIME	DEPART TIME
Steve Johansson	TRC Engineers, Inc.	11:00	17:00
Marnie Chancey	TRC Engineers, Inc.	11:00	17:00

EQUIPMENT ON SITE:

TYPE	MODEL	TYPE	MODEL
PID	MiniRAE 3000	Not Applicable	Not Applicable
Peristaltic Pump	Geotech		
Oil/Water Interface Probe	Heron		
YSI	YSI Pro DSS		
Metal detector			

HEALTH & SAFETY:

PPE REQUIRED: ☒ LEVEL D ☐ LEVEL C ☐ LEVEL B ☐ LEVEL A **HASP?** YES

SITE SAFETY OFFICER: Ryan Jorrey

H & S NOTES: Site work performed in Level D PPE

TRC		**DATE: Tuesday, March 19, 2019**
		REPORT NO. 20190319
		PAGE NO. 2 OF 2
		PROJECT NO. 320919.0000.0000

DAILY FIELD ACTIVITY REPORT

DESCRIPTION OF WORK PERFORMED AND OBSERVED

TRC Engineers, Inc. (TRC) conducted an annual inspection and groundwater sampling event at the Bedford Village Wells Shopping Arcade Site (Site). The Site is located at 644 through 656 Old Post Road in the Town of Bedford, NY on Tuesday March 19, 2019. The objective of the site inspection was to document the general site conditions, and to evaluate the condition of the groundwater monitoring wells.

TRC was able to locate twelve of the monitoring wells at the Site. Three wells (MW1B, MW-4S and MW10) were not located. These three wells were also not located during the most recent sampling event conducted by NYSDEC on August 23, 2016 (**Attachment A**). Nine of the twelve wells were in fair to good working order; however, the protective casings were rusty and the lids hard to open on the wells with above grade construction. The hinges on two of the twelve monitoring wells (BVWSA-MW-U7 and BVWSA-MW-U9) were broken. One flush mount well, WM-4B, was located using a metal detector, because it was covered with soils and grass. Well locks were also rusted on all wells, and were cut off and replaced with new locks, coded 2537.

On March 20, 2019, three monitoring wells (BVWSA-MW-3M, BVWSA-MW-6M and BVWSA-MW-U7) were sampled for emerging contaminants (PFAS and 1,4-dioxane) using low flow groundwater sampling methods and additional methodology required for sampling Per- and polyfluoroalkyl substances (PFAS). After sampling for emerging contaminants, passive diffusion bags (PDBs) were deployed in all twelve wells and remained in the wells for a minimum of two weeks to equilibrate with the groundwater. PDBs were used to sample for VOCs at the Site to be consistent with the sampling methods used in prior sampling events.

After completing the groundwater gauging emerging contaminate sampling on March 20, 2019, TRC demobilized from the site. The three groundwater samples were submitted to Test America Laboratories on March 21, 2019 for analysis using EPA method PFC IDA for PFAS and EPA method 8270 SIM for 1,4-dioxane.

TRC returned to the site on April 4, 2019 to retrieve the PDBs and collect samples to be analyzed for VOCs. All twelve PDBs were retrieved and sampled successfully. After sampling the PDBs, TRC demobilized from the site. Twelve samples were submitted to Test America Laboratories on April 4, 2019 for analysis using EPA method 8260C for Target Compound List (TCL) volatile organic compounds (VOCs) plus 10 Ternately Identified Compounds (TICs).

PREPARED BY (OBSERVER):	**REVIEWED BY:**
PRINT NAME: Steve Johansson	**PRINT NAME:** Nate Kranes

NYSDEC Bedford Village Wells Shopping Arcade Site
Photograph Log
Date: March 19, 2019

Photo 1: Photo of BVWSA-MW-U7 with damaged casing cap

Photo 2: Photo of BVWSA-MW-U9 with damaged casing cap

Photo 3: Photo of BVWSA-MW-6B, well overflowing with groundwater

Photo 4: Photo of TRC conducting low-flow sampling for emerging contaminants

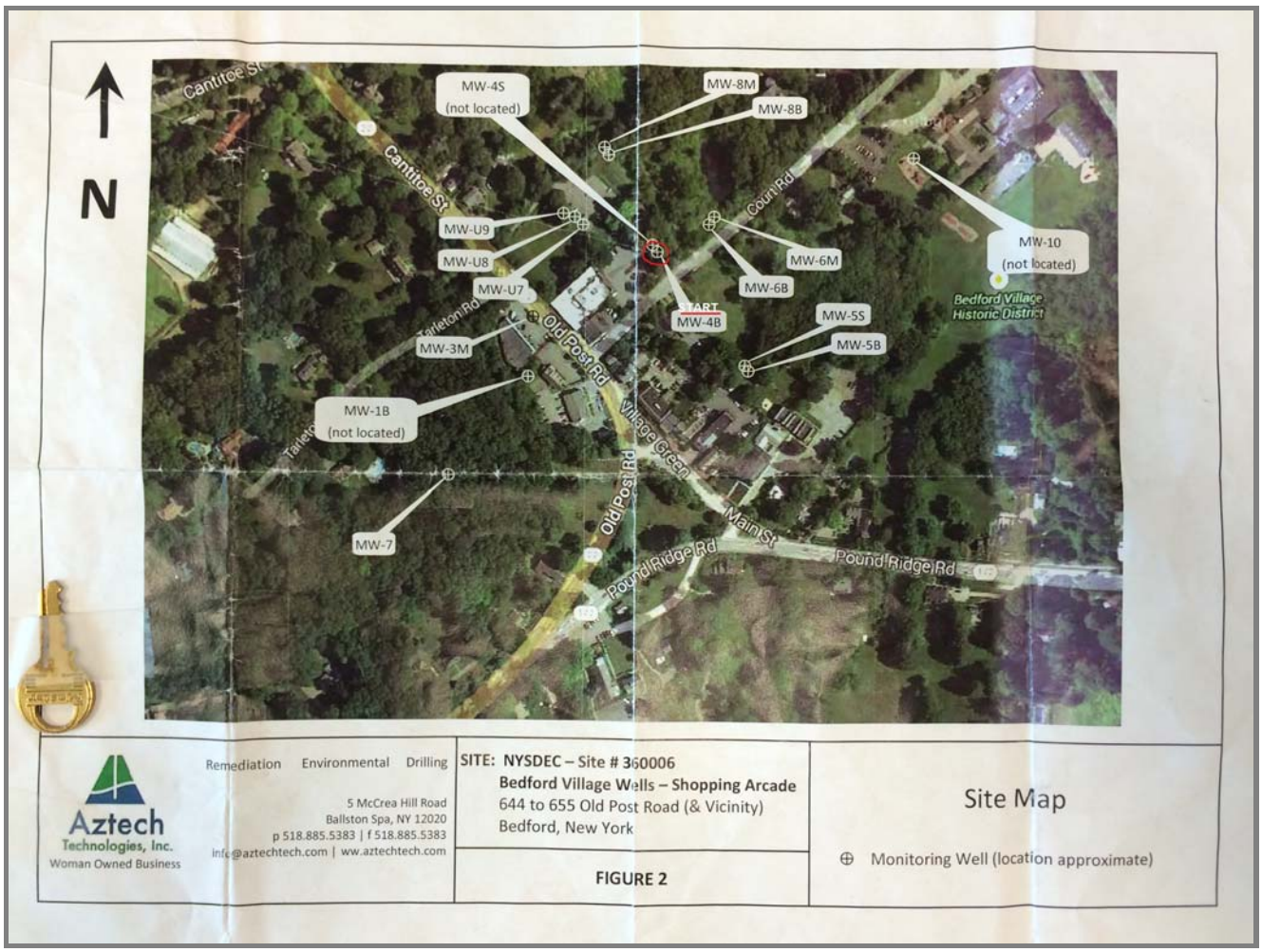
TRC Job No.	Photographs Taken By:	Page No.	Client:	Site Name & Address:	
320919.0000 .0000	Steve Johansson	1 of 1	NYSDEC	Bedford Village Wells Shopping Arcade Bedford, NY	TRC

Bedford Village Wells - Arcade Shopping 08-23-2016

DER Site Management, 08-23-2016

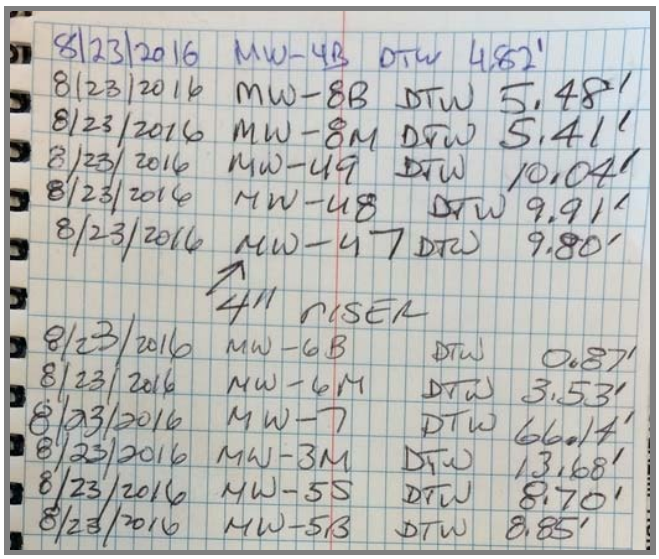
Photos with Notes

Photo	Description
	Carl Hoffman, Charlie Gregory and Will Welling visited the Bedford Village Arcade site to conduct groundwater sampling for volatile organic compounds (VOAs). The weather was clear, warm (80s) and sunny with low humidity. We arrived onsite at 10:30 AM and began with MW-4B which is located at the eastern edge of a parking lot next to the Bedford Village "School of Rock Music,"a franchised music school.  In this image Charlie had just uncovered MW-4B. REPORT BY WILL WELLING



Charlie Gregory measuring depth to water, 4.82 ft from top of riser notch.

All of the day's measurements are listed in the table below.



Closeup of MW-4B. This shallow roadbox type installation has a loose fitting cover. Mulch, dirt and fill holds it down.

MW-8B and MW-8M. Charlie left; Carl, right.

Note: these two wells require a pry bar to open and close the tight, hinged caps. On right: Charlie measuring MW-8B. In the foreground is MW-8M.

After the first pair near the SPDES discharge point, we moved to the "U" well trio.

Left: MW-U7. Right: view from MW-U7 to MW-U9.

MW-U8 concrete collar condition. MW-U9 needs a welded hinge; the padlock now serves as a hinge.

Carl filled, Charlie poured and Will prepared the bottles, labels and chain-of-custody.

"In the jungle" for MW-6B. String coiled and draped over the pro. riser cap.

Charlie pours and Carl fills and tops off the meniscus. It's a requirement for VOAs that there be no bubbles.

Wire-hung permeable bag. The remedial callout contractor AZTECH made the hanging attachment. The short bolt is drilled at the top and bottom.

MW-7 is a hike up the hill behind the Arcade Shopping Center.

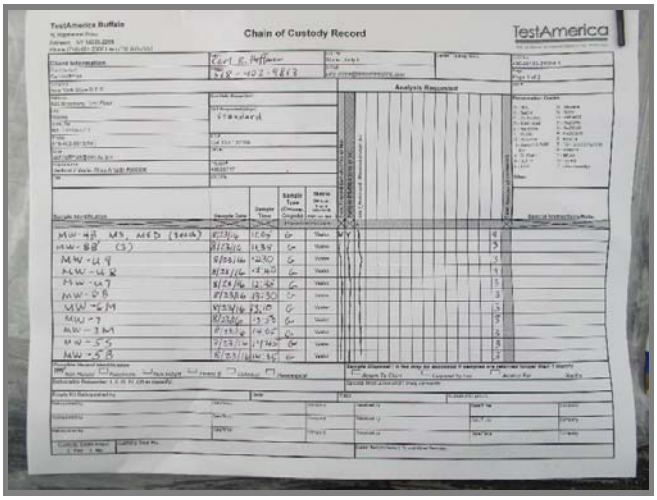
MW-3M is located in the wall/hedgerow. Namesake building in the background.

Panorama

Telephoto of homes down the street to the north and a new bag going into MW-3M

The last location was behind the Bedford firehouse. Carl and Charlie moved a charcoal grill to the side. Charlie unlocks 5S.

We were partially shaded. Charlie preps the line fastener.



Chain of custody almost completely filled out. We checked it over and found that the entry for MW-8M was missing so Carl added a second sheet for one more line. On the sheet we recorded that MW-8M was filled with water at 11:55 AM.

We finished up at 2:45 PM and headed out to the 84 Diner in Fishkill.

We returned to our vehicles at the Hertz parking lot at approximately 6:40 PM.

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME	Bedford Village Wells Shopping Arcade
PROJECT NUMBER	320919.0000.0000
SAMPLE ID	BVWSA-MW-3M
SAMPLE TIME	9:15

LOCATION ID	BVWSA-MW-3M
DATE	3/20/2019
START TIME	8:05
END TIME	9:25
SITE NAME/NUMBER	Bedford Village Wells / No. 360006
PAGE	1 OF 1

WELL DIAMETER (INCHES) [ ] 1 [x] 2 [ ] 4 [ ] 6 [ ] 8 [ ] OTHER

TUBING ID (INCHES) [ ] 1/8 [ ] 1/4 [x] 3/8 [ ] 1/2 [ ] 5/8 [ ] OTHER

MEASUREMENT POINT (MP) [ ] TOP OF RISER (TOR) [ ] TOP OF CASING (TOC) [ ] OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP	x		
CASING	x		
LOCKED	x		
COLLAR	x		

INITIAL DTW (BMP)	8.84 FT	**FINAL DTW (BMP)**	11.20 FT	**PROT. CASING STICKUP (AGS)**	FT	**TOC/TOR DIFFERENCE**	- FT
WELL DEPTH (BMP)	15.52 FT	**SCREEN LENGTH**	10.00 FT	**PID AMBIENT AIR**	0 PPM	**REFILL TIMER SETTING**	- SEC
WATER COLUMN	6.68 FT	**DRAWDOWN VOLUME** (final DTW - initial DTW X well diam. squared X 0.041)	0.39 GAL	**PID WELL MOUTH**	0 PPM	**DISCHARGE TIMER SETTING**	- SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	1.10 GAL	**TOTAL VOL. PURGED** (mL per minute X total minutes X 0.00026 gal/mL)	4.55 GAL	**DRAWDOWN/ TOTAL PURGED**	0.09	**PRESSURE TO PUMP**	- PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
805	**BEGIN PURGING**									
815	10.05	250	8.84	5.41	7.05	8.07	263.5	181.6	14.5	
820	10.40	250	9.48	5.44	6.99	7.97	172.1	171.7	14.5	
825	10.54	200	9.36	5.46	6.98	7.98	156.8	165.3	14.5	
830	10.64	200	9.42	5.47	6.97	8.01	116.5	160.1	14.5	
835	10.74	200	9.57	5.46	6.97	8.02	99.4	156.6	14.5	
840	10.80	200	9.49	5.47	6.97	8.00	77.3	151.1	14.5	
845	10.93	200	9.72	5.48	6.96	8.00	66.8	148	14.5	
850	11.16	200	10.15	5.51	6.96	8.08	77.4	142.8	14.5	
855	11.10	200	9.67	5.55	6.96	8.01	36.6	139.6	14.5	
900	11.14	200	9.85	5.57	6.96	8.00	29.6	137.7	14.5	
905	11.17	200	9.86	5.59	6.96	7.99	24.0	137.4	14.5	
910	11.21	200	9.89	5.61	6.96	7.98	20.9	137	14.5	
915	11.20	200	9.87	5.61	9.96	7.96	20.7	137.1	14.5	
FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures[SF])			**10.00**	**5.61**	**10**	**8.00**	**20.7**	**140.0**		

TEMP.: nearest degree (ex. 10.1 = 10)
COND.: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
- [X] PERISTALTIC
- [ ] SUBMERSIBLE
- [ ] BLADDER
- [ ] WATTERA
- [ ] OTHER
- [ ] OTHER

DECON FLUIDS USED
- [X] LIQUINOX
- [ ] DEIONIZED WATER
- [ ] POTABLE WATER
- [ ] NITRIC ACID
- [ ] HEXANE
- [ ] METHANOL
- [ ] OTHER

TUBING/PUMP/BLADDER MATERIALS
- [ ] SILICON TUBING
- [ ] TEFLON TUBING
- [ ] TEFLON LINED TUBING
- [X] HDPE TUBING
- [ ] LDPE TUBING
- [ ] OTHER
- [ ] OTHER

- [ ] S. STEEL PUMP MATERIAL
- [ ] PVC PUMP MATERIAL
- [ ] GEOPROBE SCREEN
- [ ] TEFLON BLADDER
- [ ] OTHER
- [ ] OTHER
- [ ] OTHER

EQUIPMENT USED
- [X] WL METER Heron
- [X] PID MiniRAE 3000
- [X] WQ METER YSI Pro DSS
- [ ] TURB. METER
- [X] PUMP Geotech Peristaltic Pump
- [ ] OTHER
- [ ] FILTERS NO. TYPE

ANALYTICAL PARAMETERS

	PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
X	PFAS	See Chain of Custody						
X	1,4-dioxane	See Chain of Custody						

PURGE OBSERVATIONS

	YES	NO
PURGE WATER CONTAINERIZED	X	
NO-PURGE METHOD UTILIZED		X

NUMBER OF GALLONS GENERATED: 4.55

If yes, purged approximately 1 standing volume prior to sampling or _____mL for this sample location.

