Groundwater Monitoring Results, November 2014 Monitoring Event

Former Hampshire Chemical Corp. Facility
Waterloo, New York
Site No. 850001A

Prepared for

The Dow Chemical Company

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ch2m

Contents

Tables

Figures

Appendices

Acronyms and Abbreviations

µg/L	micrograms per liter
AOC	area of concern
Canal	Cayuga-Seneca Canal
CH2M	CH2M HILL
ELAP	Environmental Laboratory Accreditation Program
Eurofins	Eurofins Laboratory (formerly Lancaster) of Lancaster, Pennsylvania
FD	field duplicate
ft/ft	feet per foot
GWMP	*Groundwater Monitoring Work Plan*
HCC	Hampshire Chemical Corp.
ID	identification
LTMWP	Groundwater Long Term Monitoring Plan
MIBK	methyl isobutyl ketone (4-methyl-2-pentanone)
Microbac	Microbac Laboratories, Inc.
MNA	monitored natural attention
MS	matrix spike
MSD	matrix spike duplicate
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
PAH	polycyclic aromatic hydrocarbon
QA	quality assurance
QAPP	*Quality Assurance Project Plan*
QC	quality control
RCRA	Resource Conservation and Recovery Act
RFI	Resource Conservation and Recovery Act facility investigation
site	former Hampshire Chemical Corp. facility (now known as the Evans Chemetics Facility) in Waterloo, New York
SVOC	semivolatile organic compound
SWMU	solid waste management unit
TOGS Class GA	Technical Operation Guidance Series New York State Ambient Water Quality Standards and Guidance Values - Class GA
USDOT	United States Department of Transportation
USEPA	United States Environmental Protection Agency
VOC	volatile organic compound

SECTION 1

Introduction

This report presents the results of sitewide groundwater monitoring activities conducted in November 2014 at the former Hampshire Chemical Corp. (HCC) facility in Waterloo, New York (site). The site is regulated under Title 6 of the New York Code of Rules and Regulations Part 373 and the Resource Conservation and Recovery Act (RCRA) with the New York State Department of Environmental Conservation (NYSDEC) as the lead agency. RCRA facility investigations (RFIs) have been performed at the site since 1993 to evaluate the nature and extent of releases to the environment.

Pursuant to the Administrative Order on Consent executed between HCC and NYSDEC (Index Number 8-20000218-3281, issued June 1, 2004 with the Second Amended Order on Consent issued August 12, 2011), sitewide groundwater monitoring was proposed as part of the *Groundwater Monitoring Work Plan* (GWMP; CH2M HILL [CH2M] 2008a), which will assist in evaluations to determine the most appropriate long-term remedial strategy for groundwater. The GWMP was approved for the monitoring period of 2009 through 2013. HCC subsequently submitted a revised *Site Groundwater Long Term Monitoring Work Plan* (LTMWP; CH2M 2014) to continue groundwater monitoring. HCC is awaiting final approval of the previously submitted remedial corrective measures work plans for Area of Concern (AOC) B, AOC C, AOC D, Solid Waste Management Unit (SWMU) 1, and LTMWP (CH2M 2013a, 2013b, 2013c, 2013d, 2014). All sampling activities were conducted in accordance with the project's *Quality Assurance Project Plan* (QAPP; CH2M 2009a).

1.1 Site Setting and Background

The site is located at 228 East Main Street in the village of Waterloo, Seneca County, New York (Figure 1-1). The facility is bordered to the north by East Main Street, to the east by Gorham Street, to the west by East Water Street, and to the south by the Cayuga-Seneca Canal (Canal). The site is located within the watershed of the Seneca River. The site comprises several interconnected buildings that house offices, a quality control (QC) laboratory, a chemical treatment plant, and manufacturing, maintenance, and shipping/receiving operations. The site also includes outside drum storage areas and several tank farms. The *RFI Report* (CH2M 2006) and *RFI Report Addendum* (CH2M 2008b) present additional information regarding site setting, history, and manufacturing processes. The site plan is presented on Figure 1-2.

The site lies on an alluvial plain, which consists of silts and clays with lenses of sand and gravel overlying glacial till comprised of hard to very hard silt and clay. Historical fill material overlies the native alluvium and till deposits. Bedrock is encountered at depths ranging from approximately 15 to 35 feet below ground surface. The bedrock surface generally increases with depth from west to east. Overburden groundwater flow follows the topography of the land from north to south toward the Canal.