SKETCH/NOTES

Sampler Signature:  Print Name: Steve Johansson

Checked By: Date:

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME	Bedford Village Wells Shopping Arcade
PROJECT NUMBER	320919.0000.0000
SAMPLE ID	BVWSA-MW-6M
SAMPLE TIME	10:55

LOCATION ID	BVWSA-MW-6M
DATE	3/20/2019
START TIME	9:57
END TIME	11:05
SITE NAME/NUMBER	Bedford Village Wells / No. 360006
PAGE	1 OF 1

WELL DIAMETER (INCHES) [ ] 1 [x] 2 [ ] 4 [ ] 6 [ ] 8 [ ] OTHER

TUBING ID (INCHES) [ ] 1/8 [ ] 1/4 [x] 3/8 [ ] 1/2 [ ] 5/8 [ ] OTHER

MEASUREMENT POINT (MP) [ ] TOP OF RISER (TOR) [ ] TOP OF CASING (TOC) [ ] OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP	x		
CASING	x		
LOCKED	x		
COLLAR	x		

INITIAL DTW (BMP)	2.68 FT	**FINAL DTW (BMP)**	2.68 FT	**PROT. CASING STICKUP (AGS)**	FT	**TOC/TOR DIFFERENCE**	- FT
WELL DEPTH (BMP)	29.54 FT	**SCREEN LENGTH**	10 FT	**PID AMBIENT AIR**	0 PPM	**REFILL TIMER SETTING**	- SEC
WATER COLUMN	26.86 FT	**DRAWDOWN VOLUME** (final DTW - initial DTW X well diam. squared X 0.041)	0 GAL	**PID WELL MOUTH**	0 PPM	**DISCHARGE TIMER SETTING**	- SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	4.41 GAL	**TOTAL VOL. PURGED** (mL per minute X total minutes X 0.00026 gal/mL)	3.77 GAL	**DRAWDOWN/ TOTAL PURGED**	0	**PRESSURE TO PUMP**	- PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
957	**BEGIN PURGING**									
1005	2.68	250	10.38	1.587	6.93	0.97	120.8	-85.6	29	
1010	2.68	250	10.55	1.608	6.91	0.56	90.5	-90	29	
1015	2.68	250	10.75	1.585	6.92	0.34	59.2	-93.8	29	
1020	2.68	250	10.86	1.535	6.92	0.25	45.5	-94.3	29	
1025	2.68	250	11.16	1.541	6.91	0.2	43.1	-94	29	
1030	2.68	250	11.18	1.547	6.89	0.17	33	-93.2	29	
1035	2.68	250	11.2	1.581	6.88	0.15	31.8	-92.3	29	
1040	2.68	250	11.2	1.627	6.87	0.14	24.7	-91.9	29	
1045	2.68	250	11.25	1.69	6.85	0.12	32.2	-90.9	29	
1050	2.68	250	11.32	1.713	6.85	0.12	24.4	-90.9	29	
1055	2.68	250	11.38	1.741	6.84	0.12	25.6	-88.1	29	
FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures[SF])			**11.4**	**1.74**	**6.8**	**0.12**	**25.6**	**-88**		

TEMP.: nearest degree (ex. 10.1 = 10)
COND.: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
- [X] PERISTALTIC
- [ ] SUBMERSIBLE
- [ ] BLADDER
- [ ] _____
- [ ] WATTERA
- [ ] OTHER _____
- [ ] OTHER _____

DECON FLUIDS USED
- [X] LIQUINOX
- [ ] DEIONIZED WATER
- [ ] POTABLE WATER
- [ ] NITRIC ACID
- [ ] HEXANE
- [ ] METHANOL
- [ ] OTHER _____

TUBING/PUMP/BLADDER MATERIALS
- [ ] SILICON TUBING
- [ ] TEFLON TUBING
- [ ] TEFLON LINED TUBING
- [X] HDPE TUBING
- [ ] LDPE TUBING
- [ ] OTHER _____
- [ ] OTHER _____

- [ ] S. STEEL PUMP MATERIAL
- [ ] PVC PUMP MATERIAL
- [ ] GEOPROBE SCREEN
- [ ] TEFLON BLADDER
- [ ] OTHER _____
- [ ] OTHER _____
- [ ] OTHER _____

EQUIPMENT USED
- [X] WL METER Heron
- [X] PID MiniRAE 3000
- [X] WQ METER YSI Pro DSS
- [ ] TURB. METER _____
- [X] PUMP Geotech Peristaltic Pump
- [ ] OTHER _____
- [ ] FILTERS NO. ____ TYPE _____

ANALYTICAL PARAMETERS

	PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
X	PFAS	See Chain of Custody						
X	1,4-dioxane	See Chain of Custody						

PURGE OBSERVATIONS

	YES	NO
PURGE WATER CONTAINERIZED	X	
NO-PURGE METHOD UTILIZED		X

NUMBER OF GALLONS GENERATED: 3.77

If yes, purged approximately 1 standing volume prior to sampling or _____mL for this sample location.

SKETCH/NOTES

Sampler Signature:  Print Name: Steve Johansson

Checked By: Date:

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME	Bedford Village Wells Shopping Arcade
PROJECT NUMBER	320919.0000.0000
SAMPLE ID	BVWSA-MW-U7
SAMPLE TIME	12:00

LOCATION ID	BVWSA-MW-U7
DATE	3/20/2019
START TIME	11:23
END TIME	12:10
SITE NAME/NUMBER	Bedford Village Wells / No. 360006
PAGE	1 OF 1

WELL DIAMETER (INCHES) [ ] 1 [x] 2 [ ] 4 [ ] 6 [ ] 8 [ ] OTHER

TUBING ID (INCHES) [ ] 1/8 [ ] 1/4 [x] 3/8 [ ] 1/2 [ ] 5/8 [ ] OTHER

MEASUREMENT POINT (MP) [ ] TOP OF RISER (TOR) [ ] TOP OF CASING (TOC) [ ] OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP	x		
CASING	x		
LOCKED	x		
COLLAR	x		

INITIAL DTW (BMP)	7.42 FT	**FINAL DTW (BMP)**	7.44 FT	**PROT. CASING STICKUP (AGS)**	FT	**TOC/TOR DIFFERENCE**	- FT
WELL DEPTH (BMP)	21.06 FT	**SCREEN LENGTH**	10 FT	**PID AMBIENT AIR**	0 PPM	**REFILL TIMER SETTING**	- SEC
WATER COLUMN	13.64 FT	**DRAWDOWN VOLUME** (final DTW - initial DTW X well diam. squared X 0.041)	0.00 GAL	**PID WELL MOUTH**	0 PPM	**DISCHARGE TIMER SETTING**	- SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	2.24 GAL	**TOTAL VOL. PURGED** (mL per minute X total minutes X 0.00026 gal/mL)	1.92 GAL	**DRAWDOWN/ TOTAL PURGED**	0.00	**PRESSURE TO PUMP**	- PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1123	**BEGIN PURGING**									
1130	7.44	200	9.85	0.435	6.73	7.91	3.3	94.3	21	
1135	7.44	200	10.04	0.431	6.41	7.74	0.0	116.3	21	
1140	7.44	200	9.90	0.462	6.32	7.66	0.0	125.8	21	
1145	7.44	200	9.88	0.494	6.31	7.54	0.0	131.4	21	
1150	7.44	200	10.05	0.512	6.30	7.43	0.0	137.5	21	
1155	7.44	200	10.09	0.519	6.30	7.40	0.0	143.9	21	
1200	7.44	200	10.11	0.532	6.30	7.34	0.0	145.9	21	
FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures[SF])			**10.00**	**0.532**	**6.30**	**7.30**	**0.0**	**150.0**		

TEMP.: nearest degree (ex. 10.1 = 10)
COND.: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
- [X] PERISTALTIC
- [ ] SUBMERSIBLE
- [ ] BLADDER
- [ ] WATTERA
- [ ] OTHER
- [ ] OTHER

DECON FLUIDS USED
- [X] LIQUINOX
- [ ] DEIONIZED WATER
- [ ] POTABLE WATER
- [ ] NITRIC ACID
- [ ] HEXANE
- [ ] METHANOL
- [ ] OTHER

TUBING/PUMP/BLADDER MATERIALS
- [ ] SILICON TUBING
- [ ] TEFLON TUBING
- [ ] TEFLON LINED TUBING
- [X] HDPE TUBING
- [ ] LDPE TUBING
- [ ] OTHER
- [ ] OTHER

- [ ] S. STEEL PUMP MATERIAL
- [ ] PVC PUMP MATERIAL
- [ ] GEOPROBE SCREEN
- [ ] TEFLON BLADDER
- [ ] OTHER
- [ ] OTHER
- [ ] OTHER

EQUIPMENT USED
- [X] WL METER Heron
- [X] PID MiniRAE 3000
- [X] WQ METER YSI Pro DSS
- [ ] TURB. METER
- [X] PUMP Geotech Peristaltic Pump
- [ ] OTHER
- [ ] FILTERS NO. TYPE

ANALYTICAL PARAMETERS

	PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
X	PFAS	See Chain of Custody						
X	1,4-dioxane	See Chain of Custody						

PURGE OBSERVATIONS

	YES	NO
PURGE WATER CONTAINERIZED	X	
NO-PURGE METHOD UTILIZED		X

NUMBER OF GALLONS GENERATED: 1.924

If yes, purged approximately 1 standing volume prior to sampling or _____mL for this sample location.

SKETCH/NOTES

Sampler Signature: 

Print Name: Steve Johansson

Checked By:

Date:

TestAmerica Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Fax (716) 691-7991

Albany #224

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Marnie Chancey	Lab PM: Deyo, Melissa L	Carrier Tracking No(s):	COC No: 480-126682-28687.1
Client Contact: Mr. Stephen Johansson	Phone: 518-603-1996	E-Mail: melissa.deyo@testamericainc.com		Page: Page 1 of 3
Company: TRC Environmental Corporation				Job #:
Address: 10 Maxwell Drive Suite 200	Due Date Requested: STD			
City: Clifton Park	TAT Requested (days):			
State, Zip: NY, 12065				
Phone: 518-419-2219(Tel)	PO #: Purchase Order Requested			
Email: SJohansson@trcsolutions.com	WO #:			
Project Name: NYSDEC - Bedford Village Shopping Arcade	Project #: 48019785			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4

480-150737 Chain of Custody

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C - TCL VOCs + TICs	8270D_SIM_MS_ID - 1,4-Dioxane	PFC_IDA - PFAS, Standard List (21 Analytes)	Total N	Special Instructions/Note:
			Preservation Code:				A	N	N		
BVWSA-MW-3M	3/20/19	9:15	G	Water	N	Y		X	X	12	
BVWSA-MW-6M	3/20/19	10:55	G	Water	N	N		X	X	4	
BVWSA-MW-07	3/20/19	1200	G	Water	N	N		X	X	4	
BVWSA-EB-1	3/20/19	1400	G	Water	N	N			X	2	
				Water							
				Water							
				Water							
				Water							
				Water							
				Water							
				Water							

NFC

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

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

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

Special Instructions/QC Requirements:

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	Marnie Chancey	3/21/19 14:30	TRC	Karl Zadra	3/21/19 1430	TA
2	Karl Zadra	3/21/19 1500	TA	Anna Marie Cikold	03/22/19 0100	TA
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 3.0 #1 ICE

Ver: 01/16/2019

Data Usability Summary Report

Site: Bedford Village Shopping Arcade
Laboratory: Eurofins TestAmerica Buffalo – Amherst, NY
SDG No.: 480-151489-1
Parameters: Volatile Organic Compounds (VOCs)
Data Reviewer: Kristen Morin/TRC
Peer Reviewer: Elizabeth Denly/TRC
Date: June 18, 2019

Samples Reviewed and Evaluation Summary

12 Groundwater Samples: BVWSA-MW-3M, BVWSA-MW-4B, BVWSA-MW-5B, BVWSA-MW-5S, BVWSA-MW-6B, BVWSA-MW-6M, BVWSA-MW-7, BVWSA-MW-8B, BVWSA-MW-8M, BVWSA-MW-U7, BVWSA-MW-U8, BVWSA-MW-U9

1 Equipment Blank Sample: BVWSA-EB-2

The above-listed groundwater and equipment blank samples were collected on April 4, 2019 and were analyzed for VOCs by SW-846 Method 8260C. The data validation was performed in accordance with *USEPA National Functional Guidelines for Organic Superfund Methods Data Review (EPA-540-R-017-002),* January 2017, modified for the SW-846 methodology utilized.

The data were evaluated based on the following parameters:

	• Overall Evaluation of Data and Potential Usability Issues
	• Data Completeness
*	• Holding Times and Sample Preservation
*	• Gas Chromatography/Mass Spectrometry (GC/MS) Tunes
	• Initial and Continuing Calibrations
	• Blanks
*	• Surrogate Recoveries
	• Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results
*	• Internal Standards
*	• Laboratory Control Sample (LCS) Results
NA	• Field Duplicate Results
*	• Sample Results and Reported Quantitation Limits (QLs)
*	• Target Compound Identification
*	• Tentatively Identified Compounds (TICs)

*	- All criteria were met.
NA	- A field duplicate pair was not associated with this sample set.

Overall Evaluation of Data and Potential Usability Issues

All results are usable for project objectives with the exception of 1,4-dioxane in all samples due to low calibration response factors. Qualifications applied to the data as a result of sampling error are discussed below.

- The positive results for acetone in samples BVWSA-MW-3M, BVWSA-MW-4B, and

BVWSA-MW-U8 were qualified as nondetect (U) at the QL due to equipment blank contamination. These results can be used for project objectives as nondetects, which should not have an adverse impact on the data usability.

Qualifications applied to the data as a result of analytical error are discussed below.

- The nondetect results for 1,4-dioxane were rejected (R) in all samples due to low relative response factors (RRFs) in initial and continuing calibrations. These results cannot be used for project objectives which has a major impact on the data usability.

- Potential uncertainty exists for select VOC results that were below the lowest calibration standard and QL. These results were qualified as estimated (J) in the associated samples. These results can be used for project objectives as estimated values, which may have a minor impact on the data usability.

Data Completeness

The data package was a complete Level IV data deliverable package with one exception. The laboratory did not report LCS and MS/MSD percent recoveries (%Rs) and relative percent differences (RPDs) for total xylenes on the summary Forms. This information was calculated during validation; no actions were taken on this basis.

Holding Times and Sample Preservation

All holding time and sample preservation method criteria were met for the VOC analyses.

GC/MS Tunes

All method acceptance criteria were met in the VOC analysis.

Initial and Continuing Calibrations

All correlation coefficients and percent relative standard deviations were within the method acceptance criteria in the initial calibration (IC) associated with the samples in this data set.

The following table summarizes the RRF that did not meet the acceptance criteria in the IC associated with the samples in this data set, the associated samples, and the validation actions.

IC	Compound	RRF	Validation Actions
4/11/19 HP5973N	1,4-Dioxane	0.0037	The nondetect results for 1,4-dioxane were rejected (R) in the associated samples.
Associated samples: All samples			

The following table summarizes the RRFs that did not meet the acceptance criteria in the continuing calibration (CC) standards associated with the samples in this data set, the associated samples, and the validation actions. All percent differences (%Ds) were within the acceptance criteria.

CC	Compound	RRF	Validation Actions
CCVIS 480-467715/3 4/13/19 @00:26 HP5973N	1,4-Dioxane	0.00041	The nondetect results for 1,4-dioxane were rejected (R) in the associated samples.
Associated samples: BVWSA-MW-8B, BVWSA-MW-8M, BVWSA-EB-2, BVWSA-MW-4B, BVWSA-MW-7, BVWSA-MW-U8, BVWSA-MW-U9			
CCVIS 480-467815/3 4/13/19 @13:23 HP5973N	1,4-Dioxane	0.0039	The nondetect results for 1,4-dioxane were rejected (R) in the associated samples.
Associated samples: BVWSA-MW-6M, BVWSA-MW-6B, BVWSA-MW-3M, BVWSA-MW-U7, BVWSA-MW-5B, BVWSA-MW-5S			

Blanks

Target analytes were not detected in the laboratory method blanks. The table below summarizes the compound detected in the equipment blank and the validation actions.

Compound	Blank Concentration	2x Blank Concentration	Validation Actions
Acetone	4.5 J µg/L	9 J µg/L	The positive results for acetone in samples BVWSA-MW-3M, BVWSA-MW-4B, and BVWSA-MW-U8 were qualified as nondetect (U) at the QL since the results for acetone were less than 2x the blank concentration. Qualification was not required in the remaining samples since acetone was not detected.
Equipment Blank ID: Associated samples: BVWSA-EB-2: All samples			

Surrogate Recoveries

The surrogate recoveries met the laboratory acceptance criteria in the VOC analyses.

MS/MSD Results

MS/MSD analyses were performed on sample BVWSA-MW-U9 for VOCs. The table below summarizes the VOC MS/MSD %Rs that did not meet the laboratory acceptance criteria and the validation actions. All RPDs met the laboratory acceptance criteria.

MS/MSD Sample ID	Compound	MS %R	MSD %R	MS/MSD %R QC Limits	Validation Actions
BVWSA-MW-U9	1,1,1-Trichloroethane	127	128	73-126	Qualification of the data was not required since 1,1,1-trichloroethane was not detected in sample BVWSA-MW-U9.

Note that the laboratory did not report MS/MSD %Rs and RPDs for total xylenes. The %Rs and RPDs were calculated during validation and were within the acceptance criteria.

Internal Standards

All internal standards met the method acceptance criteria in the VOC analyses.

LCS Results

An LCS was analyzed with each daily VOC batch. All criteria were met.

Note that the laboratory did not report LCS %Rs for total xylenes. The %Rs were calculated during validation and were within the acceptance criteria.