Thirty-one groundwater monitoring wells are included as part of the LTMWP implementation. Groundwater measurements and samples were not collected from the Building 4 Pit Sump (BLDG4-PIT-SSP) during November 2014. The Building 4 Pit Sump was approved for decommissioning and destroyed on December 15–16, 2014, as described in a technical memorandum submitted to NYSDEC on January 25, 2015 (CH2M 2015). Measurements from two stilling wells (SG-01 and SG-02) have been used prior to 2012 to record water elevations at the Cayuga-Seneca Canal Raceway and Canal, respectively. SG-01 was destroyed in fall 2011 during facility activities, and SG-02 was removed for AOC A remedial activities; neither were available for use during the November 2014 groundwater elevation monitoring event.

1.2 Site Activities Performed

The following activities were completed during this reporting period:

- Collected depth–to-water measurements from 46 site groundwater monitoring wells on November 11, 2014
- Conducted groundwater sampling of 29 site groundwater monitoring wells for laboratory analysis from November 11 through November 18, 2014

SECTION 2

Groundwater Monitoring Activities

This section provides summaries of the groundwater elevation measurements, sampling activities, and activities conducted as part of the data quality review.

2.1 Groundwater Flow Evaluation

On November 11, 2014, depth–to-water measurements were collected from accessible site groundwater monitoring wells to evaluate groundwater flow direction and hydraulic gradients near the site. Measurements were collected in accordance with the LTMWP (CH2M 2014) using an electronic water level meter with 0.01 foot graduations, which was decontaminated after each use between wells. The depth-to-water measurements and calculated groundwater elevations for November 2014 are presented and discussed in Section 3.1.

2.2 Groundwater Sampling

Between November 11 and November 18, 2014, groundwater samples were collected from 29 monitoring wells associated with the site in accordance with the U.S. Environmental Protection Agency (USEPA) Region 2 *Groundwater Sampling Procedure—Low Stress (Low Flow) Purging and Sampling* (sampling procedures) (USEPA 1998). The November 2014 groundwater sampling locations are shown on Figure 1-2. A detailed summary of information for each groundwater sample is presented in Table 2-1. The analytical results for the groundwater samples are included in Appendix A and discussed in Section 3.2.

With the exception of monitoring well MW-18, a submersible bladder pump equipped with a flow control box and dedicated Teflon-lined polyethylene tubing was used to purge groundwater from the monitoring wells. Insufficient groundwater was present in MW-18 during November 2014 for sample collection. Water quality parameters were measured during purging using a Horiba U-52 water quality meter with an inline flow-through cell; the water quality parameters recorded were pH (as standard units), temperature (as degrees Celsius), dissolved oxygen (as milligrams per liter), oxidation-reduction potential (as millivolts), and specific conductance (as milliSiemens per centimeter). Turbidity measurements were collected in the field using a standalone LaMotte turbidity meter. To avoid cross-contamination, the submersible pumps were decontaminated between wells and new tubing was used at each sampling location. Field measurements were recorded on groundwater sampling forms, which are included in Appendix B.

Groundwater was removed from each well until the water quality parameters stabilized to within criteria established in the sampling procedures. Groundwater samples were containerized in separate clean, laboratory-prepared containers; placed in ice-filled insulated coolers; and transported to a laboratory for analysis under chain-of-custody. Additional sample volume was collected to measure ferrous iron concentrations using a Hach 8290 field measurement kit and Accuvac ferrous iron reagent ampules. The groundwater samples were analyzed for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), polycyclic aromatic hydrocarbons (PAHs), metals, and/or parameters for monitored natural attenuation (MNA) (Table 2-1).

Additional groundwater samples were collected and analyzed for quality assurance (QA)/QC purposes. QA/QC samples collected during the November 2014 sampling event including three field duplicates, four matrix spike (MS)/matrix spike duplicates (MSDs), three equipment blanks, and six trip blanks. The field duplicate and MS/MSD samples were collected from monitoring well and surface water sampling locations using methodologies described previously and analyzed for parameters listed in Table 2-1. Equipment blanks were collected after each pump decontamination event to check sampling equipment conditions that could potentially affect the quality of the samples. Equipment blanks were collected by

pouring laboratory-provided deionized water over the sampling equipment and into laboratory-provided sampling containers. Equipment blanks were submitted to the laboratory for the same parameters sampled that day. A trip blank for VOC analysis was included in the sample cooler that accompanied the empty (pre-sample) and filled (post-sample) VOC bottleware to confirm that the samples had not been exposed to VOCs from environmental conditions during sampling or transit to the laboratory. The trip blank remained unopened until received at the laboratory with the samples.

The groundwater and QA/QC water samples were submitted under chain-of-custody to Microbac Laboratories, Inc. of Marietta, Ohio (Microbac) (New York State Laboratory Identification [ID] No. 10861) and Eurofins Laboratory (formerly Lancaster) of Lancaster, Pennsylvania (Eurofins) (New York State Laboratory ID No. 10670). Microbac and Eurofins are both approved laboratories under the New York State Environmental Laboratory Accreditation Program (ELAP). Copies of the New York State Department of Health (NYSDOH) ELAP certifications for Microbac and Eurofins are included in Appendix C.