Field Duplicate Results

No field duplicate pairs were submitted with this sample set.

Sample Results and Reported Quantitation Limits

Sample calculations were spot-checked; there were no dilutions performed on any samples in this data set.

Select VOC results were reported below the lowest calibration standard level and QL. These results were qualified as estimated (J) in the associated samples by the laboratory.

Target Compound Identification

All criteria were met.

Tentatively Identified Compounds

The were no TICs in the VOC method blanks. There was one TIC identified in the equipment blank but the same TIC was not found in the samples. There were no issues noted regarding TIC identifications in the VOC analyses.

QUALIFIED FORM 1s

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-151489-1

SDG No.:

Client Sample ID: BVWSA-MW-8B Lab Sample ID: 480-151489-1

Matrix: Water Lab File ID: N0123.D

Analysis Method: 8260C Date Collected: 04/04/2019 13:00

Sample wt/vol: 5(mL) Date Analyzed: 04/13/2019 07:19

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 467715 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.82
79-34-5	1,1,2,2-Tetrachloroethane	ND		1.0	0.21
79-00-5	1,1,2-Trichloroethane	ND		1.0	0.23
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31
75-34-3	1,1-Dichloroethane	ND		1.0	0.38
75-35-4	1,1-Dichloroethene	ND		1.0	0.29
120-82-1	1,2,4-Trichlorobenzene	ND		1.0	0.41
96-12-8	1,2-Dibromo-3-Chloropropane	ND		1.0	0.39
95-50-1	1,2-Dichlorobenzene	ND		1.0	0.79
107-06-2	1,2-Dichloroethane	ND		1.0	0.21
78-87-5	1,2-Dichloropropane	ND		1.0	0.72
541-73-1	1,3-Dichlorobenzene	ND		1.0	0.78
106-46-7	1,4-Dichlorobenzene	ND		1.0	0.84
78-93-3	2-Butanone (MEK)	ND		10	1.3
591-78-6	2-Hexanone	ND		5.0	1.2
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1
67-64-1	Acetone	ND		10	3.0
71-43-2	Benzene	ND		1.0	0.41
75-27-4	Bromodichloromethane	ND		1.0	0.39
75-25-2	Bromoform	ND		1.0	0.26
74-83-9	Bromomethane	ND		1.0	0.69
75-15-0	Carbon disulfide	ND		1.0	0.19
56-23-5	Carbon tetrachloride	ND		1.0	0.27
108-90-7	Chlorobenzene	ND		1.0	0.75
124-48-1	Dibromochloromethane	ND		1.0	0.32
75-00-3	Chloroethane	ND		1.0	0.32
67-66-3	Chloroform	ND		1.0	0.34
74-87-3	Chloromethane	ND		1.0	0.35
123-91-1	1,4-Dioxane	R ND		40	9.3
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.81
10061-01-5	cis-1,3-Dichloropropene	ND		1.0	0.36
110-82-7	Cyclohexane	ND		1.0	0.18
75-71-8	Dichlorodifluoromethane	ND		1.0	0.68
100-41-4	Ethylbenzene	ND		1.0	0.74
106-93-4	1,2-Dibromoethane	ND		1.0	0.73

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-151489-1

SDG No.:

Client Sample ID: BVWSA-MW-8B Lab Sample ID: 480-151489-1

Matrix: Water Lab File ID: N0123.D

Analysis Method: 8260C Date Collected: 04/04/2019 13:00

Sample wt/vol: 5(mL) Date Analyzed: 04/13/2019 07:19

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 467715 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
98-82-8	Isopropylbenzene	ND		1.0	0.79
79-20-9	Methyl acetate	ND		2.5	1.3
1634-04-4	Methyl tert-butyl ether	ND		1.0	0.16
108-87-2	Methylcyclohexane	ND		1.0	0.16
75-09-2	Methylene Chloride	ND		1.0	0.44
100-42-5	Styrene	ND		1.0	0.73
127-18-4	Tetrachloroethene	ND		1.0	0.36
108-88-3	Toluene	ND		1.0	0.51
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.90
10061-02-6	trans-1,3-Dichloropropene	ND		1.0	0.37
79-01-6	Trichloroethene	ND		1.0	0.46
75-69-4	Trichlorofluoromethane	ND		1.0	0.88
75-01-4	Vinyl chloride	ND		1.0	0.90
1330-20-7	Xylenes, Total	ND		2.0	0.66

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	99		80-120
17060-07-0	1,2-Dichloroethane-d4 (Surr)	103		77-120
460-00-4	4-Bromofluorobenzene (Surr)	99		73-120
1868-53-7	Dibromofluoromethane (Surr)	102		75-123

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-151489-1

SDG No.:

Client Sample ID: BVWSA-MW-8B Lab Sample ID: 480-151489-1

Matrix: Water Lab File ID: N0123.D

Analysis Method: 8260C Date Collected: 04/04/2019 13:00

Sample wt/vol: 5(mL) Date Analyzed: 04/13/2019 07:19

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 467715 Units: ug/L

Number TICs Found: 0 TIC Result Total: 0

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
	Tentatively Identified Compound		None		

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-151489-1

SDG No.:

Client Sample ID: BVWSA-MW-8M Lab Sample ID: 480-151489-2

Matrix: Water Lab File ID: N0124.D

Analysis Method: 8260C Date Collected: 04/04/2019 12:50

Sample wt/vol: 5(mL) Date Analyzed: 04/13/2019 07:43

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 467715 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.82
79-34-5	1,1,2,2-Tetrachloroethane	ND		1.0	0.21
79-00-5	1,1,2-Trichloroethane	ND		1.0	0.23
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31
75-34-3	1,1-Dichloroethane	ND		1.0	0.38
75-35-4	1,1-Dichloroethene	ND		1.0	0.29
120-82-1	1,2,4-Trichlorobenzene	ND		1.0	0.41
96-12-8	1,2-Dibromo-3-Chloropropane	ND		1.0	0.39
95-50-1	1,2-Dichlorobenzene	ND		1.0	0.79
107-06-2	1,2-Dichloroethane	ND		1.0	0.21
78-87-5	1,2-Dichloropropane	ND		1.0	0.72
541-73-1	1,3-Dichlorobenzene	ND		1.0	0.78
106-46-7	1,4-Dichlorobenzene	ND		1.0	0.84
78-93-3	2-Butanone (MEK)	ND		10	1.3
591-78-6	2-Hexanone	ND		5.0	1.2
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1
67-64-1	Acetone	ND		10	3.0
71-43-2	Benzene	ND		1.0	0.41
75-27-4	Bromodichloromethane	ND		1.0	0.39
75-25-2	Bromoform	ND		1.0	0.26
74-83-9	Bromomethane	ND		1.0	0.69
75-15-0	Carbon disulfide	ND		1.0	0.19
56-23-5	Carbon tetrachloride	ND		1.0	0.27
108-90-7	Chlorobenzene	ND		1.0	0.75
124-48-1	Dibromochloromethane	ND		1.0	0.32
75-00-3	Chloroethane	ND		1.0	0.32
67-66-3	Chloroform	ND		1.0	0.34
74-87-3	Chloromethane	ND		1.0	0.35
123-91-1	1,4-Dioxane	ND		40	9.3
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.81
10061-01-5	cis-1,3-Dichloropropene	ND		1.0	0.36
110-82-7	Cyclohexane	ND		1.0	0.18
75-71-8	Dichlorodifluoromethane	ND		1.0	0.68
100-41-4	Ethylbenzene	ND		1.0	0.74
106-93-4	1,2-Dibromoethane	ND		1.0	0.73

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-151489-1

SDG No.:

Client Sample ID: BVWSA-MW-8M Lab Sample ID: 480-151489-2

Matrix: Water Lab File ID: N0124.D

Analysis Method: 8260C Date Collected: 04/04/2019 12:50

Sample wt/vol: 5(mL) Date Analyzed: 04/13/2019 07:43

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 467715 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
98-82-8	Isopropylbenzene	ND		1.0	0.79
79-20-9	Methyl acetate	ND		2.5	1.3
1634-04-4	Methyl tert-butyl ether	ND		1.0	0.16
108-87-2	Methylcyclohexane	ND		1.0	0.16
75-09-2	Methylene Chloride	ND		1.0	0.44
100-42-5	Styrene	ND		1.0	0.73
127-18-4	Tetrachloroethene	ND		1.0	0.36
108-88-3	Toluene	ND		1.0	0.51
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.90
10061-02-6	trans-1,3-Dichloropropene	ND		1.0	0.37
79-01-6	Trichloroethene	ND		1.0	0.46
75-69-4	Trichlorofluoromethane	ND		1.0	0.88
75-01-4	Vinyl chloride	ND		1.0	0.90
1330-20-7	Xylenes, Total	ND		2.0	0.66

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	98		80-120
17060-07-0	1,2-Dichloroethane-d4 (Surr)	103		77-120
460-00-4	4-Bromofluorobenzene (Surr)	102		73-120
1868-53-7	Dibromofluoromethane (Surr)	104		75-123

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-151489-1

SDG No.:

Client Sample ID: BVWSA-MW-8M Lab Sample ID: 480-151489-2

Matrix: Water Lab File ID: N0124.D

Analysis Method: 8260C Date Collected: 04/04/2019 12:50

Sample wt/vol: 5(mL) Date Analyzed: 04/13/2019 07:43

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 467715 Units: ug/L

Number TICs Found: 0 TIC Result Total: 0

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
	Tentatively Identified Compound		None		

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-151489-1

SDG No.:

Client Sample ID: BVWSA-EB-2 Lab Sample ID: 480-151489-3

Matrix: Water Lab File ID: N0125.D

Analysis Method: 8260C Date Collected: 04/04/2019 15:30

Sample wt/vol: 5(mL) Date Analyzed: 04/13/2019 08:07

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 467715 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.82
79-34-5	1,1,2,2-Tetrachloroethane	ND		1.0	0.21
79-00-5	1,1,2-Trichloroethane	ND		1.0	0.23
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31
75-34-3	1,1-Dichloroethane	ND		1.0	0.38
75-35-4	1,1-Dichloroethene	ND		1.0	0.29
120-82-1	1,2,4-Trichlorobenzene	ND		1.0	0.41
96-12-8	1,2-Dibromo-3-Chloropropane	ND		1.0	0.39
95-50-1	1,2-Dichlorobenzene	ND		1.0	0.79
107-06-2	1,2-Dichloroethane	ND		1.0	0.21
78-87-5	1,2-Dichloropropane	ND		1.0	0.72
541-73-1	1,3-Dichlorobenzene	ND		1.0	0.78
106-46-7	1,4-Dichlorobenzene	ND		1.0	0.84
78-93-3	2-Butanone (MEK)	ND		10	1.3
591-78-6	2-Hexanone	ND		5.0	1.2
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1
67-64-1	Acetone	4.5	J	10	3.0
71-43-2	Benzene	ND		1.0	0.41
75-27-4	Bromodichloromethane	ND		1.0	0.39
75-25-2	Bromoform	ND		1.0	0.26
74-83-9	Bromomethane	ND		1.0	0.69
75-15-0	Carbon disulfide	ND		1.0	0.19
56-23-5	Carbon tetrachloride	ND		1.0	0.27
108-90-7	Chlorobenzene	ND		1.0	0.75
124-48-1	Dibromochloromethane	ND		1.0	0.32
75-00-3	Chloroethane	ND		1.0	0.32
67-66-3	Chloroform	ND		1.0	0.34
74-87-3	Chloromethane	ND		1.0	0.35
123-91-1	1,4-Dioxane	R ND		40	9.3
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.81
10061-01-5	cis-1,3-Dichloropropene	ND		1.0	0.36
110-82-7	Cyclohexane	ND		1.0	0.18
75-71-8	Dichlorodifluoromethane	ND		1.0	0.68
100-41-4	Ethylbenzene	ND		1.0	0.74
106-93-4	1,2-Dibromoethane	ND		1.0	0.73

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-151489-1

SDG No.:

Client Sample ID: BVWSA-EB-2 Lab Sample ID: 480-151489-3

Matrix: Water Lab File ID: N0125.D

Analysis Method: 8260C Date Collected: 04/04/2019 15:30

Sample wt/vol: 5(mL) Date Analyzed: 04/13/2019 08:07

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 467715 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
98-82-8	Isopropylbenzene	ND		1.0	0.79
79-20-9	Methyl acetate	ND		2.5	1.3
1634-04-4	Methyl tert-butyl ether	ND		1.0	0.16
108-87-2	Methylcyclohexane	ND		1.0	0.16
75-09-2	Methylene Chloride	ND		1.0	0.44
100-42-5	Styrene	ND		1.0	0.73
127-18-4	Tetrachloroethene	ND		1.0	0.36
108-88-3	Toluene	ND		1.0	0.51
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.90
10061-02-6	trans-1,3-Dichloropropene	ND		1.0	0.37
79-01-6	Trichloroethene	ND		1.0	0.46
75-69-4	Trichlorofluoromethane	ND		1.0	0.88
75-01-4	Vinyl chloride	ND		1.0	0.90
1330-20-7	Xylenes, Total	ND		2.0	0.66

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	97		80-120
17060-07-0	1,2-Dichloroethane-d4 (Surr)	99		77-120
460-00-4	4-Bromofluorobenzene (Surr)	96		73-120
1868-53-7	Dibromofluoromethane (Surr)	99		75-123

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-151489-1

SDG No.:

Client Sample ID: BVWSA-EB-2 Lab Sample ID: 480-151489-3

Matrix: Water Lab File ID: N0125.D

Analysis Method: 8260C Date Collected: 04/04/2019 15:30

Sample wt/vol: 5(mL) Date Analyzed: 04/13/2019 08:07

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 467715 Units: ug/L

Number TICs Found: 1 TIC Result Total: 8.5

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
598-61-8	Cyclobutane, methyl-	3.17	8.5	T J N	87%

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-151489-1

SDG No.:

Client Sample ID: BVWSA-MW-4B Lab Sample ID: 480-151489-4

Matrix: Water Lab File ID: N0126.D

Analysis Method: 8260C Date Collected: 04/04/2019 11:20

Sample wt/vol: 5(mL) Date Analyzed: 04/13/2019 08:31

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 467715 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.82
79-34-5	1,1,2,2-Tetrachloroethane	ND		1.0	0.21
79-00-5	1,1,2-Trichloroethane	ND		1.0	0.23
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31
75-34-3	1,1-Dichloroethane	ND		1.0	0.38
75-35-4	1,1-Dichloroethene	ND		1.0	0.29
120-82-1	1,2,4-Trichlorobenzene	ND		1.0	0.41
96-12-8	1,2-Dibromo-3-Chloropropane	ND		1.0	0.39
95-50-1	1,2-Dichlorobenzene	ND		1.0	0.79
107-06-2	1,2-Dichloroethane	ND		1.0	0.21
78-87-5	1,2-Dichloropropane	ND		1.0	0.72
541-73-1	1,3-Dichlorobenzene	ND		1.0	0.78
106-46-7	1,4-Dichlorobenzene	ND		1.0	0.84
78-93-3	2-Butanone (MEK)	ND		10	1.3
591-78-6	2-Hexanone	ND		5.0	1.2
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1
67-64-1	Acetone	3.1	J	10	3.0
71-43-2	Benzene	ND		1.0	0.41
75-27-4	Bromodichloromethane	ND		1.0	0.39
75-25-2	Bromoform	ND		1.0	0.26
74-83-9	Bromomethane	ND		1.0	0.69
75-15-0	Carbon disulfide	ND		1.0	0.19
56-23-5	Carbon tetrachloride	ND		1.0	0.27
108-90-7	Chlorobenzene	ND		1.0	0.75
124-48-1	Dibromochloromethane	ND		1.0	0.32
75-00-3	Chloroethane	ND		1.0	0.32
67-66-3	Chloroform	ND		1.0	0.34
74-87-3	Chloromethane	ND		1.0	0.35
123-91-1	1,4-Dioxane	ND		40	9.3
156-59-2	cis-1,2-Dichloroethene	11		1.0	0.81
10061-01-5	cis-1,3-Dichloropropene	ND		1.0	0.36
110-82-7	Cyclohexane	ND		1.0	0.18
75-71-8	Dichlorodifluoromethane	ND		1.0	0.68
100-41-4	Ethylbenzene	ND		1.0	0.74
106-93-4	1,2-Dibromoethane	ND		1.0	0.73

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-151489-1

SDG No.:

Client Sample ID: BVWSA-MW-4B Lab Sample ID: 480-151489-4

Matrix: Water Lab File ID: N0126.D

Analysis Method: 8260C Date Collected: 04/04/2019 11:20

Sample wt/vol: 5(mL) Date Analyzed: 04/13/2019 08:31

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 467715 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
98-82-8	Isopropylbenzene	ND		1.0	0.79
79-20-9	Methyl acetate	ND		2.5	1.3
1634-04-4	Methyl tert-butyl ether	ND		1.0	0.16
108-87-2	Methylcyclohexane	ND		1.0	0.16
75-09-2	Methylene Chloride	ND		1.0	0.44
100-42-5	Styrene	ND		1.0	0.73
127-18-4	Tetrachloroethene	21		1.0	0.36
108-88-3	Toluene	ND		1.0	0.51
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.90
10061-02-6	trans-1,3-Dichloropropene	ND		1.0	0.37
79-01-6	Trichloroethene	24		1.0	0.46
75-69-4	Trichlorofluoromethane	ND		1.0	0.88
75-01-4	Vinyl chloride	ND		1.0	0.90
1330-20-7	Xylenes, Total	ND		2.0	0.66