Microbac and Eurofins performed the following analyses as specified in the LTMWP and QAPP (CH2M 2014, 2009a):

- VOCs via USEPA SW-846 via Method 8260C by Eurofins
- PAHs via Method USEPA SW-8270D
- Target analyte list metals via Method USEPA SW6010C/SW6020A/SW7470A

Groundwater samples were analyzed for total metals and dissolved metals. Dissolved metals samples were collected after the other sample bottles were filled using a 0.45-micron filter. In addition, samples were collected to assess groundwater for potential MNA via the following analyses performed by Microbac:

- Alkalinity via method USEPA E310.2
- Nitrate by USEPA E353.2
- Total phosphorous via USEPA E365.2
- Chloride and sulfate via USEPA Method E300.0
- Total organic carbon via USEPA SM5310C
- Orthophosphate via USEPA SM4500P-E
- Total dissolved solids via USEPA SM2540C
- Total Kjeldahl nitrogen via USEPA 351.2

2.3 Waste Management

Investigation-derived waste from the November 2014 field activities was containerized and stored onsite for offsite disposal. Liquid wastes from monitoring well purging and equipment decontamination were containerized in U.S. Department of Transportation (USDOT)-approved 55-gallon gallon drums on wooden pallets in a secondary containment area. Solid wastes from field activities (e.g., personal protective equipment and sample tubing) were containerized in USDOT-approved 55-gallon gallon drums on wooden pallets.

2.4 Data Quality Review

Microbac and Eurofins performed laboratory analysis of the water samples and provided electronic reports of the results to CH2M. A CH2M chemist reviewed the results and data packages to evaluate the quality and usability of the analytical data. Based on the results of the data quality review, laboratory qualifiers were added to summary tables where appropriate, and the data reported by both laboratories were found to be suitable for its intended purpose. The data quality review technical memorandum is provided in Appendix D.

Groundwater Sampling Results

This section presents the results of the water level monitoring and groundwater sampling field activities described in Section 2.

3.1 Groundwater Flow Evaluation

Table 3-1 summarizes the results of the November 2014 groundwater elevation monitoring event. Figure 3-1 presents the potentiometric surface map (contour map) for overburden groundwater for the November 2014 monitoring event. As inferred from the contour map, groundwater flow was generally south toward the Canal, which is consistent with historical conditions observed at the site.

The horizontal hydraulic gradients calculated at the MW-10/09R and MW-06/18 well pairs were estimated to be 0.03 feet per foot (ft/ft) and 0.06 ft/ft, respectively. The vertical hydraulic gradients calculated at the MW-05S/05I and MW-11S/11I well pairs were estimated to be -0.31 ft/ft and -0.28 ft/ft, respectively, and the negative gradient indicates downward flow.

3.2 Groundwater Sampling Results

Tables 3-2 through 3-8 provide VOCs, SVOCs, metals, and MNA parameters results for the November 2014 sampling event. Analytical reports received from the laboratory are included in Appendix A. Additionally, an electronic copy of the analytical data in the format required for the NYSDEC EQuIS database also is included in Appendix A. The analytical data tables for this report are grouped by SWMU, AOC, or site-specific areas as indicated in the following table. The following table includes a majority of those monitoring wells and categories presented in the LTMWP (CH2M 2014); however, the table was prepared before finalizing the work plan and notes key differences.

Sampling Points per Area Groupings

SWMU 1 Table 3-2	AOC B Tables 3-3	AOC C[b] Table 3-4	AOC D[c] Table 3-5	AOC E[b] Table 3-6	Sitewide[b] Table 3-7	Background[b] Table 3-8
MW-16I	MW-01	MW-07	MW-11S	MW-10	MW-05I	MW-06
MW-17	MW-02		MW-11I[d]		MW-09R	MW-20
MW-18[a]	MW-03		MW-21		MW-19	
MW-26	MW-33		MW-23			
TW-01	MW-34		MW-24			
	PZ-01		MW-29[d]			
	PZ-03		MW-30			
	PZ-04		MW-31			
	PZ-05					
	PZ-07					

a. MW-18 could not be located during this sampling event because of AOC A remedial activities.
b. The AOC B, AOC D, sitewide, and background monitoring wells are classified as Supplementary Wells in the LTMWP.
c. MW-35, MW-36, and MW-37 were installed at AOC D during November 2015.
d. MW-11I and MW-29 are not included in the LTMWP.

The following subsections present a summary of the groundwater sampling results for each well grouping onsite. The analytical data obtained in November 2014 are discussed in conjunction with historical results from the following reports:

- *2006 RCRA Facility Investigation Report* (CH2M 2006)
- *2008 RCRA Facility Investigation Report Addendum* (CH2M 2008b)

- *Groundwater Monitoring Results Report October 2008, April 2009, and October 2009* (CH2M 2009b)
- *Groundwater Monitoring Results Report, April 2010 and November 2010 Monitoring Events* (CH2M 2011)
- *Additional Investigation Results Report* (CH2M 2012a) based on the *Additional Groundwater Investigation Work Plan* (CH2M 2010)
- *Groundwater Monitoring Results Report, April 2011 and October 2011 Monitoring Events* (CH2M 2012b)
- *Groundwater Monitoring Results Report, April and October 2012 Monitoring Events* (CH2M 2013e)

Concentrations of analytes except methyl isobutyl ketone (MIBK) were compared to the Technical Operation Guidance Series New York State Ambient Water Quality Standards and Guidance Values Class GA (TOGS Class GA) Standards (NYSDEC 1998). There is no TOGS Class GA Standard for MIBK. Per NYSDEC (2005), the NYSDOH guidance value for MIBK is based on the maximum contaminant level for unspecified organic contaminants Part 5 Sanitary Code for Public Water System and is 50 micrograms per liter (µg/L) (NYSDOH 2011). Figures 3-2 through 3-8 summarize the groundwater analytical exceedances per SWMU, AOC, and other site groupings.

3.2.1 Groundwater Results - SWMU 1

Five monitoring wells (MW-16I, MW-17, MW-18, MW-26, and TW-01) are associated with SWMU 1. Table 3-2 summarizes the analytical results for groundwater samples collected from SWMU 1 during November 2014. Figure 3-2 presents a summary of groundwater concentrations of compounds exceeding the TOGS Class GA standards. The following table provides a summary of the groundwater analytical results exceedances as compared to historical highs.

		November 2014			Historical High Concentrations		
Analyte	**TOGS Class GA Standards, µg/L**	**Well ID Exhibiting Highest Conc.**	**Highest Conc. Detected, µg/L**	**No. of Wells Exceeding Criteria**	**Well ID Exhibiting Highest Conc.**	**Highest Conc. Detected, µg/L**	**Sample Date of Highest Conc. Detected**
Volatile Organic Compounds							
None Detected above the TOGS 1.1.1 Class GA Groundwater Standards and NYSDOH guidance value for MIBK							
Semivolatile Organic Compounds							
None Detected above the TOGS 1.1.1 Class GA Groundwater Standards							
Total Metals							
Iron	300	TW-01	40,100	4	TW-01	54,200	Apr-2011
Magnesium	35,000	TW-01	59,300	2	TW-02	98,700	Apr-2013
Manganese	300	TW-01	480	2	MW-27	6,430	Apr-2011
Sodium	20,000	MW-26	74,300	4	MW-18	303,000	Apr-2011
Dissolved Metals							
Iron	300	TW-01	39,800	4	TW-01	44,700	Apr-2012
Magnesium	35,000	TW-01	57,900	2	TW-02	90,600	Apr-2013
Manganese	300	TW-01	423	2	MW-27	5,520	Apr-2012
Sodium	20,000	MW-26	72,100	4	MW-18	228,000	Apr-2010
General Chemistry							
Sulfate	250,000	TW-01	256,000	1	TW-02	626,000 J	Apr-2013

All concentrations in µg/L
J - Estimated concentration

No VOCs and SVOCs were above the TOGS Class GA standards in any of the SWMU 1 wells sampled. Total and dissolved concentrations of four metals (iron, magnesium, manganese, and sodium) exceeded the TOGS Class GA standards.

3.2.2 Groundwater Results - AOC B

Five monitoring wells (MW-01, MW-02, MW-03, MW-33, and MW-34) and five piezometers (PZ-01, PZ-03, PZ-04, PZ-05, and PZ-07) are associated with AOC B. Table 3-3 summarizes the analytical results for groundwater samples collected from AOC B during November 2014. Figure 3-3 presents a summary of groundwater concentrations of compounds exceeding the TOGS Class GA standards. The following table provides a summary of the groundwater analytical results as compared to historical highs.