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	94		80-120
17060-07-0	1,2-Dichloroethane-d4 (Surr)	100		77-120
460-00-4	4-Bromofluorobenzene (Surr)	97		73-120
1868-53-7	Dibromofluoromethane (Surr)	97		75-123

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-151489-1

SDG No.:

Client Sample ID: BVWSA-MW-4B Lab Sample ID: 480-151489-4

Matrix: Water Lab File ID: N0126.D

Analysis Method: 8260C Date Collected: 04/04/2019 11:20

Sample wt/vol: 5(mL) Date Analyzed: 04/13/2019 08:31

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 467715 Units: ug/L

Number TICs Found: 0 TIC Result Total: 0

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
	Tentatively Identified Compound		None		

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-151489-1

SDG No.:

Client Sample ID: BVWSA-MW-7 Lab Sample ID: 480-151489-5

Matrix: Water Lab File ID: N0127.D

Analysis Method: 8260C Date Collected: 04/04/2019 14:20

Sample wt/vol: 5(mL) Date Analyzed: 04/13/2019 08:55

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 467715 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.82
79-34-5	1,1,2,2-Tetrachloroethane	ND		1.0	0.21
79-00-5	1,1,2-Trichloroethane	ND		1.0	0.23
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31
75-34-3	1,1-Dichloroethane	ND		1.0	0.38
75-35-4	1,1-Dichloroethene	ND		1.0	0.29
120-82-1	1,2,4-Trichlorobenzene	ND		1.0	0.41
96-12-8	1,2-Dibromo-3-Chloropropane	ND		1.0	0.39
95-50-1	1,2-Dichlorobenzene	ND		1.0	0.79
107-06-2	1,2-Dichloroethane	ND		1.0	0.21
78-87-5	1,2-Dichloropropane	ND		1.0	0.72
541-73-1	1,3-Dichlorobenzene	ND		1.0	0.78
106-46-7	1,4-Dichlorobenzene	ND		1.0	0.84
78-93-3	2-Butanone (MEK)	ND		10	1.3
591-78-6	2-Hexanone	ND		5.0	1.2
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1
67-64-1	Acetone	ND		10	3.0
71-43-2	Benzene	ND		1.0	0.41
75-27-4	Bromodichloromethane	ND		1.0	0.39
75-25-2	Bromoform	ND		1.0	0.26
74-83-9	Bromomethane	ND		1.0	0.69
75-15-0	Carbon disulfide	ND		1.0	0.19
56-23-5	Carbon tetrachloride	ND		1.0	0.27
108-90-7	Chlorobenzene	ND		1.0	0.75
124-48-1	Dibromochloromethane	ND		1.0	0.32
75-00-3	Chloroethane	ND		1.0	0.32
67-66-3	Chloroform	ND		1.0	0.34
74-87-3	Chloromethane	ND		1.0	0.35
123-91-1	1,4-Dioxane	R ND		40	9.3
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.81
10061-01-5	cis-1,3-Dichloropropene	ND		1.0	0.36
110-82-7	Cyclohexane	ND		1.0	0.18
75-71-8	Dichlorodifluoromethane	ND		1.0	0.68
100-41-4	Ethylbenzene	ND		1.0	0.74
106-93-4	1,2-Dibromoethane	ND		1.0	0.73

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-151489-1

SDG No.:

Client Sample ID: BVWSA-MW-7 Lab Sample ID: 480-151489-5

Matrix: Water Lab File ID: N0127.D

Analysis Method: 8260C Date Collected: 04/04/2019 14:20

Sample wt/vol: 5(mL) Date Analyzed: 04/13/2019 08:55

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 467715 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
98-82-8	Isopropylbenzene	ND		1.0	0.79
79-20-9	Methyl acetate	ND		2.5	1.3
1634-04-4	Methyl tert-butyl ether	ND		1.0	0.16
108-87-2	Methylcyclohexane	ND		1.0	0.16
75-09-2	Methylene Chloride	ND		1.0	0.44
100-42-5	Styrene	ND		1.0	0.73
127-18-4	Tetrachloroethene	ND		1.0	0.36
108-88-3	Toluene	ND		1.0	0.51
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.90
10061-02-6	trans-1,3-Dichloropropene	ND		1.0	0.37
79-01-6	Trichloroethene	ND		1.0	0.46
75-69-4	Trichlorofluoromethane	ND		1.0	0.88
75-01-4	Vinyl chloride	ND		1.0	0.90
1330-20-7	Xylenes, Total	ND		2.0	0.66

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	100		80-120
17060-07-0	1,2-Dichloroethane-d4 (Surr)	99		77-120
460-00-4	4-Bromofluorobenzene (Surr)	105		73-120
1868-53-7	Dibromofluoromethane (Surr)	98		75-123

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-151489-1

SDG No.:

Client Sample ID: BVWSA-MW-7 Lab Sample ID: 480-151489-5

Matrix: Water Lab File ID: N0127.D

Analysis Method: 8260C Date Collected: 04/04/2019 14:20

Sample wt/vol: 5(mL) Date Analyzed: 04/13/2019 08:55

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 467715 Units: ug/L

Number TICs Found: 0 TIC Result Total: 0

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
	Tentatively Identified Compound		None		

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-151489-1

SDG No.:

Client Sample ID: BVWSA-MW-U8 Lab Sample ID: 480-151489-6

Matrix: Water Lab File ID: N0128.D

Analysis Method: 8260C Date Collected: 04/04/2019 11:55

Sample wt/vol: 5(mL) Date Analyzed: 04/13/2019 09:19

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 467715 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.82
79-34-5	1,1,2,2-Tetrachloroethane	ND		1.0	0.21
79-00-5	1,1,2-Trichloroethane	ND		1.0	0.23
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31
75-34-3	1,1-Dichloroethane	ND		1.0	0.38
75-35-4	1,1-Dichloroethene	ND		1.0	0.29
120-82-1	1,2,4-Trichlorobenzene	ND		1.0	0.41
96-12-8	1,2-Dibromo-3-Chloropropane	ND		1.0	0.39
95-50-1	1,2-Dichlorobenzene	ND		1.0	0.79
107-06-2	1,2-Dichloroethane	ND		1.0	0.21
78-87-5	1,2-Dichloropropane	ND		1.0	0.72
541-73-1	1,3-Dichlorobenzene	ND		1.0	0.78
106-46-7	1,4-Dichlorobenzene	ND		1.0	0.84
78-93-3	2-Butanone (MEK)	ND		10	1.3
591-78-6	2-Hexanone	ND		5.0	1.2
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1
67-64-1	Acetone	10 ~~3.1 J~~	U	10	3.0
71-43-2	Benzene	ND		1.0	0.41
75-27-4	Bromodichloromethane	ND		1.0	0.39
75-25-2	Bromoform	ND		1.0	0.26
74-83-9	Bromomethane	ND		1.0	0.69
75-15-0	Carbon disulfide	ND		1.0	0.19
56-23-5	Carbon tetrachloride	ND		1.0	0.27
108-90-7	Chlorobenzene	ND		1.0	0.75
124-48-1	Dibromochloromethane	ND		1.0	0.32
75-00-3	Chloroethane	ND		1.0	0.32
67-66-3	Chloroform	ND		1.0	0.34
74-87-3	Chloromethane	ND		1.0	0.35
123-91-1	1,4-Dioxane	R ~~ND~~		40	~~9.3~~
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.81
10061-01-5	cis-1,3-Dichloropropene	ND		1.0	0.36
110-82-7	Cyclohexane	ND		1.0	0.18
75-71-8	Dichlorodifluoromethane	ND		1.0	0.68
100-41-4	Ethylbenzene	ND		1.0	0.74
106-93-4	1,2-Dibromoethane	ND		1.0	0.73

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-151489-1

SDG No.:

Client Sample ID: BVWSA-MW-U8 Lab Sample ID: 480-151489-6

Matrix: Water Lab File ID: N0128.D

Analysis Method: 8260C Date Collected: 04/04/2019 11:55

Sample wt/vol: 5(mL) Date Analyzed: 04/13/2019 09:19

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 467715 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
98-82-8	Isopropylbenzene	ND		1.0	0.79
79-20-9	Methyl acetate	ND		2.5	1.3
1634-04-4	Methyl tert-butyl ether	ND		1.0	0.16
108-87-2	Methylcyclohexane	ND		1.0	0.16
75-09-2	Methylene Chloride	ND		1.0	0.44
100-42-5	Styrene	ND		1.0	0.73
127-18-4	Tetrachloroethene	ND		1.0	0.36
108-88-3	Toluene	ND		1.0	0.51
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.90
10061-02-6	trans-1,3-Dichloropropene	ND		1.0	0.37
79-01-6	Trichloroethene	ND		1.0	0.46
75-69-4	Trichlorofluoromethane	ND		1.0	0.88
75-01-4	Vinyl chloride	ND		1.0	0.90
1330-20-7	Xylenes, Total	ND		2.0	0.66

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	96		80-120
17060-07-0	1,2-Dichloroethane-d4 (Surr)	98		77-120
460-00-4	4-Bromofluorobenzene (Surr)	101		73-120
1868-53-7	Dibromofluoromethane (Surr)	98		75-123

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-151489-1

SDG No.:

Client Sample ID: BVWSA-MW-U8 Lab Sample ID: 480-151489-6

Matrix: Water Lab File ID: N0128.D

Analysis Method: 8260C Date Collected: 04/04/2019 11:55

Sample wt/vol: 5(mL) Date Analyzed: 04/13/2019 09:19

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 467715 Units: ug/L

Number TICs Found: 0 TIC Result Total: 0

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
	Tentatively Identified Compound		None		

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-151489-1

SDG No.:

Client Sample ID: BVWSA-MW-6M Lab Sample ID: 480-151489-7

Matrix: Water Lab File ID: N0140.D

Analysis Method: 8260C Date Collected: 04/04/2019 13:30

Sample wt/vol: 5(mL) Date Analyzed: 04/13/2019 16:07

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 467815 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.82
79-34-5	1,1,2,2-Tetrachloroethane	ND		1.0	0.21
79-00-5	1,1,2-Trichloroethane	ND		1.0	0.23
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31
75-34-3	1,1-Dichloroethane	ND		1.0	0.38
75-35-4	1,1-Dichloroethene	ND		1.0	0.29
120-82-1	1,2,4-Trichlorobenzene	ND		1.0	0.41
96-12-8	1,2-Dibromo-3-Chloropropane	ND		1.0	0.39
95-50-1	1,2-Dichlorobenzene	ND		1.0	0.79
107-06-2	1,2-Dichloroethane	ND		1.0	0.21
78-87-5	1,2-Dichloropropane	ND		1.0	0.72
541-73-1	1,3-Dichlorobenzene	ND		1.0	0.78
106-46-7	1,4-Dichlorobenzene	ND		1.0	0.84
78-93-3	2-Butanone (MEK)	ND		10	1.3
591-78-6	2-Hexanone	ND		5.0	1.2
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1
67-64-1	Acetone	ND		10	3.0
71-43-2	Benzene	ND		1.0	0.41
75-27-4	Bromodichloromethane	ND		1.0	0.39
75-25-2	Bromoform	ND		1.0	0.26
74-83-9	Bromomethane	ND		1.0	0.69
75-15-0	Carbon disulfide	ND		1.0	0.19
56-23-5	Carbon tetrachloride	ND		1.0	0.27
108-90-7	Chlorobenzene	ND		1.0	0.75
124-48-1	Dibromochloromethane	ND		1.0	0.32
75-00-3	Chloroethane	ND		1.0	0.32
67-66-3	Chloroform	ND		1.0	0.34
74-87-3	Chloromethane	ND		1.0	0.35
123-91-1	1,4-Dioxane	R ND		40	9.3
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.81
10061-01-5	cis-1,3-Dichloropropene	ND		1.0	0.36
110-82-7	Cyclohexane	ND		1.0	0.18
75-71-8	Dichlorodifluoromethane	ND		1.0	0.68
100-41-4	Ethylbenzene	ND		1.0	0.74
106-93-4	1,2-Dibromoethane	ND		1.0	0.73

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-151489-1

SDG No.:

Client Sample ID: BVWSA-MW-6M Lab Sample ID: 480-151489-7

Matrix: Water Lab File ID: N0140.D

Analysis Method: 8260C Date Collected: 04/04/2019 13:30

Sample wt/vol: 5(mL) Date Analyzed: 04/13/2019 16:07

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 467815 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
98-82-8	Isopropylbenzene	0.96	J	1.0	0.79
79-20-9	Methyl acetate	ND		2.5	1.3
1634-04-4	Methyl tert-butyl ether	ND		1.0	0.16
108-87-2	Methylcyclohexane	ND		1.0	0.16
75-09-2	Methylene Chloride	ND		1.0	0.44
100-42-5	Styrene	ND		1.0	0.73
127-18-4	Tetrachloroethene	ND		1.0	0.36
108-88-3	Toluene	ND		1.0	0.51
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.90
10061-02-6	trans-1,3-Dichloropropene	ND		1.0	0.37
79-01-6	Trichloroethene	ND		1.0	0.46
75-69-4	Trichlorofluoromethane	ND		1.0	0.88
75-01-4	Vinyl chloride	ND		1.0	0.90
1330-20-7	Xylenes, Total	ND		2.0	0.66

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	98		80-120
17060-07-0	1,2-Dichloroethane-d4 (Surr)	99		77-120
460-00-4	4-Bromofluorobenzene (Surr)	98		73-120
1868-53-7	Dibromofluoromethane (Surr)	102		75-123

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-151489-1

SDG No.:

Client Sample ID: BVWSA-MW-6M Lab Sample ID: 480-151489-7

Matrix: Water Lab File ID: N0140.D

Analysis Method: 8260C Date Collected: 04/04/2019 13:30

Sample wt/vol: 5(mL) Date Analyzed: 04/13/2019 16:07

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 467815 Units: ug/L

Number TICs Found: 10 TIC Result Total: 115.6

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
135-98-8	Benzene, (1-methylpropyl)-	10.63	6.9	T J N	87%
496-11-7	Indane	11.08	50	T J N	95%
1005-64-7	Benzene, 1-butenyl-, (E)-	11.53	12	T J N	95%
	Unknown	11.61	4.0	T J	
	Unknown	11.75	2.7	T J	
767-58-8	Indan, 1-methyl-	12.13	11	T J N	94%
17059-48-2	1H-Indene, 2,3-dihydro-1,6-dimethyl-	12.67	14	T J N	95%
	Unknown	12.96	8.7	T J	
	Unknown	13.43	2.9	T J	
	Unknown	13.71	3.4	T J	

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-151489-1

SDG No.:

Client Sample ID: BVWSA-MW-U9 Lab Sample ID: 480-151489-8

Matrix: Water Lab File ID: N0129.D

Analysis Method: 8260C Date Collected: 04/04/2019 12:15

Sample wt/vol: 5(mL) Date Analyzed: 04/13/2019 09:44

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 467715 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND	F1	1.0	0.82
79-34-5	1,1,2,2-Tetrachloroethane	ND		1.0	0.21
79-00-5	1,1,2-Trichloroethane	ND		1.0	0.23
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31
75-34-3	1,1-Dichloroethane	ND		1.0	0.38
75-35-4	1,1-Dichloroethene	ND		1.0	0.29
120-82-1	1,2,4-Trichlorobenzene	ND		1.0	0.41
96-12-8	1,2-Dibromo-3-Chloropropane	ND		1.0	0.39
95-50-1	1,2-Dichlorobenzene	ND		1.0	0.79
107-06-2	1,2-Dichloroethane	ND		1.0	0.21
78-87-5	1,2-Dichloropropane	ND		1.0	0.72
541-73-1	1,3-Dichlorobenzene	ND		1.0	0.78
106-46-7	1,4-Dichlorobenzene	ND		1.0	0.84
78-93-3	2-Butanone (MEK)	ND		10	1.3
591-78-6	2-Hexanone	ND		5.0	1.2
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1
67-64-1	Acetone	ND		10	3.0
71-43-2	Benzene	ND		1.0	0.41
75-27-4	Bromodichloromethane	ND		1.0	0.39
75-25-2	Bromoform	ND		1.0	0.26
74-83-9	Bromomethane	ND		1.0	0.69
75-15-0	Carbon disulfide	ND		1.0	0.19
56-23-5	Carbon tetrachloride	ND		1.0	0.27
108-90-7	Chlorobenzene	ND		1.0	0.75
124-48-1	Dibromochloromethane	ND		1.0	0.32
75-00-3	Chloroethane	ND		1.0	0.32
67-66-3	Chloroform	ND		1.0	0.34
74-87-3	Chloromethane	ND		1.0	0.35
123-91-1	1,4-Dioxane	ND		40	9.3
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.81
10061-01-5	cis-1,3-Dichloropropene	ND		1.0	0.36
110-82-7	Cyclohexane	ND		1.0	0.18
75-71-8	Dichlorodifluoromethane	ND		1.0	0.68
100-41-4	Ethylbenzene	ND		1.0	0.74
106-93-4	1,2-Dibromoethane	ND		1.0	0.73

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-151489-1

SDG No.:

Client Sample ID: BVWSA-MW-U9 Lab Sample ID: 480-151489-8

Matrix: Water Lab File ID: N0129.D

Analysis Method: 8260C Date Collected: 04/04/2019 12:15

Sample wt/vol: 5(mL) Date Analyzed: 04/13/2019 09:44

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 467715 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
98-82-8	Isopropylbenzene	ND		1.0	0.79
79-20-9	Methyl acetate	ND		2.5	1.3
1634-04-4	Methyl tert-butyl ether	ND		1.0	0.16
108-87-2	Methylcyclohexane	ND		1.0	0.16
75-09-2	Methylene Chloride	ND		1.0	0.44
100-42-5	Styrene	ND		1.0	0.73
127-18-4	Tetrachloroethene	ND		1.0	0.36
108-88-3	Toluene	ND		1.0	0.51
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.90
10061-02-6	trans-1,3-Dichloropropene	ND		1.0	0.37
79-01-6	Trichloroethene	ND		1.0	0.46
75-69-4	Trichlorofluoromethane	ND		1.0	0.88
75-01-4	Vinyl chloride	ND		1.0	0.90
1330-20-7	Xylenes, Total	ND		2.0	0.66