		November 2014			Historical High Concentrations		
Analyte	**TOGS Class GA**	**Well ID Exhibiting Highest Conc.**	**Highest Conc. Detected, µg/L**	**No. of Wells Exceeding Criteria**	**Well ID Exhibiting Highest Conc.**	**Highest Conc. Detected, µg/L**	**Sample Date of Highest Conc. Detected**
Volatile Organic Compounds							
1,2-Dichloroethane	0.6	PZ-03	0.80	1	PZ-03	1.03	Oct-2008
4-Methyl-2-pentanone (MIBK)	50[1]	MW-03	12,000	4	MW-03	39,000	May-1995
Acetone	50	MW-03	2,000	2	MW-03	4,300	Apr-1995
Benzene	1	MW-33	2.7	1	MW-33	2.7	Nov-2014
Carbon Disulfide	60	MW-02	110 J	1	PZ-05	1,290 J	Aug-2009
Chlorobenzene	5	MW-03	6.2 J	1	MW-03	6.2 J	Nov-2014
Chloroform	7	MW-02	29 J	5	MW-33	242	Apr-2013
Methylene chloride	5	MW-33	21	1	MW-02	60 J	Jan-2002
Toluene	5	MW-03	88	4	PZ-07	686	Dec-2007
Total Metals							
Antimony	3	MW-03	6.73	2	MW-03	159	Aug-1994
Arsenic	25	MW-03	265	2	MW-03	1000 J	Jan-2002
Cadmium	5	PZ-05	5.40	1	MW-03	113	Apr-2011
Chromium	50	MW-33	2,880	2	MW-03	22,700	Apr-2011
Iron	300	PZ-05	23,900	8	MW-02	215,000	Aug-1994
Magnesium	35,000	MW-03	193,000	7	MW-03	526,000	Apr-2011
Manganese	300	MW-03	1,890	3	PZ-01	7,480	Apr-2011
Sodium	20,000	PZ-04	1,960,000	10	MW-02	6,800,000 J	Jan-2002
Dissolved Metals							
Antimony, Dissolved	3	MW-03	6.55 J	2	MW-03	14.4	May-2012
Arsenic, Dissolved	25	MW-03	236 J	2	MW-03	662	Apr-2004
Chromium, Dissolved	50	MW-33	2,840	2	MW-03	22,200	Apr-2011
Iron, Dissolved	300	PZ-03	4,050	4	PZ-03	6,180	Apr-2009
Magnesium, Dissolved	35,000	MW-03	197,000 J	7	MW-03	526,000	Apr-2011
Manganese, Dissolved	300	MW-03	1,880 J	3	MW-03	6,470	Apr-2012
Sodium, Dissolved	20,000	PZ-04	1,770,000	10	MW-02	4,250,000 J	Apr-2004

[1] NYSDOH guidance value for MIBK is based on the maximum contaminant level for unspecified organic contaminants Part 5 Sanitary Code for Public Water System and is 50 µg/L (NYSDEC 2011)

		November 2014			Historical High Concentrations		
Analyte	TOGS Class GA	Well ID Exhibiting Highest Conc.	Highest Conc. Detected, µg/L	No. of Wells Exceeding Criteria	Well ID Exhibiting Highest Conc.	Highest Conc. Detected, µg/L	Sample Date of Highest Conc. Detected
General Chemistry							
Chloride	250,000	PZ-03	964,000	6	PZ-03	964,000	Nov-2014
Sulfate	250,000	MW-02	2,070,000	4	MW-02	11,800,000	May-1995

All concentrations in µg/L
J - Estimated concentration

One or more analytes were detected at concentrations exceeding the TOGS Class GA standards in AOC B groundwater samples from six wells analyzed for VOCs (MW-02, MW-03, MW-33, PZ-03, PZ-04, and PZ-05), all ten wells analyzed for total and dissolved metals, and six wells analyzed for general chemistry parameters (MW-02, MW-03, MW-33, PZ-03, PZ-04, and PZ-05).

3.2.3 Groundwater Results - AOC C

One monitoring well (MW-07) is associated with AOC C. Table 3-4 summarizes the analytical results for groundwater samples collected from AOC C during November 2014. Figure 3-4 presents a summary of groundwater concentrations of compounds exceeding the TOGS Class GA standards. The following table provides a summary of the groundwater analytical results as compared to historical highs.

		November 2014	Historical High Concentrations	
Analyte	TOGS 1.1.1 Class GA Standards	Highest Conc. Detected, µg/L	Highest Conc. Detected, µg/L	Sample Date of Highest Conc. Detected
Volatile Organic Compounds				
None Detected above the TOGS 1.1.1 Class GA Groundwater Standards and NYSDOH guidance value for MIBK				
Semivolatile Organic Compounds				
None Detected above the TOGS 1.1.1 Class GA Groundwater Standards				
Total Metals				
Iron	300	434 J		
Selenium	10	18.4	32.4	Dec-2005
Sodium	20,000	304,000	1,570,000	Oct-2008
Dissolved Metals				
Selenium	10	18.1	18.1	Nov-2014
Sodium	20,000	307,000	2,590,000	Apr-2009
General Chemistry				
Chloride	250,000	270,000	270,000	Nov-2014

All concentrations in µg/L
J - Estimated concentration

The concentrations of VOCs and SVOCs detected in groundwater samples from AOC C were below the TOGS Class GA standards. One or more analytes were detected at concentrations exceeding the TOGS Class GA standards in AOC C (MW-07) groundwater samples for total and dissolved metals and chemistry parameters.

3.2.4 Groundwater Results - AOC D

Seven monitoring wells (MW-11S, MW-11I, MW-21, MW-24, MW-29, MW-30, and MW-31) are associated with AOC D. Table 3-5 summarizes the analytical results for groundwater samples collected from AOC D during November 2014. Figure 3-5 presents a summary of groundwater concentrations of compounds exceeding the TOGS Class GA standards. The following table provides a summary of the groundwater analytical results as compared to historical highs.

		November 2014			Historical High Concentrations		
Analyte	**TOGS 1.1.1 Class GA Standards**	**Well ID Exhibiting Highest Conc.**	**Highest Conc. Detected, µg/L**	**No. of Wells Exceeding Criteria**	**Well ID Exhibiting Highest Conc.**	**Highest Conc. Detected, µg/L**	**Sample Date of Highest Conc. Detected**
Volatile Organic Compounds							
Chlorobenzene	5	MW-11I	8.6	1	MW-11I	8.6	Nov-14
Total Metals							
Antimony	3	MW-21	51.8	1	MW-21	135	Apr-2011
Arsenic	25	MW-21	6,080	3	MW-21	24,000	Apr-2012
Cadmium	5	MW-31	19.0	1	MW-31	135	Apr-2012
Chromium	50	MW-31	619	2	MW-31	655	Apr-2012
Iron	300	MW-24	12,400	6	MW-24	49,500	Apr-2012
Magnesium	35,000	MW-24	97,200	2	MW-24	167,000	Dec-2005
Manganese	300	MW-24	308	1	MW-24	2,020	Dec-2005
Nickel	100	MW-21	175	1	MW-21	351	Dec-2005
Selenium	10	MW-21	11.5	2	MW-24	26.1	Dec-2005
Sodium	20,000	MW-21	6,940,000	8	MW-21	10,300,000	Oct-2008
Dissolved Metals							
Antimony, Dissolved	3	MW-21	59.4	1	MW-21	141 J	Apr-2013
Arsenic, Dissolved	25	MW-21	6,720	3	MW-21	21,800	Apr-2012
Chromium, Dissolved	50	MW-31	558	2	MW-31	587	Apr-2012
Iron, Dissolved	300	MW-24	11,800	3	MW-31	38,400	Apr-2012
Magnesium, Dissolved	35,000	MW-24	104,000	2	MW-24	149,000	Dec-2005
Nickel, Dissolved	100	MW-21	159	1	MW-21	326	Dec-2005
Selenium	10	MW-21	14.7	2	MW-24	26.1	Dec-2005
Sodium, Dissolved	20,000	MW-21	6,380,000	8	MW-21	10,500,000 J	Apr-2013
General Chemistry							
Chloride	250,000	MW-31	1,920,000	7	MW-24	3,970,000	Dec-2005
Sulfate	250,000	MW-23	2,240,000	7	MW-21	2,500,000	Apr-2011

All concentrations in µg/L
J - Estimated concentration

One or more analytes were detected at concentrations exceeding the TOGS Class GA standards in AOC D groundwater samples from one well analyzed for VOCs (MW-11I), all seven wells analyzed for total and dissolved metals, and all seven wells analyzed for general chemistry parameters.

3.2.5 Groundwater Results - AOC E

One monitoring well (MW-10) is associated with AOC E. Table 3-6 summarizes the analytical results for groundwater samples collected from AOC E during November 2014. Figure 3-6 presents a summary of groundwater concentrations of compounds exceeding the TOGS Class GA standards. The following table provides a summary of the groundwater analytical results as compared to historical highs.

		November 2014	Historical High Concentrations	
Analyte	**TOGS Class GA Standards**	**Highest Conc. Detected, µg/L**	**Highest Conc. Detected, µg/L**	**Sample Date of Highest Conc. Detected**
Volatile Organic Compounds				
None detected above the TOGS 1.1.1 Class GA Groundwater Standards and NYSDOH guidance value for MIBK				
Semivolatile Organic Compounds				
None detected above the TOGS 1.1.1 Class GA Groundwater Standards				
Total Metals				
Iron	300	422 J	7,250	Apr-2004
Sodium	20,000	144,000	1,200,000 J	Jan-2002
Dissolved Metals				
Sodium, Dissolved	20,000	144,000	653,000	Apr-2004
General Chemistry				
Chloride	250,000	325,000	875,000	Dec-2005

All concentrations in µg/L
J - Estimated concentration

The concentrations of VOCs and SVOCs detected in groundwater samples from AOC E were below the TOGS Class GA standards. One or more analytes were detected at concentrations exceeding the TOGS Class GA standards in AOC E (MW-10) groundwater samples for total and dissolved metals and general chemistry parameters.