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	97		80-120
17060-07-0	1,2-Dichloroethane-d4 (Surr)	98		77-120
460-00-4	4-Bromofluorobenzene (Surr)	100		73-120
1868-53-7	Dibromofluoromethane (Surr)	98		75-123

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-151489-1

SDG No.:

Client Sample ID: BVWSA-MW-U9 Lab Sample ID: 480-151489-8

Matrix: Water Lab File ID: N0129.D

Analysis Method: 8260C Date Collected: 04/04/2019 12:15

Sample wt/vol: 5(mL) Date Analyzed: 04/13/2019 09:44

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 467715 Units: ug/L

Number TICs Found: 0 TIC Result Total: 0

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
	Tentatively Identified Compound		None		

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-151489-1

SDG No.:

Client Sample ID: BVWSA-MW-6B Lab Sample ID: 480-151489-9

Matrix: Water Lab File ID: N0141.D

Analysis Method: 8260C Date Collected: 04/04/2019 13:40

Sample wt/vol: 5(mL) Date Analyzed: 04/13/2019 16:32

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 467815 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.82
79-34-5	1,1,2,2-Tetrachloroethane	ND		1.0	0.21
79-00-5	1,1,2-Trichloroethane	ND		1.0	0.23
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31
75-34-3	1,1-Dichloroethane	ND		1.0	0.38
75-35-4	1,1-Dichloroethene	ND		1.0	0.29
120-82-1	1,2,4-Trichlorobenzene	ND		1.0	0.41
96-12-8	1,2-Dibromo-3-Chloropropane	ND		1.0	0.39
95-50-1	1,2-Dichlorobenzene	ND		1.0	0.79
107-06-2	1,2-Dichloroethane	ND		1.0	0.21
78-87-5	1,2-Dichloropropane	ND		1.0	0.72
541-73-1	1,3-Dichlorobenzene	ND		1.0	0.78
106-46-7	1,4-Dichlorobenzene	ND		1.0	0.84
78-93-3	2-Butanone (MEK)	ND		10	1.3
591-78-6	2-Hexanone	ND		5.0	1.2
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1
67-64-1	Acetone	ND		10	3.0
71-43-2	Benzene	ND		1.0	0.41
75-27-4	Bromodichloromethane	ND		1.0	0.39
75-25-2	Bromoform	ND		1.0	0.26
74-83-9	Bromomethane	ND		1.0	0.69
75-15-0	Carbon disulfide	ND		1.0	0.19
56-23-5	Carbon tetrachloride	ND		1.0	0.27
108-90-7	Chlorobenzene	ND		1.0	0.75
124-48-1	Dibromochloromethane	ND		1.0	0.32
75-00-3	Chloroethane	ND		1.0	0.32
67-66-3	Chloroform	0.38	J	1.0	0.34
74-87-3	Chloromethane	ND		1.0	0.35
123-91-1	1,4-Dioxane	R ND		40	9.3
156-59-2	cis-1,2-Dichloroethene	1.6		1.0	0.81
10061-01-5	cis-1,3-Dichloropropene	ND		1.0	0.36
110-82-7	Cyclohexane	ND		1.0	0.18
75-71-8	Dichlorodifluoromethane	ND		1.0	0.68
100-41-4	Ethylbenzene	ND		1.0	0.74
106-93-4	1,2-Dibromoethane	ND		1.0	0.73

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-151489-1

SDG No.:

Client Sample ID: BVWSA-MW-6B Lab Sample ID: 480-151489-9

Matrix: Water Lab File ID: N0141.D

Analysis Method: 8260C Date Collected: 04/04/2019 13:40

Sample wt/vol: 5(mL) Date Analyzed: 04/13/2019 16:32

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 467815 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
98-82-8	Isopropylbenzene	ND		1.0	0.79
79-20-9	Methyl acetate	ND		2.5	1.3
1634-04-4	Methyl tert-butyl ether	ND		1.0	0.16
108-87-2	Methylcyclohexane	ND		1.0	0.16
75-09-2	Methylene Chloride	ND		1.0	0.44
100-42-5	Styrene	ND		1.0	0.73
127-18-4	Tetrachloroethene	5.2		1.0	0.36
108-88-3	Toluene	ND		1.0	0.51
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.90
10061-02-6	trans-1,3-Dichloropropene	ND		1.0	0.37
79-01-6	Trichloroethene	1.3		1.0	0.46
75-69-4	Trichlorofluoromethane	ND		1.0	0.88
75-01-4	Vinyl chloride	ND		1.0	0.90
1330-20-7	Xylenes, Total	ND		2.0	0.66

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	94		80-120
17060-07-0	1,2-Dichloroethane-d4 (Surr)	102		77-120
460-00-4	4-Bromofluorobenzene (Surr)	98		73-120
1868-53-7	Dibromofluoromethane (Surr)	107		75-123

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-151489-1

SDG No.:

Client Sample ID: BVWSA-MW-6B Lab Sample ID: 480-151489-9

Matrix: Water Lab File ID: N0141.D

Analysis Method: 8260C Date Collected: 04/04/2019 13:40

Sample wt/vol: 5(mL) Date Analyzed: 04/13/2019 16:32

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 467815 Units: ug/L

Number TICs Found: 0 TIC Result Total: 0

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
	Tentatively Identified Compound		None		

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-151489-1

SDG No.:

Client Sample ID: BVWSA-MW-3M Lab Sample ID: 480-151489-10

Matrix: Water Lab File ID: N0142.D

Analysis Method: 8260C Date Collected: 04/04/2019 11:00

Sample wt/vol: 5(mL) Date Analyzed: 04/13/2019 16:56

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 467815 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.82
79-34-5	1,1,2,2-Tetrachloroethane	ND		1.0	0.21
79-00-5	1,1,2-Trichloroethane	ND		1.0	0.23
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31
75-34-3	1,1-Dichloroethane	ND		1.0	0.38
75-35-4	1,1-Dichloroethene	ND		1.0	0.29
120-82-1	1,2,4-Trichlorobenzene	ND		1.0	0.41
96-12-8	1,2-Dibromo-3-Chloropropane	ND		1.0	0.39
95-50-1	1,2-Dichlorobenzene	ND		1.0	0.79
107-06-2	1,2-Dichloroethane	ND		1.0	0.21
78-87-5	1,2-Dichloropropane	ND		1.0	0.72
541-73-1	1,3-Dichlorobenzene	ND		1.0	0.78
106-46-7	1,4-Dichlorobenzene	ND		1.0	0.84
78-93-3	2-Butanone (MEK)	ND		10	1.3
591-78-6	2-Hexanone	ND		5.0	1.2
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1
67-64-1	Acetone	~~3.9~~ J		10	3.0
71-43-2	Benzene	ND		1.0	0.41
75-27-4	Bromodichloromethane	ND		1.0	0.39
75-25-2	Bromoform	ND		1.0	0.26
74-83-9	Bromomethane	ND		1.0	0.69
75-15-0	Carbon disulfide	ND		1.0	0.19
56-23-5	Carbon tetrachloride	ND		1.0	0.27
108-90-7	Chlorobenzene	ND		1.0	0.75
124-48-1	Dibromochloromethane	ND		1.0	0.32
75-00-3	Chloroethane	ND		1.0	0.32
67-66-3	Chloroform	ND		1.0	0.34
74-87-3	Chloromethane	ND		1.0	0.35
123-91-1	1,4-Dioxane	ND		~~40~~	~~9.3~~
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.81
10061-01-5	cis-1,3-Dichloropropene	ND		1.0	0.36
110-82-7	Cyclohexane	ND		1.0	0.18
75-71-8	Dichlorodifluoromethane	ND		1.0	0.68
100-41-4	Ethylbenzene	ND		1.0	0.74
106-93-4	1,2-Dibromoethane	ND		1.0	0.73

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FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-151489-1

SDG No.:

Client Sample ID: BVWSA-MW-3M Lab Sample ID: 480-151489-10

Matrix: Water Lab File ID: N0142.D

Analysis Method: 8260C Date Collected: 04/04/2019 11:00

Sample wt/vol: 5(mL) Date Analyzed: 04/13/2019 16:56

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 467815 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
98-82-8	Isopropylbenzene	ND		1.0	0.79
79-20-9	Methyl acetate	ND		2.5	1.3
1634-04-4	Methyl tert-butyl ether	ND		1.0	0.16
108-87-2	Methylcyclohexane	ND		1.0	0.16
75-09-2	Methylene Chloride	ND		1.0	0.44
100-42-5	Styrene	ND		1.0	0.73
127-18-4	Tetrachloroethene	ND		1.0	0.36
108-88-3	Toluene	ND		1.0	0.51
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.90
10061-02-6	trans-1,3-Dichloropropene	ND		1.0	0.37
79-01-6	Trichloroethene	ND		1.0	0.46
75-69-4	Trichlorofluoromethane	ND		1.0	0.88
75-01-4	Vinyl chloride	ND		1.0	0.90
1330-20-7	Xylenes, Total	ND		2.0	0.66

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	98		80-120
17060-07-0	1,2-Dichloroethane-d4 (Surr)	103		77-120
460-00-4	4-Bromofluorobenzene (Surr)	98		73-120
1868-53-7	Dibromofluoromethane (Surr)	103		75-123

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-151489-1

SDG No.:

Client Sample ID: BVWSA-MW-3M Lab Sample ID: 480-151489-10

Matrix: Water Lab File ID: N0142.D

Analysis Method: 8260C Date Collected: 04/04/2019 11:00

Sample wt/vol: 5(mL) Date Analyzed: 04/13/2019 16:56

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 467815 Units: ug/L

Number TICs Found: 0 TIC Result Total: 0

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
	Tentatively Identified Compound		None		

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-151489-1

SDG No.:

Client Sample ID: BVWSA-MW-U7 Lab Sample ID: 480-151489-11

Matrix: Water Lab File ID: N0143.D

Analysis Method: 8260C Date Collected: 04/04/2019 11:40

Sample wt/vol: 5(mL) Date Analyzed: 04/13/2019 17:21

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 467815 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.82
79-34-5	1,1,2,2-Tetrachloroethane	ND		1.0	0.21
79-00-5	1,1,2-Trichloroethane	ND		1.0	0.23
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31
75-34-3	1,1-Dichloroethane	ND		1.0	0.38
75-35-4	1,1-Dichloroethene	ND		1.0	0.29
120-82-1	1,2,4-Trichlorobenzene	ND		1.0	0.41
96-12-8	1,2-Dibromo-3-Chloropropane	ND		1.0	0.39
95-50-1	1,2-Dichlorobenzene	ND		1.0	0.79
107-06-2	1,2-Dichloroethane	ND		1.0	0.21
78-87-5	1,2-Dichloropropane	ND		1.0	0.72
541-73-1	1,3-Dichlorobenzene	ND		1.0	0.78
106-46-7	1,4-Dichlorobenzene	ND		1.0	0.84
78-93-3	2-Butanone (MEK)	ND		10	1.3
591-78-6	2-Hexanone	ND		5.0	1.2
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1
67-64-1	Acetone	ND		10	3.0
71-43-2	Benzene	ND		1.0	0.41
75-27-4	Bromodichloromethane	ND		1.0	0.39
75-25-2	Bromoform	ND		1.0	0.26
74-83-9	Bromomethane	ND		1.0	0.69
75-15-0	Carbon disulfide	ND		1.0	0.19
56-23-5	Carbon tetrachloride	ND		1.0	0.27
108-90-7	Chlorobenzene	ND		1.0	0.75
124-48-1	Dibromochloromethane	ND		1.0	0.32
75-00-3	Chloroethane	ND		1.0	0.32
67-66-3	Chloroform	ND		1.0	0.34
74-87-3	Chloromethane	ND		1.0	0.35
123-91-1	1,4-Dioxane	R ND		40	9.3
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.81
10061-01-5	cis-1,3-Dichloropropene	ND		1.0	0.36
110-82-7	Cyclohexane	ND		1.0	0.18
75-71-8	Dichlorodifluoromethane	ND		1.0	0.68
100-41-4	Ethylbenzene	ND		1.0	0.74
106-93-4	1,2-Dibromoethane	ND		1.0	0.73

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-151489-1

SDG No.:

Client Sample ID: BVWSA-MW-U7 Lab Sample ID: 480-151489-11

Matrix: Water Lab File ID: N0143.D

Analysis Method: 8260C Date Collected: 04/04/2019 11:40

Sample wt/vol: 5(mL) Date Analyzed: 04/13/2019 17:21

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 467815 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
98-82-8	Isopropylbenzene	ND		1.0	0.79
79-20-9	Methyl acetate	ND		2.5	1.3
1634-04-4	Methyl tert-butyl ether	ND		1.0	0.16
108-87-2	Methylcyclohexane	ND		1.0	0.16
75-09-2	Methylene Chloride	ND		1.0	0.44
100-42-5	Styrene	ND		1.0	0.73
127-18-4	Tetrachloroethene	ND		1.0	0.36
108-88-3	Toluene	ND		1.0	0.51
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.90
10061-02-6	trans-1,3-Dichloropropene	ND		1.0	0.37
79-01-6	Trichloroethene	ND		1.0	0.46
75-69-4	Trichlorofluoromethane	ND		1.0	0.88
75-01-4	Vinyl chloride	ND		1.0	0.90
1330-20-7	Xylenes, Total	ND		2.0	0.66

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	98		80-120
17060-07-0	1,2-Dichloroethane-d4 (Surr)	103		77-120
460-00-4	4-Bromofluorobenzene (Surr)	100		73-120
1868-53-7	Dibromofluoromethane (Surr)	105		75-123

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-151489-1

SDG No.:

Client Sample ID: BVWSA-MW-U7 Lab Sample ID: 480-151489-11

Matrix: Water Lab File ID: N0143.D

Analysis Method: 8260C Date Collected: 04/04/2019 11:40

Sample wt/vol: 5(mL) Date Analyzed: 04/13/2019 17:21

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 467815 Units: ug/L

Number TICs Found: 0 TIC Result Total: 0

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
	Tentatively Identified Compound		None		

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-151489-1

SDG No.:

Client Sample ID: BVWSA-MW-5B Lab Sample ID: 480-151489-12

Matrix: Water Lab File ID: N0144.D

Analysis Method: 8260C Date Collected: 04/04/2019 14:10

Sample wt/vol: 5(mL) Date Analyzed: 04/13/2019 17:44

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 467815 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.82
79-34-5	1,1,2,2-Tetrachloroethane	ND		1.0	0.21
79-00-5	1,1,2-Trichloroethane	ND		1.0	0.23
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31
75-34-3	1,1-Dichloroethane	ND		1.0	0.38
75-35-4	1,1-Dichloroethene	ND		1.0	0.29
120-82-1	1,2,4-Trichlorobenzene	ND		1.0	0.41
96-12-8	1,2-Dibromo-3-Chloropropane	ND		1.0	0.39
95-50-1	1,2-Dichlorobenzene	ND		1.0	0.79
107-06-2	1,2-Dichloroethane	ND		1.0	0.21
78-87-5	1,2-Dichloropropane	ND		1.0	0.72
541-73-1	1,3-Dichlorobenzene	ND		1.0	0.78
106-46-7	1,4-Dichlorobenzene	ND		1.0	0.84
78-93-3	2-Butanone (MEK)	ND		10	1.3
591-78-6	2-Hexanone	ND		5.0	1.2
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1
67-64-1	Acetone	ND		10	3.0
71-43-2	Benzene	ND		1.0	0.41
75-27-4	Bromodichloromethane	ND		1.0	0.39
75-25-2	Bromoform	ND		1.0	0.26
74-83-9	Bromomethane	ND		1.0	0.69
75-15-0	Carbon disulfide	ND		1.0	0.19
56-23-5	Carbon tetrachloride	ND		1.0	0.27
108-90-7	Chlorobenzene	ND		1.0	0.75
124-48-1	Dibromochloromethane	ND		1.0	0.32
75-00-3	Chloroethane	ND		1.0	0.32
67-66-3	Chloroform	ND		1.0	0.34
74-87-3	Chloromethane	ND		1.0	0.35
123-91-1	1,4-Dioxane	ND	R	40	9.3
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.81
10061-01-5	cis-1,3-Dichloropropene	ND		1.0	0.36
110-82-7	Cyclohexane	ND		1.0	0.18
75-71-8	Dichlorodifluoromethane	ND		1.0	0.68
100-41-4	Ethylbenzene	ND		1.0	0.74
106-93-4	1,2-Dibromoethane	ND		1.0	0.73

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-151489-1

SDG No.:

Client Sample ID: BVWSA-MW-5B Lab Sample ID: 480-151489-12

Matrix: Water Lab File ID: N0144.D

Analysis Method: 8260C Date Collected: 04/04/2019 14:10

Sample wt/vol: 5(mL) Date Analyzed: 04/13/2019 17:44

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 467815 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
98-82-8	Isopropylbenzene	ND		1.0	0.79
79-20-9	Methyl acetate	ND		2.5	1.3
1634-04-4	Methyl tert-butyl ether	ND		1.0	0.16
108-87-2	Methylcyclohexane	ND		1.0	0.16
75-09-2	Methylene Chloride	ND		1.0	0.44
100-42-5	Styrene	ND		1.0	0.73
127-18-4	Tetrachloroethene	4.6		1.0	0.36
108-88-3	Toluene	ND		1.0	0.51
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.90
10061-02-6	trans-1,3-Dichloropropene	ND		1.0	0.37
79-01-6	Trichloroethene	ND		1.0	0.46
75-69-4	Trichlorofluoromethane	ND		1.0	0.88
75-01-4	Vinyl chloride	ND		1.0	0.90
1330-20-7	Xylenes, Total	ND		2.0	0.66

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	97		80-120
17060-07-0	1,2-Dichloroethane-d4 (Surr)	107		77-120
460-00-4	4-Bromofluorobenzene (Surr)	102		73-120
1868-53-7	Dibromofluoromethane (Surr)	107		75-123

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-151489-1

SDG No.:

Client Sample ID: BVWSA-MW-5B Lab Sample ID: 480-151489-12

Matrix: Water Lab File ID: N0144.D

Analysis Method: 8260C Date Collected: 04/04/2019 14:10

Sample wt/vol: 5(mL) Date Analyzed: 04/13/2019 17:44

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 467815 Units: ug/L

Number TICs Found: 0 TIC Result Total: 0

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
	Tentatively Identified Compound		None		

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-151489-1

SDG No.:

Client Sample ID: BVWSA-MW-5S Lab Sample ID: 480-151489-13

Matrix: Water Lab File ID: N0145.D

Analysis Method: 8260C Date Collected: 04/04/2019 13:55

Sample wt/vol: 5(mL) Date Analyzed: 04/13/2019 18:08

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 467815 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.82
79-34-5	1,1,2,2-Tetrachloroethane	ND		1.0	0.21
79-00-5	1,1,2-Trichloroethane	ND		1.0	0.23
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31
75-34-3	1,1-Dichloroethane	ND		1.0	0.38
75-35-4	1,1-Dichloroethene	ND		1.0	0.29
120-82-1	1,2,4-Trichlorobenzene	ND		1.0	0.41
96-12-8	1,2-Dibromo-3-Chloropropane	ND		1.0	0.39
95-50-1	1,2-Dichlorobenzene	ND		1.0	0.79
107-06-2	1,2-Dichloroethane	ND		1.0	0.21
78-87-5	1,2-Dichloropropane	ND		1.0	0.72
541-73-1	1,3-Dichlorobenzene	ND		1.0	0.78
106-46-7	1,4-Dichlorobenzene	ND		1.0	0.84
78-93-3	2-Butanone (MEK)	ND		10	1.3
591-78-6	2-Hexanone	ND		5.0	1.2
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1
67-64-1	Acetone	ND		10	3.0
71-43-2	Benzene	ND		1.0	0.41
75-27-4	Bromodichloromethane	ND		1.0	0.39
75-25-2	Bromoform	ND		1.0	0.26
74-83-9	Bromomethane	ND		1.0	0.69
75-15-0	Carbon disulfide	ND		1.0	0.19
56-23-5	Carbon tetrachloride	ND		1.0	0.27
108-90-7	Chlorobenzene	ND		1.0	0.75
124-48-1	Dibromochloromethane	ND		1.0	0.32
75-00-3	Chloroethane	ND		1.0	0.32
67-66-3	Chloroform	ND		1.0	0.34
74-87-3	Chloromethane	ND		1.0	0.35
123-91-1	1,4-Dioxane	ND	R	40	9.3
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.81
10061-01-5	cis-1,3-Dichloropropene	ND		1.0	0.36
110-82-7	Cyclohexane	ND		1.0	0.18
75-71-8	Dichlorodifluoromethane	ND		1.0	0.68
100-41-4	Ethylbenzene	ND		1.0	0.74
106-93-4	1,2-Dibromoethane	ND		1.0	0.73

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-151489-1

SDG No.:

Client Sample ID: BVWSA-MW-5S Lab Sample ID: 480-151489-13

Matrix: Water Lab File ID: N0145.D

Analysis Method: 8260C Date Collected: 04/04/2019 13:55

Sample wt/vol: 5(mL) Date Analyzed: 04/13/2019 18:08

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 467815 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
98-82-8	Isopropylbenzene	ND		1.0	0.79
79-20-9	Methyl acetate	ND		2.5	1.3
1634-04-4	Methyl tert-butyl ether	ND		1.0	0.16
108-87-2	Methylcyclohexane	ND		1.0	0.16
75-09-2	Methylene Chloride	ND		1.0	0.44
100-42-5	Styrene	ND		1.0	0.73
127-18-4	Tetrachloroethene	ND		1.0	0.36
108-88-3	Toluene	ND		1.0	0.51
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.90
10061-02-6	trans-1,3-Dichloropropene	ND		1.0	0.37
79-01-6	Trichloroethene	ND		1.0	0.46
75-69-4	Trichlorofluoromethane	ND		1.0	0.88
75-01-4	Vinyl chloride	ND		1.0	0.90
1330-20-7	Xylenes, Total	ND		2.0	0.66

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	96		80-120
17060-07-0	1,2-Dichloroethane-d4 (Surr)	105		77-120
460-00-4	4-Bromofluorobenzene (Surr)	98		73-120
1868-53-7	Dibromofluoromethane (Surr)	107		75-123

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-151489-1

SDG No.:

Client Sample ID: BVWSA-MW-5S Lab Sample ID: 480-151489-13

Matrix: Water Lab File ID: N0145.D

Analysis Method: 8260C Date Collected: 04/04/2019 13:55

Sample wt/vol: 5(mL) Date Analyzed: 04/13/2019 18:08

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 467815 Units: ug/L

Number TICs Found: 1 TIC Result Total: 3.4

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
	Unknown	2.21	3.4	T J	

QC NONCONFORMANCE DOCUMENTATION

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-151489-1 Analy Batch No.: 467401

SDG No.:

Instrument ID: HP5973N GC Column: ZB-624 (20) ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/11/2019 12:22 Calibration End Date: 04/11/2019 15:12 Calibration ID: 36640

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
1,1-Dichloropropene	1.7172 1.7078	1.3654 1.8408	1.6271 1.8080	1.9209	1.9107	Ave		1.7372				10.5		20.0			
Benzene	+++++ 5.3257	4.6645 5.5717	4.8122 5.6487	6.1890	5.4806	Ave		5.3846			0.5000	9.6		20.0			
Isobutyl alcohol	0.1117 0.1100	0.1036 0.1202	0.0995 0.1249	0.1164	0.1146	Ave		0.1126				7.4		20.0			
1,2-Dichloroethane	+++++ 2.4382	2.5844 2.5061	2.3301 2.5867	2.6339	2.4157	Ave		2.4993			0.1000	4.4		20.0			
n-Heptane	+++++ 2.6752	1.9703 2.8836	2.1971 2.8850	2.8697	2.8256	Ave		2.6152				14.4		20.0			
Trichloroethene	1.3845 1.3541	1.2675 1.4264	1.1543 1.4340	1.6298	1.4225	Ave		1.3841			0.2000	10.0		20.0			
Methylcyclohexane	+++++ 2.1690	1.6485 2.3030	1.9163 2.2586	2.3748	2.2612	Ave		2.1331			0.1000	12.1		20.0			
1,2-Dichloropropane	1.5869 1.5506	1.2365 1.5628	1.3314 1.6322	1.6836	1.5598	Ave		1.5180			0.1000	10.1		20.0			
Dibromomethane	0.9143 0.9227	0.9028 0.9309	0.8137 0.9444	0.9145	0.9942	Ave		0.9172			0.1000	5.5		20.0			
1,4-Dioxane	0.0037 0.0037	0.0036 0.0038	0.0029 0.0036	0.0039	0.0045	Ave		0.0037				11.7		20.0			
Bromodichloromethane	1.5567 1.6520	1.4182 1.7759	1.3660 1.8978	1.8194	1.6607	Ave		1.6433			0.2000	11.5		20.0			
2-Chloroethyl vinyl ether	+++++ 1.0047	0.8288 1.0812	0.9828 1.1099	1.0086	1.0007	Ave		0.9881				10.2		20.0			
cis-1,3-Dichloropropene	1.9874 2.0584	1.8322 2.2164	1.7205 2.2765	2.0623	2.0350	Ave		2.0236			0.2000	9.0		20.0			
4-Methyl-2-pentanone (MIBK)	+++++ 0.2076	0.1961 0.2084	0.1824 0.2133	0.2093	0.2114	Ave		0.2041			0.1000	5.4		20.0			
Toluene	0.8593 0.9309	0.8580 0.9409	0.8392 0.9402	0.9990	0.9369	Ave		0.9130			0.4000	6.0		20.0			
trans-1,3-Dichloropropene	0.4695 0.5091	0.4246 0.5315	0.4081 0.5588	0.4865	0.5027	Ave		0.4863			0.1000	10.5		20.0			
Ethyl methacrylate	0.4083 0.4451	0.3902 0.4464	0.3826 0.4641	0.4583	0.4534	Ave		0.4310				7.5		20.0			
1,1,2-Trichloroethane	0.2735 0.2636	0.2549 0.2699	0.2176 0.2695	0.2591	0.2916	Ave		0.2625			0.1000	8.1		20.0			
Tetrachloroethene	+++++ 0.4279	0.4202 0.4252	0.3740 0.4151	0.4666	0.4324	Ave		0.4230			0.2000	6.5		20.0			
1,3-Dichloropropane	0.4959 0.5449	0.4932 0.5412	0.5111 0.5422	0.5805	0.5911	Ave		0.5375				6.7		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-151489-1

SDG No.:

Lab Sample ID: CCVIS 480-467715/3 Calibration Date: 04/13/2019 00:26

Instrument ID: HP5973N Calib Start Date: 04/11/2019 12:22

GC Column: ZB-624 (20) ID: 0.18(mm) Calib End Date: 04/11/2019 15:12

Lab File ID: N0106.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methylcyclohexane	Ave	2.133	2.469	0.1000	28.9	25.0	15.7	20.0
1,2-Dichloropropane	Ave	1.518	1.618	0.1000	26.6	25.0	6.6	20.0
Dibromomethane	Ave	0.9172	0.9386	0.1000	25.6	25.0	2.3	20.0
1,4-Dioxane	Ave	0.0037	0.0041		560	500	11.9	50.0
Bromodichloromethane	Ave	1.643	1.833	0.2000	27.9	25.0	11.5	20.0
2-Chloroethyl vinyl ether	Ave	0.9881	0.9805		24.8	25.0	-0.8	20.0
cis-1,3-Dichloropropene	Ave	2.024	2.200	0.2000	27.2	25.0	8.7	20.0
4-Methyl-2-pentanone (MIBK)	Ave	0.2041	0.1981	0.1000	121	125	-2.9	20.0
Toluene	Ave	0.9130	0.9690	0.4000	26.5	25.0	6.1	20.0
trans-1,3-Dichloropropene	Ave	0.4863	0.5100	0.1000	26.2	25.0	4.9	20.0
Ethyl methacrylate	Ave	0.4310	0.4256		24.7	25.0	-1.3	20.0
1,1,2-Trichloroethane	Ave	0.2625	0.2661	0.1000	25.3	25.0	1.4	20.0
Tetrachloroethene	Ave	0.4230	0.4362	0.2000	25.8	25.0	3.1	20.0
1,3-Dichloropropane	Ave	0.5375	0.5326		24.8	25.0	-0.9	20.0
2-Hexanone	Ave	0.4061	0.3812	0.1000	117	125	-6.1	20.0
Dibromochloromethane	Ave	0.3231	0.3476	0.1000	26.9	25.0	7.6	20.0
1,2-Dibromoethane	Ave	0.3449	0.3483		25.2	25.0	1.0	20.0
Chlorobenzene	Ave	1.025	1.065	0.5000	26.0	25.0	3.9	20.0
Ethylbenzene	Ave	1.584	1.747	0.1000	27.6	25.0	10.3	20.0
1,1,1,2-Tetrachloroethane	Ave	0.3491	0.3861		27.7	25.0	10.6	20.0
m,p-Xylene	Ave	0.6322	0.6729	0.1000	26.6	25.0	6.4	20.0
o-Xylene	Ave	0.6406	0.6791	0.3000	26.5	25.0	6.0	20.0
Styrene	Ave	1.057	1.083	0.3000	25.6	25.0	2.5	20.0
Bromoform	Ave	0.1704	0.1918	0.1000	28.1	25.0	12.6	50.0
Isopropylbenzene	Ave	3.147	3.513	0.1000	27.9	25.0	11.6	20.0
Bromobenzene	Ave	0.8283	0.8669		26.2	25.0	4.7	20.0
1,1,2,2-Tetrachloroethane	Ave	0.8100	0.7816	0.3000	24.1	25.0	-3.5	20.0
N-Propylbenzene	Ave	3.542	3.910		27.6	25.0	10.4	20.0
1,2,3-Trichloropropane	Ave	0.2737	0.2611		23.8	25.0	-4.6	20.0
trans-1,4-Dichloro-2-butene	Lin1		0.2811		23.4	25.0	-6.5	50.0
2-Chlorotoluene	Ave	0.7804	0.8323		26.7	25.0	6.7	20.0
1,3,5-Trimethylbenzene	Ave	2.616	2.898		27.7	25.0	10.8	20.0
4-Chlorotoluene	Ave	2.242	2.338		26.1	25.0	4.3	20.0
tert-Butylbenzene	Ave	0.6070	0.6879		28.3	25.0	13.3	20.0
1,2,4-Trimethylbenzene	Ave	2.597	2.857		27.5	25.0	10.0	20.0
sec-Butylbenzene	Ave	3.415	3.795		27.8	25.0	11.1	20.0
1,3-Dichlorobenzene	Ave	1.620	1.690	0.6000	26.1	25.0	4.3	20.0
4-Isopropyltoluene	Ave	2.953	3.232		27.4	25.0	9.5	20.0
1,4-Dichlorobenzene	Ave	1.653	1.709	0.5000	25.9	25.0	3.4	20.0
n-Butylbenzene	Ave	2.494	2.770		27.8	25.0	11.1	20.0
1,2-Dichlorobenzene	Ave	1.611	1.682	0.4000	26.1	25.0	4.4	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-151489-1

SDG No.:

Lab Sample ID: CCVIS 480-467815/3 Calibration Date: 04/13/2019 13:23

Instrument ID: HP5973N Calib Start Date: 04/11/2019 12:22

GC Column: ZB-624 (20) ID: 0.18(mm) Calib End Date: 04/11/2019 15:12

Lab File ID: N0134.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methylcyclohexane	Ave	2.133	2.409	0.1000	28.2	25.0	13.0	20.0
1,2-Dichloropropane	Ave	1.518	1.521	0.1000	25.0	25.0	0.2	20.0
Dibromomethane	Ave	0.9172	0.8977	0.1000	24.5	25.0	-2.1	20.0
1,4-Dioxane	Ave	0.0037	0.0039		528	500	5.6	50.0
Bromodichloromethane	Ave	1.643	1.709	0.2000	26.0	25.0	4.0	20.0
2-Chloroethyl vinyl ether	Ave	0.9881	0.9338		23.6	25.0	-5.5	20.0
cis-1,3-Dichloropropene	Ave	2.024	1.984	0.2000	24.5	25.0	-1.9	20.0
4-Methyl-2-pentanone (MIBK)	Ave	0.2041	0.2024	0.1000	124	125	-0.8	20.0
Toluene	Ave	0.9130	0.9614	0.4000	26.3	25.0	5.3	20.0
trans-1,3-Dichloropropene	Ave	0.4863	0.4982	0.1000	25.6	25.0	2.4	20.0
Ethyl methacrylate	Ave	0.4310	0.4099		23.8	25.0	-4.9	20.0
1,1,2-Trichloroethane	Ave	0.2625	0.2552	0.1000	24.3	25.0	-2.8	20.0
Tetrachloroethene	Ave	0.4230	0.4228	0.2000	25.0	25.0	-0.0	20.0
1,3-Dichloropropane	Ave	0.5375	0.5161		24.0	25.0	-4.0	20.0
2-Hexanone	Ave	0.4061	0.3827	0.1000	118	125	-5.8	20.0
Dibromochloromethane	Ave	0.3231	0.3203	0.1000	24.8	25.0	-0.9	20.0
1,2-Dibromoethane	Ave	0.3449	0.3298		23.9	25.0	-4.4	20.0
Chlorobenzene	Ave	1.025	1.022	0.5000	24.9	25.0	-0.2	20.0
Ethylbenzene	Ave	1.584	1.698	0.1000	26.8	25.0	7.2	20.0
1,1,1,2-Tetrachloroethane	Ave	0.3491	0.3940		28.2	25.0	12.9	20.0
m,p-Xylene	Ave	0.6322	0.6707	0.1000	26.5	25.0	6.1	20.0
o-Xylene	Ave	0.6406	0.6784	0.3000	26.5	25.0	5.9	20.0
Styrene	Ave	1.057	1.072	0.3000	25.4	25.0	1.4	20.0
Bromoform	Ave	0.1704	0.1791	0.1000	26.3	25.0	5.1	50.0
Isopropylbenzene	Ave	3.147	3.483	0.1000	27.7	25.0	10.7	20.0
Bromobenzene	Ave	0.8283	0.8394		25.3	25.0	1.3	20.0
1,1,2,2-Tetrachloroethane	Ave	0.8100	0.7755	0.3000	23.9	25.0	-4.3	20.0
N-Propylbenzene	Ave	3.542	3.919		27.7	25.0	10.6	20.0
1,2,3-Trichloropropane	Ave	0.2737	0.2624		24.0	25.0	-4.1	20.0
trans-1,4-Dichloro-2-butene	Lin1		0.2806		23.3	25.0	-6.6	50.0
2-Chlorotoluene	Ave	0.7804	0.8128		26.0	25.0	4.2	20.0
1,3,5-Trimethylbenzene	Ave	2.616	2.860		27.3	25.0	9.3	20.0
4-Chlorotoluene	Ave	2.242	2.264		25.2	25.0	1.0	20.0
tert-Butylbenzene	Ave	0.6070	0.6672		27.5	25.0	9.9	20.0
1,2,4-Trimethylbenzene	Ave	2.597	2.864		27.6	25.0	10.3	20.0
sec-Butylbenzene	Ave	3.415	3.742		27.4	25.0	9.6	20.0
1,3-Dichlorobenzene	Ave	1.620	1.652	0.6000	25.5	25.0	2.0	20.0
4-Isopropyltoluene	Ave	2.953	3.266		27.7	25.0	10.6	20.0
1,4-Dichlorobenzene	Ave	1.653	1.636	0.5000	24.7	25.0	-1.0	20.0
n-Butylbenzene	Ave	2.494	2.676		26.8	25.0	7.3	20.0
1,2-Dichlorobenzene	Ave	1.611	1.661	0.4000	25.8	25.0	3.1	20.0