3.2.6 Groundwater Results – Sitewide Monitoring Wells

Three monitoring wells (MW-05I, MW-09R, and MW-19) are not associated with a specific AOC at the site. Table 3-7 summarizes the analytical results for groundwater samples collected from MW-19 during November 2014. Figure 3-7 presents a summary of groundwater concentrations of compounds exceeding the TOGS Class GA standards. The following table provides a summary of the groundwater analytical results as compared to historical highs.

		November 2014		Historical High Concentrations			
Analyte	**TOGS 1.1.1 Class GA Standards**	**Well ID Exhibiting Highest Conc.**	**Highest Conc. Detected, µg/L**	**No. of Wells Exceeding Criteria**	**Well ID Exhibiting Highest Conc.**	**Highest Conc. Detected, µg/L**	**Sample Date of Highest Conc. Detected**
Volatile Organic Compounds							
None detected above the TOGS 1.1.1 Class GA Groundwater Standards and NYSDOH guidance value for MIBK							
Semivolatile Organic Compounds							
None detected above the TOGS 1.1.1 Class GA Groundwater Standards							

		November 2014		Historical High Concentrations			
Analyte	TOGS 1.1.1 Class GA Standards	Well ID Exhibiting Highest Conc.	Highest Conc. Detected, µg/L	No. of Wells Exceeding Criteria	Well ID Exhibiting Highest Conc.	Highest Conc. Detected, µg/L	Sample Date of Highest Conc. Detected
Total Metals							
Iron	300	MW-09R	2,370	2	MW_09R	3,230	Apr-2011
Magnesium	35,000	MW-09R	99,500	2	MW-19	137,000	Dec-2005
Manganese	300	MW-09R	630	2	MW-19	1,730	Dec-2005
Sodium	20,000	MW-09R	625,000	3	MW-09R	1,400,000	Jan-2002
Dissolved Metals							
Iron, Dissolved	300	MW-09R	2,140	2	MW-19	2,360	Apr-2013
Magnesium, Dissolved	35,000	MW-09R	90,700	2	MW-09R	106,000	Apr-2013
Manganese, Dissolved	300	MW-19	684	2	MW-19	939	Apr-2009
Sodium, Dissolved	20,000	MW-09R	562,000	3	MW-09R	776,000	Apr-2012
General Chemistry							
Chloride	250,000	MW-09R	834,000	1	MW_09R	834,000	Nov-2014
Sulfate	250,000	MW-09R	607,000	1	MW-09R	670,000	Apr-2011

All concentrations in µg/L

The concentrations of VOCs, SVOCs, and general chemistry parameters detected in groundwater samples from the background monitoring wells were below the TOGS Class GA standards. One or more analytes were detected at concentrations exceeding the TOGS Class GA standards in sitewide groundwater samples analyzed for total and dissolved metals (MW-05I, MW-09R, and MW-19) and general chemistry parameters (MW-09R).

3.2.7 Groundwater Results – Background Monitoring Wells

Two monitoring wells (MW-06 and MW-20) are background monitoring wells. Table 3-8 summarizes the analytical results for groundwater samples collected from background monitoring wells during November 2014. Figure 3-8 presents a summary of groundwater concentrations of compounds exceeding the TOGS Class GA standards. The following table provides a summary of the groundwater analytical results as compared to historical highs.

		November 2014			Historical High Concentrations		
Analyte	TOGS 1.1.1 Class GA Standards	Well ID Exhibiting Highest Conc.	Highest Conc. Detected, µg/L	No. of Wells Exceeding Criteria	Well ID Exhibiting Highest Conc.	Highest Conc. Detected, µg/L	Sample Date of Highest Conc. Detected
Volatile Organic Compounds							
None Detected above the TOGS 1.1.1 Class GA Groundwater Standards and NYSDOH guidance value for MIBK							
Semivolatile Organic Compounds							
None Detected above the TOGS 1.1.1 Class GA Groundwater Standards							
Total Metals							
Iron	300	MW-06	633	1	MW-06	633	Nov-2014
Sodium	20,000	MW-06	44,100	2	MW-06	68,000 J	Jan-2002

		November 2014			Historical High Concentrations		
Analyte	TOGS 1.1.1 Class GA Standards	Well ID Exhibiting Highest Conc.	Highest Conc. Detected, µg/L	No. of Wells Exceeding Criteria	Well ID Exhibiting Highest Conc.	Highest Conc. Detected, µg/L	Sample Date of Highest Conc. Detected
Dissolved Metals							
Iron	300	MW-06	616	1	MW-06	616	Nov-2014
Sodium	20,000	MW-06	35,100	2	MW-20	49,200	Dec-2005
General Chemistry							
None detected above the TOGS 1.1.1 Class GA Groundwater Standards							

All concentrations in µg/L
J - Estimated concentration

The concentrations of VOCs, SVOCs, and general chemistry parameters detected in groundwater samples from the background monitoring wells were below the TOGS Class GA standards. One or more analytes were detected at concentrations exceeding the TOGS Class GA standards in background groundwater samples analyzed for total and dissolved metals (MW-06 and MW-20).