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

Lab Sample ID: LCS 480-467715/6
Matrix: Water
Analysis Batch: 467715

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyclohexane	25.0	27.1		ug/L		109	59 - 135
Dichlorodifluoromethane	25.0	25.4		ug/L		102	59 - 135
Ethylbenzene	25.0	25.9		ug/L		104	77 - 123
1,2-Dibromoethane	25.0	24.4		ug/L		98	77 - 120
Isopropylbenzene	25.0	27.4		ug/L		109	77 - 122
Methyl acetate	50.0	47.6		ug/L		95	74 - 133
Methyl tert-butyl ether	25.0	25.4		ug/L		101	77 - 120
Methylcyclohexane	25.0	27.4		ug/L		110	68 - 134
Methylene Chloride	25.0	26.5		ug/L		106	75 - 124
Styrene	25.0	25.4		ug/L		102	80 - 120
Tetrachloroethene	25.0	24.4		ug/L		98	74 - 122
Toluene	25.0	25.5		ug/L		102	80 - 122
trans-1,2-Dichloroethene	25.0	25.7		ug/L		103	73 - 127
trans-1,3-Dichloropropene	25.0	25.0		ug/L		100	80 - 120
Trichloroethene	25.0	25.7		ug/L		103	74 - 123
Trichlorofluoromethane	25.0	27.0		ug/L		108	62 - 150
Vinyl chloride	25.0	25.4		ug/L		102	65 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*98*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*105*		*77 - 120*
4-Bromofluorobenzene (Surr)	*103*		*73 - 120*
Dibromofluoromethane (Surr)	*103*		*75 - 123*

Lab Sample ID: 480-151489-8 MS
Matrix: Water
Analysis Batch: 467715

Client Sample ID: BVWSA-MW-U9
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	ND	F1	25.0	31.8	F1	ug/L		127	73 - 126
1,1,2,2-Tetrachloroethane	ND		25.0	23.0		ug/L		92	76 - 120
1,1,2-Trichloroethane	ND		25.0	23.7		ug/L		95	76 - 122
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		25.0	32.0		ug/L		128	61 - 148
1,1-Dichloroethane	ND		25.0	28.3		ug/L		113	77 - 120
1,1-Dichloroethene	ND		25.0	31.8		ug/L		127	66 - 127
1,2,4-Trichlorobenzene	ND		25.0	25.4		ug/L		102	79 - 122
1,2-Dibromo-3-Chloropropane	ND		25.0	22.2		ug/L		89	56 - 134
1,2-Dichlorobenzene	ND		25.0	25.3		ug/L		101	80 - 124
1,2-Dichloroethane	ND		25.0	25.3		ug/L		101	75 - 120
1,2-Dichloropropane	ND		25.0	25.6		ug/L		102	76 - 120
1,3-Dichlorobenzene	ND		25.0	24.3		ug/L		97	77 - 120
1,4-Dichlorobenzene	ND		25.0	24.2		ug/L		97	78 - 124
2-Butanone (MEK)	ND		125	112		ug/L		90	57 - 140
2-Hexanone	ND		125	110		ug/L		88	65 - 127
4-Methyl-2-pentanone (MIBK)	ND		125	119		ug/L		95	71 - 125
Acetone	ND		125	121		ug/L		97	56 - 142
Benzene	ND		25.0	27.1		ug/L		109	71 - 124
Bromodichloromethane	ND		25.0	27.0		ug/L		108	80 - 122

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

Lab Sample ID: 480-151489-8 MS
Matrix: Water
Analysis Batch: 467715

Client Sample ID: BVWSA-MW-U9
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromoform	ND		25.0	24.5		ug/L		98	61 - 132
Bromomethane	ND		25.0	26.4		ug/L		106	55 - 144
Carbon disulfide	ND		25.0	30.4		ug/L		122	59 - 134
Carbon tetrachloride	ND		25.0	31.2		ug/L		125	72 - 134
Chlorobenzene	ND		25.0	25.6		ug/L		103	80 - 120
Dibromochloromethane	ND		25.0	24.2		ug/L		97	75 - 125
Chloroethane	ND		25.0	28.2		ug/L		113	69 - 136
Chloroform	ND		25.0	26.8		ug/L		107	73 - 127
Chloromethane	ND		25.0	28.2		ug/L		113	68 - 124
1,4-Dioxane	ND		500	451		ug/L		90	50 - 150
cis-1,2-Dichloroethene	ND		25.0	29.0		ug/L		116	74 - 124
cis-1,3-Dichloropropene	ND		25.0	23.2		ug/L		93	74 - 124
Cyclohexane	ND		25.0	31.9		ug/L		128	59 - 135
Dichlorodifluoromethane	ND		25.0	28.5		ug/L		114	59 - 135
Ethylbenzene	ND		25.0	27.4		ug/L		110	77 - 123
1,2-Dibromoethane	ND		25.0	22.9		ug/L		92	77 - 120
Isopropylbenzene	ND		25.0	27.4		ug/L		110	77 - 122
Methyl acetate	ND		50.0	41.3		ug/L		83	74 - 133
Methyl tert-butyl ether	ND		25.0	27.2		ug/L		109	77 - 120
Methylcyclohexane	ND		25.0	30.5		ug/L		122	68 - 134
Methylene Chloride	ND		25.0	28.9		ug/L		116	75 - 124
Styrene	ND		25.0	24.9		ug/L		100	80 - 120
Tetrachloroethene	ND		25.0	25.9		ug/L		104	74 - 122
Toluene	ND		25.0	26.3		ug/L		105	80 - 122
trans-1,2-Dichloroethene	ND		25.0	29.5		ug/L		118	73 - 127
trans-1,3-Dichloropropene	ND		25.0	22.4		ug/L		90	80 - 120
Trichloroethene	ND		25.0	27.7		ug/L		111	74 - 123
Trichlorofluoromethane	ND		25.0	31.7		ug/L		127	62 - 150
Vinyl chloride	ND		25.0	29.1		ug/L		117	65 - 133

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*98*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*107*		*77 - 120*
4-Bromofluorobenzene (Surr)	*97*		*73 - 120*
Dibromofluoromethane (Surr)	*107*		*75 - 123*

Lab Sample ID: 480-151489-8 MSD
Matrix: Water
Analysis Batch: 467715

Client Sample ID: BVWSA-MW-U9
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	ND	F1	25.0	31.9	F1	ug/L		128	73 - 126	0	15
1,1,2,2-Tetrachloroethane	ND		25.0	25.2		ug/L		101	76 - 120	9	15
1,1,2-Trichloroethane	ND		25.0	26.7		ug/L		107	76 - 122	12	15
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		25.0	32.1		ug/L		129	61 - 148	0	20
1,1-Dichloroethane	ND		25.0	28.8		ug/L		115	77 - 120	2	20
1,1-Dichloroethene	ND		25.0	30.9		ug/L		123	66 - 127	3	16
1,2,4-Trichlorobenzene	ND		25.0	26.7		ug/L		107	79 - 122	5	20

Data Usability Summary Report

Site: Bedford Village Shopping Arcade
Laboratory: Eurofins TestAmerica Buffalo – Amherst, NY and Sacramento, CA
SDG No.: 480-150737-1
Parameters: Per- and Poly-fluoroalkyl Substances, 1,4-Dioxane
Data Reviewer: Lisa Krowitz/TRC
Peer Reviewer: Elizabeth Denly/TRC
Date: June 19, 2019

Samples Reviewed and Evaluation Summary

3 Groundwater Samples : BVWSA-MW-3M, BVWSA-MW-6M, BVWSA-MW-U7

1 Equipment Blank Sample : BVWSA-EB-1

The above-listed groundwater and equipment blank samples were collected on March 20, 2019 and were analyzed for one or more of the following parameters:

- 1,4-Dioxane by SW-846 8270D with Selective Ion Monitoring (SIM)
- Per- and Poly-fluoroalkyl substances (PFAS) (21 target analytes) based on EPA Method 537.1 (modified) using Test America – Sacramento, CA standard operating procedure (SOP) WS-LC-0025, revision 3.6, effective date 05/14/19.

The samples were analyzed for 1,4-dioxane by TestAmerica – Buffalo, NY and for PFAS by TestAmerica – Sacramento, CA. The data validation was performed in accordance with the following USEPA guidance, modified for the methodologies utilized:

- USEPA National Functional Guidelines for Organic Superfund Methods Data Review (EPA-540-R-2017-002), January 2017
- USEPA National Functional Guidelines for High Resolution Superfund Methods Data Review (EPA-542-B-16-001), April 2016

The data were evaluated based on the following parameters:

- Overall Evaluation of Data and Potential Usability Issues
- Data Completeness
- * Holding Times and Sample Preservation
- * GC/MS Tunes (1,4-Dioxane only)
- * Initial and Continuing Calibrations
- Blanks
- * Surrogate Recoveries (1,4-Dioxane only)
- Isotopically Labeled Surrogate Results (PFAS only)
- * Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results
- * Laboratory Control Sample (LCS) Results
- * Internal Standards
- NA Field Duplicate Results

- Sample Results and Reported Quantitation Limits
- Target Compound Identification

* - All criteria were met.
NA - Field duplicates were not associated with this sample set.

Overall Evaluation of Data and Potential Usability Issues

All results are usable for project objectives. There were no qualifications applied to the data because of sampling error. Qualifications applied to the data because of analytical error are discussed below.

- Potential uncertainty exists for select 1,4-dioxane and PFAS results that were below the lowest calibration standard and quantitation limit (QL). These results were qualified as estimated (J) in the associated samples. These results can be used for project objectives as estimated values, which may have a minor impact on the data usability.

- The positive results for PFTeA in samples BVWSA-EB-1, BVWSA-MW-3M, BVWSA-MW-6M, and BVWSA-MW-U7, and for PFHxS in sample BVWSA-EB-1 were qualified as nondetects (U) due to method blank contamination. These results can be used for project objectives as nondetects, which may have a minor impact on the data usability.

- The positive result for PFHpS in sample BVWSA-MW-6M was qualified as estimated (J) due to the ratio between the two precursor/product ion transitions being outside the acceptance limits and detection below the QL. This result can be used for project objectives as an estimated value, which may have a minor impact on the data usability.

Data Completeness

The data package was a complete Level IV data deliverable.

Holding Times and Sample Preservation

All holding time and sample preservation criteria were met for the 1,4-dioxane and PFAS analyses.

GC/MS Tunes (1,4-Dioxane only)

All criteria were met in the 1,4-dioxane analyses.

Initial and Continuing Calibrations

1,4-Dioxane

The percent relative standard deviation (%RSD) was within the method acceptance criteria in the initial calibration (IC). The percent difference met the method acceptance criteria in the continuing calibration (CC) standard associated with the samples in this data set.

PFAS

All %RSDs in the ICs were within the method acceptance criteria. All percent differences met the laboratory acceptance criteria in the CC standards associated with the samples in this data set.

Blanks

1,4-Dioxane

There were no detections of 1,4-dioxane in the method blank.

PFAS

The following table summarizes the contaminants detected in the method blank and equipment blank, the concentrations detected, and the resulting validation actions.

Blank ID	Compound	Blank Concentration (ng/L)	Validation Actions
MB 320-284241/1-A	PFTeA	0.450 J	The positive results for PFTeA in samples BVWSA-MW-3M, BVWSA-MW-6M, BVWSA-MW-U7, and BVWSA-EB-1 were qualified as nondetects (U) at the QLs since the concentrations were <QLs.
	PFHxS	0.313 J	The positive result for PFHxS in sample BVWSA-EB-1 was qualified as nondetect (U) at the QL since the concentration was <QL. Qualification of the data was not required for the remaining associated samples since PFHxS was detected at concentrations >2x the blank concentration.
Associated samples: BVWSA-MW-3M, BVWSA-MW-6M, BVWSA-MW-U7, BVWSA-EB-1			
BVWSA-EB-1	PFBA	0.76 J	Qualification of the data was not required for the associated samples since PFBA was nondetect or detected at concentrations >2x the blank concentration.
Associated samples: BVWSA-MW-3M, BVWSA-MW-6M, BVWSA-MW-U7			

Surrogate Recoveries (1,4-Dioxane only)

The surrogate percent recoveries (%Rs) met the laboratory acceptance criteria in the 1,4-dioxane analyses.

Isotopically Labeled Surrogate Results (PFAS only)

Eighteen isotopically labeled surrogate were spiked into the samples prior to extraction for isotope dilution quantitation. The following table summarizes the %Rs that did not meet the laboratory acceptance limits (25-150%) and the resulting validation actions.

Sample ID	Surrogate	%R	Validation Actions
BVWSA-MW-3M	M2-6:2 FTS	180	No qualification was required since these analytes were nondetect in sample BVWSA-MW-3M.
	M2-8:2 FTS	159	

MS/MSD Results

MS/MSD analyses were performed on samples BVWSA-MW-3M for 1,4-dioxane and PFAS analyses. The %Rs and relative percent differences (RPDs) were within the laboratory acceptance criteria.

LCS Results

The LCS %Rs were within the laboratory acceptance criteria for the 1,4-dioxane and PFAS analyses.

Internal Standards

1,4-Dioxane

The %Rs for internal standard 1,4-dichlorobenzene-d_4 which was added to each sample met the laboratory limits of 50-150% in the 1,4-dioxane analyses.

PFAS

The isotopically labeled internal standard 13C2-PFOA was added to each sample prior to injection to monitor for ion suppression/enhancement at the instrument level. The %Rs met the laboratory limits of 50-150% in the PFAS analyses.

Field Duplicate Results

There were no field duplicates associated with this data set.

Sample Results and Reported Quantitation Limits

Sample calculations were spot-checked; there were no errors noted. There were no dilutions performed for either 1,4-dioxane or PFAS analyses. Select results were below the lowest calibration standard level and QL. These results were qualified as estimated (J) by the laboratory.

Sample BVWSA-MW-6M exhibited elevated noise due to matrix interferences for PFBA; the QL was raised to the level of noise to compensate for the matrix interference.

Sample BVWSA-MW-6M was observed to have a yellow color and contained a thin layer of mud at the bottom of the container prior to extraction. The non-settleable particulate matter in sample BVWSA-MW-6M plugged the solid-phase extraction (SPE) column; thus, the entire sample was not extracted. The gross weight of the bottle plus sample prior to SPE was 303.48 g and 55.28 g (bottle plus sample) were leftover once the SPE column was plugged by the non-settleable particulate matter. No qualification was required since any potential effect on the sample results would be accounted for by the isotopically labeled surrogate.

Target Compound Identification

1,4-Dioxane

All criteria were met for 1,4-dioxane.

PFAS

Extracted ion chromatograms were reviewed to verify the target compound identifications. The laboratory manually integrated several peaks to ensure the inclusion of linear and branched isomers for PFOA, PFOS, NEtFOSAA, NMeFOSAA, and/or PFHxS and/or to ensure proper integration.

Two precursor/product ion transitions were used for identification for all compounds except for PFBA, PFPeA, FOSA, NMeFOSAA, NEtFOSAA, 6:2 FTS, and 8:2 FTS which only used one precursor/product ion transition for identification.

The following table summarizes the ratios between the two precursor/product ion transitions that did not meet the laboratory acceptance criteria and the validation actions.

Sample ID	Compound	Ratio	Ratio QC Limits	Validation Actions
BVWSA-MW-6M	PFHpS	5.86	2.90-5.39	The positive result for PFHpS in sample BVWSA-MW-6M was detected below the QL and the laboratory qualified the result as estimated (J); therefore, no further validation action was required.
BVWSA-MW-U7	PFTeA	1.98	1.06-1.96	The positive result for PFTeA in sample BVWSA-MW-U7 was detected below the QL and was qualified as nondetect due to method blank contamination; thus, no further validation action was required.

QUALIFIED FORM 1s

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Buffalo
Job No.: 480-150737-1
SDG No.:
Client Sample ID: BVWSA-MW-3M
Lab Sample ID: 480-150737-1
Matrix: Water
Lab File ID: U33149277.D
Analysis Method: 8270D SIM ID
Date Collected: 03/20/2019 09:15
Extract. Method: 3510C
Date Extracted: 03/25/2019 14:29
Sample wt/vol: 1000(mL)
Date Analyzed: 03/27/2019 07:37
Con. Extract Vol.: 1(mL)
Dilution Factor: 1
Injection Volume: 1(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 464765
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	ND		0.20	0.10

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
17647-74-4	1,4-Dioxane-d8	32		15-110

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 480-150737-1

SDG No.:

Client Sample ID: BVWSA-MW-3M | Lab Sample ID: 480-150737-1

Matrix: Water | Lab File ID: 2019.03.27LLB_041.d

Analysis Method: 537 (modified) | Date Collected: 03/20/2019 09:15

Extraction Method: 3535 | Date Extracted: 03/27/2019 06:55

Sample wt/vol: 257.4(mL) | Date Analyzed: 03/28/2019 07:23

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 284552 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	7.0		1.9	0.34
2706-90-3	Perfluoropentanoic acid (PFPeA)	9.3		1.9	0.48
307-24-4	Perfluorohexanoic acid (PFHxA)	6.9		1.9	0.56
375-85-9	Perfluoroheptanoic acid (PFHpA)	8.0		1.9	0.24
335-67-1	Perfluorooctanoic acid (PFOA)	23		1.9	0.83
375-95-1	Perfluorononanoic acid (PFNA)	1.2	J	1.9	0.26
335-76-2	Perfluorodecanoic acid (PFDA)	ND		1.9	0.30
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.1
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		1.9	0.53
72629-94-8	Perfluorotridecanoic acid (PFTriA)	ND		1.9	1.3
376-06-7	Perfluorotetradecanoic acid (PFTeA)	1.9U ~~0.34~~ ~~J B~~ ✓		1.9	0.28
375-73-5	Perfluorobutanesulfonic acid (PFBS)	8.2		1.9	0.19
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	4.8	~~B~~ ✓	1.9	0.17
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.70	J	1.9	0.18
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	24		1.9	0.52
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.31
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND		1.9	0.34
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		19	3.0
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		19	1.8
27619-97-2	6:2 FTS	ND		19	1.9
39108-34-4	8:2 FTS	ND		19	1.9

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Buffalo | Job No.: 480-150737-1

SDG No.:

Client Sample ID: BVWSA-MW-6M | Lab Sample ID: 480-150737-2

Matrix: Water | Lab File ID: U33149287.D

Analysis Method: 8270D SIM ID | Date Collected: 03/20/2019 10:55

Extract. Method: 3510C | Date Extracted: 03/25/2019 14:29

Sample wt/vol: 1000(mL) | Date Analyzed: 03/27/2019 11:35

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 464765 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	0.15	J	0.20	0.10

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
17647-74-4	1,4-Dioxane-d8	30		15-110

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 480-150737-1

SDG No.:

Client Sample ID: BVWSA-MW-6M | Lab Sample ID: 480-150737-2

Matrix: Water | Lab File ID: 2019.03.27LLB_044.d

Analysis Method: 537 (modified) | Date Collected: 03/20/2019 10:55

Extraction Method: 3535 | Date Extracted: 03/27/2019 06:55

Sample wt/vol: 277.4(mL) | Date Analyzed: 03/28/2019 07:46

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 284552 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	ND		5.3	5.3
2706-90-3	Perfluoropentanoic acid (PFPeA)	15		1.8	0.44
307-24-4	Perfluorohexanoic acid (PFHxA)	16		1.8	0.52
375-85-9	Perfluoroheptanoic acid (PFHpA)	7.7		1.8	0.23
335-67-1	Perfluorooctanoic acid (PFOA)	31		1.8	0.77
375-95-1	Rerfluorononanoic acid (PFNA)	1.7	J	1.8	0.24
335-76-2	Perfluorodecanoic acid (PFDA)	0.67	J	1.8	0.28
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.99
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		1.8	0.50
72629-94-8	Perfluorotridecanoic acid (PFTriA)	ND		1.8	1.2
376-06-7	Perfluorotetradecanoic acid (PFTeA)	1.8 J	~~0.36 J B~~ ✓	1.8	0.26
375-73-5	Perfluorobutanesulfonic acid (PFBS)	17		1.8	0.18
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	27	~~B~~ ✓	1.8	0.15
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.78	J ✓	1.8	0.17
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	25		1.8	0.49
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.29
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND		1.8	0.32
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		18	2.8
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		18	1.7
27619-97-2	6:2 FTS	ND		18	1.8
39108-34-4	8:2 FTS	ND		18	1.8

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Buffalo
Job No.: 480-150737-1
SDG No.:
Client Sample ID: BVWSA-MW-U7
Lab Sample ID: 480-150737-3
Matrix: Water
Lab File ID: U33149288.D
Analysis Method: 8270D SIM ID
Date Collected: 03/20/2019 12:00
Extract. Method: 3510C
Date Extracted: 03/25/2019 14:29
Sample wt/vol: 1000(mL)
Date Analyzed: 03/27/2019 11:59
Con. Extract Vol.: 1(mL)
Dilution Factor: 1
Injection Volume: 1(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 464765
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	ND		0.20	0.10

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
17647-74-4	1,4-Dioxane-d8	30		15-110

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 480-150737-1

SDG No.:

Client Sample ID: BVWSA-MW-U7 | Lab Sample ID: 480-150737-3

Matrix: Water | Lab File ID: 2019.03.27LLB_045.d

Analysis Method: 537 (modified) | Date Collected: 03/20/2019 12:00

Extraction Method: 3535 | Date Extracted: 03/27/2019 06:55

Sample wt/vol: 265.1(mL) | Date Analyzed: 03/28/2019 07:53

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 284552 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	2.0		1.9	0.33
2706-90-3	Perfluoropentanoic acid (PFPeA)	3.8		1.9	0.46
307-24-4	Perfluorohexanoic acid (PFHxA)	3.7		1.9	0.55
375-85-9	Perfluoroheptanoic acid (PFHpA)	2.5		1.9	0.24
335-67-1	Perfluorooctanoic acid (PFOA)	16		1.9	0.80
375-95-1	Perfluorononanoic acid (PFNA)	0.64	J	1.9	0.25
335-76-2	Perfluorodecanoic acid (PFDA)	ND		1.9	0.29
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.0
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		1.9	0.52
72629-94-8	Perfluorotridecanoic acid (PFTriA)	ND		1.9	1.2
376-06-7	Perfluorotetradecanoic acid (PFTeA)	1.9 U ~~0.41~~	~~J B~~	1.9	0.27
375-73-5	Perfluorobutanesulfonic acid (PFBS)	4.3		1.9	0.19
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	2.9	B	1.9	0.16
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.36	J	1.9	0.18
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	7.8		1.9	0.51
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.30
754-91-6	Perfluorooctanesulfonamide (FOSA)	5.1		1.9	0.33
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		19	2.9
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	41		19	1.8
27619-97-2	6:2 FTS	23		19	1.9
39108-34-4	8:2 FTS	ND		19	1.9

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 480-150737-1

SDG No.:

Client Sample ID: BVWSA-EB-1 | Lab Sample ID: 480-150737-4

Matrix: Water | Lab File ID: 2019.03.27LLB_046.d

Analysis Method: 537 (modified) | Date Collected: 03/20/2019 14:00

Extraction Method: 3535 | Date Extracted: 03/27/2019 06:55

Sample wt/vol: 273.3(mL) | Date Analyzed: 03/28/2019 08:01

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 284552 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	0.76	J	1.8	0.32
2706-90-3	Perfluoropentanoic acid (PFPeA)	ND		1.8	0.45
307-24-4	Perfluorohexanoic acid (PFHxA)	ND		1.8	0.53
375-85-9	Perfluoroheptanoic acid (PFHpA)	ND		1.8	0.23
335-67-1	Perfluorooctanoic acid (PFOA)	ND		1.8	0.78
375-95-1	Perfluorononanoic acid (PFNA)	ND		1.8	0.25
335-76-2	Perfluorodecanoic acid (PFDA)	ND		1.8	0.28
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		1.8	1.0
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		1.8	0.50
72629-94-8	Perfluorotridecanoic acid (PFTriA)	ND		1.8	1.2
376-06-7	Perfluorotetradecanoic acid (PFTeA)	1.8J ~~0.37 J B~~ ✓		1.8	0.27
375-73-5	Perfluorobutanesulfonic acid (PFBS)	ND		1.8	0.18
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.8J ~~0.26 J B~~ ✓		1.8	0.16
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.8	0.17
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	ND		1.8	0.49
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.29
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND		1.8	0.32
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		18	2.8
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		18	1.7
27619-97-2	6:2 FTS	ND		18	1.8
39108-34-4	8:2 FTS	ND		18	1.8

QC NONCONFORMANCE DOCUMENTATION

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 480-150737-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 320-284241/1-A

Matrix: Water Lab File ID: 2019.03.27LLB_039.d

Analysis Method: 537 (modified) Date Collected:

Extraction Method: 3535 Date Extracted: 03/27/2019 06:55

Sample wt/vol: 250.00(mL) Date Analyzed: 03/28/2019 07:08

Con. Extract Vol.: 10.00(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: Acquity ID: 2.1(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 284552 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	ND		2.0	0.35
2706-90-3	Perfluoropentanoic acid (PFPeA)	ND		2.0	0.49
307-24-4	Perfluorohexanoic acid (PFHxA)	ND		2.0	0.58
375-85-9	Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.25
335-67-1	Perfluorooctanoic acid (PFOA)	ND		2.0	0.85
375-95-1	Perfluorononanoic acid (PFNA)	ND		2.0	0.27
335-76-2	Perfluorodecanoic acid (PFDA)	ND		2.0	0.31
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55
72629-94-8	Perfluorotridecanoic acid (PFTriA)	ND		2.0	1.3
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.450	J	2.0	0.29
375-73-5	Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.20
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	0.313	J	2.0	0.17
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND		2.0	0.19
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.54
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.32
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND		2.0	0.35
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		20	3.1
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		20	1.9
27619-97-2	6:2 FTS	ND		20	2.0
39108-34-4	8:2 FTS	ND		20	2.0

FORM II
LCMS SURROGATE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 480-150737-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): Acquity ID: 2.1 (mm)

Client Sample ID	Lab Sample ID	PFBA #	PFPeA #	PFBS #	PFHxA #	PFHpA #	PFHxS #	M262FTS #	PFOA #
BVWSA-MW-3M	480-150737-1	62	82	98	91	98	101	180 *	99
BVWSA-MW-6M	480-150737-2	66	74	85	79	85	80	112	80
BVWSA-MW-U7	480-150737-3	78	90	90	94	95	94	104	91
BVWSA-EB-1	480-150737-4	90	93	90	94	90	93	97	88
	MB 320-284241/1-A	96	97	94	95	93	101	99	94
	LCS 320-284241/2-A	100	100	95	98	95	99	98	97
BVWSA-MW-3M MS	480-150737-1 MS	58	77	91	88	98	97	185 *	98
BVWSA-MW-3M MSD	480-150737-1 MSD	55	73	88	80	88	89	161 *	86

NA QC Samples

	QC LIMITS
PFBA = 13C4 PFBA	25-150
PFPeA = 13C5-PFPeA DNU	25-150
PFBS = 13C3 PFBS	25-150
PFHxA = 13C2 PFHxA	25-150
PFHpA = 13C4 PFHpA	25-150
PFHxS = 18O2 PFHxS	25-150
M262FTS = M2-6:2 FTS	25-150
PFOA = 13C4 PFOA	25-150

Column to be used to flag recovery values

FORM II 537 (modified)

FORM II
LCMS SURROGATE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 480-150737-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): Acquity ID: 2.1 (mm)

Client Sample ID	Lab Sample ID	PFOS #	PFNA #	PFOSA #	M282FTS #	PFDA #	d3NMFOS #	d5NEFOS #	PFUnA #
BVWSA-MW-3M	480-150737-1	96	101	91	159 *	101	109	112	100
BVWSA-MW-6M	480-150737-2	80	85	75	113	88	81	85	83
BVWSA-MW-U7	480-150737-3	88	90	89	112	95	107	99	95
BVWSA-EB-1	480-150737-4	85	91	88	115	96	99	105	91
	MB 320-284241/1-A	89	97	89	106	95	100	108	96
	LCS 320-284241/2-A	96	97	89	116	96	109	107	96
BVWSA-MW-3M MS	480-150737-1 MS	95	97	90	126	95	111	107	99
BVWSA-MW-3M MSD	480-150737-1 MSD	85	90	81	122	89	92	100	89

	QC LIMITS
PFOS = 13C4 PFOS	25-150
PFNA = 13C5 PFNA	25-150
PFOSA = 13C8 FOSA	25-150
M282FTS = M2-8:2 FTS	25-150
PFDA = 13C2 PFDA	25-150
d3NMFOS = d3-NMeFOSAA	25-150
d5NEFOS = d5-NEtFOSAA	25-150
PFUnA = 13C2 PFUnA	25-150

Column to be used to flag recovery values

FORM II 537 (modified)

BVWSA-MW-6M

Report Date: 29-Mar-2019 09:02:00 Chrom Revision: 2.3 24-Mar-2019 20:11:04
Data File: \\chromna\Sacramento\ChromData\A9\20190328-73925.b\2019.03.27LLB_044.d
Ratio Calibration: CCV Sample: \\chromna\Sacramento\ChromData\A9\20190328-73925.b\2019.03.27LLB_038.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
21 1H,1H,2H,2H-perfluorooctanesulfoni										
427.00 > 407.00	3.218	3.199	0.019	1.002	19418	0.0315			61.6	
D 20 M2-6:2 FTS										
429.00 > 81.00	3.210	3.203	0.007	0.993	680158	2.66		112	417	
23 Perfluoroheptanesulfonic acid										RM
449.00 > 80.00	3.234	3.214	0.020	0.896	44766	0.0215	Target=4.15		12.4	R
449.00 > 99.00	3.242	3.214	0.028	0.898	7636		5.86(2.90-5.39)		14.7	M
* 24 13C2 PFOA										
415.00 > 370.00	3.234	3.214	0.020		7890693	2.50			9444	
26 Perfluorooctanoic acid										M
413.00 > 369.00	3.234	3.214	0.020	1.000	2241793	0.8463	Target=2.60		70.3	M
413.00 > 169.00	3.234	3.214	0.020	1.000	851823		2.63(1.82-3.38)		1050	M
D 25 13C4 PFOA										
417.00 > 372.00	3.234	3.219	0.015	1.000	6070859	2.01		80.3	6811	
29 Perfluorooctanesulfonic acid										
499.00 > 80.00	3.611	3.592	0.019	1.000	1468381	0.6943	Target=4.21		832	
499.00 > 99.00	3.611	3.592	0.019	1.000	319919		4.59(2.94-5.47)			
D 28 13C4 PFOS										
503.00 > 80.00	3.611	3.596	0.015	1.117	4903699	1.91		80.0	3051	
30 Perfluorononanoic acid										M
463.00 > 419.00	3.626	3.607	0.019	1.002	122404	0.0480	Target=5.39		13.2	
463.00 > 169.00	3.618	3.607	0.011	1.000	22234		5.51(3.77-7.01)		46.4	M
D 31 13C5 PFNA										
468.00 > 423.00	3.618	3.611	0.007	1.119	6231595	2.14		85.5	11168	
34 Perfluorooctanesulfonamide										
498.00 > 78.00	3.963	3.941	0.022	1.000	12833	0.003474			12.3	
D 33 13C8 FOSA										
506.00 > 78.00	3.963	3.955	0.008	1.225	3148811	1.86		74.5	7337	
38 Perfluorodecanoic acid										
513.00 > 469.00	3.981	3.959	0.022	1.000	57884	0.0187	Target=14.07		11.1	
513.00 > 169.00	3.981	3.959	0.022	1.000	4471		12.95(9.85-18.29)		15.7	
D 36 13C2 PFDA										
515.00 > 470.00	3.981	3.973	0.008	1.231	6487931	2.19		87.7	5605	
D 39 M2-8:2 FTS										
529.00 > 81.00	3.981	3.973	0.008	1.231	863288	2.70		113	1710	
41 N-methylperfluorooctanesulfonamido										
570.00 > 419.00	4.148	4.127	0.021	1.002	5080	0.007628			1.4	
D 40 d3-NMeFOSAA										
573.00 > 419.00	4.140	4.132	0.008	1.280	1981350	2.03		81.3	2424	
D 45 d5-NEtFOSAA										
589.00 > 419.00	4.304	4.296	0.008	1.331	1729875	2.13		85.1	2403	
D 44 13C2 PFUnA										
565.00 > 520.00	4.295	4.296	-0.001	1.328	5072075	2.06		82.6	4847	
D 49 13C2 PFDoA										
615.00 > 570.00	4.585	4.577	0.008	1.418	6252142	2.00		79.9	8854	

BRWSA-MW-07

Report Date: 29-Mar-2019 09:03:56 Chrom Revision: 2.3 24-Mar-2019 20:11:04
Data File: \\chromna\Sacramento\ChromData\A9\20190328-73925.b\2019.03.27LLB_045.d
Ratio Calibration: CCV Sample: \\chromna\Sacramento\ChromData\A9\20190328-73925.b\2019.03.27LLB_038.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
54 Perfluorotridecanoic acid										
663.00 > 619.00	4.855	4.838	0.017	1.059	9411	0.004770	Target=5.55		5.9	
663.00 > 169.00	4.855	4.838	0.017	1.059	1322		7.12(3.88-7.21)		15.4	
56 Perfluorotetradecanoic acid										
713.00 > 169.00	5.086	5.083	0.003	0.998	3811	0.0109	Target=1.51		14.1	
713.00 > 219.00	5.093	5.083	0.010	1.000	1920		1.98(1.06-1.96)		19.3	
D 55 13C2 PFTeDA										
715.00 > 670.00	5.093	5.086	0.007	1.580	5136572	2.41		96.6	11921	

QC Flag Legend

Review Flags

M - Manually Integrated