3.3 Monitored Natural Attenuation Sampling Results

In accordance with the LTMWP (CH2M 2014), samples were collected from monitoring wells for analysis of the MNA parameters listed in Section 2.2. The analytical results are summarized in Tables 3-2 through 3-8, and laboratory reports are provided in Appendix A. An evaluation of the MNA data will be presented in the long-term monitoring groundwater report corresponding to the 2014 revised work plan (CH2M 2014) as additional data are accumulated.

3.4 Quality Assurance/Quality Control Samples

Table 2-1 presents the sample IDs and sample delivery groups for the QA/QC samples. Table 3-9 presents the analytical results of the equipment blanks and trip blanks for the November 2014 sampling event.

3.5 Data Quality Review Summary

Appendix D contains a detailed data quality evaluation for groundwater samples collected during the November 2014 sampling event. The following conclusions are presented in the data quality evaluation:

- Precision was generally acceptable with the exception of total and dissolved selenium, which were qualified as estimated detected results in two samples (MW-23-111214 and DUP-GW-111214) because of relative percent differences exceeding control limits in field duplicate pairs.
- Accuracy was generally acceptable with a few compounds being qualified as estimated detected and nondetected results because of calibration, MS/MSD, post-digestion spike, and/or surrogate issues. Several analytes were qualified as not detected because of method and/or field blank contamination in several samples.
- MW03-111714 was received with a pH above criteria for the dissolved metals analyses, resulting in the data being qualified as estimated.
- All data are considered complete and valid for project use.

SECTION 4

Path Forward

A revised LTMWP (CH2M 2014) has been accepted by NYSDEC. This work plan streamlined the current sitewide GWMP for long-term monitoring of the corrective measures and included monitoring wells at AOC B, AOC D, SWMU 1, and seven additional wells for up/downgradient monitoring of these three areas. The work plan presented a description of how the data will be evaluated to support the responses to NYSDEC comments in its May 30, 2013 letter, as detailed in The Dow Chemical Company's response to comments provided in the *Groundwater Monitoring Results Report, April and October 2012 Monitoring Events*, dated July 26, 2013. Full implementation of the LTMWP will begin during the December 2015 sampling event.

SECTION 5

References

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Appendix A
Analytical Data Packages and EQuIS Reports (on CD)

Table 2-1
Summary of Groundwater Samples Collected
Groundwater Monitoring Results Report, November 2014 Monitoring Event
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Sampling Location	Sample Identification	Laboratory Analysis	Sample Delivery Group (VOCs)	Sample Delivery Group[3]	Sample Type	Sampling Method	Pump Placement Depth (ft. from TIC)	Sample Date	Sample Time
MW-01	MW-01-111214	VOCs, Metals[1], MNA	1518766	L14110799	N	Bladder Pump	9.5	11/12/2014	10:05
MW-01	MW-01-111214MS	Metals	N/A	L14110799	MS	Bladder Pump	9.5	11/18/2014	00:00
MW-01	MW-01-111214SD	Metals	N/A	L14110799	MSD	Bladder Pump	9.5	11/18/2014	00:00
MW-02	MW-02-111214	VOCs, Metals[1], MNA	1518766	L14110799	N	Bladder Pump	9.5	11/12/2014	09:55
MW-03	MW03-111714	VOCs, Metals[1], MNA	1520226	L14111128	N	Bladder Pump	14	11/17/2014	13:50
MW-05I	MW-5I-111114	VOCs, SVOCs, Metals[1], MNA	1518765	L14110760	N	Bladder Pump	27.5	11/11/2014	14:50
MW-05I	MW-5I-111114MS	MNA	N/A	L14110760	MS	Bladder Pump	27.5	11/19/2014	00:00
MW-06	MW-06-111114	VOCs, SVOCs, Metals[1], MNA	1518765	L14110760	N	Bladder Pump	9	11/11/2014	09:35
MW-07	MW-07-111414	VOCs, SVOCs, Metals[1], MNA	1519438	L14110979	N	Bladder Pump	8.5	11/14/2014	13:10
MW-09R	MW9R-111814	VOCs, SVOCs, Metals[1], MNA	1520227	L14111144	N	Bladder Pump	12	11/18/2014	10:45
MW-10	MW-10-111414	VOCs, SVOCs, Metals[1], MNA	1519438	L14110979	N	Bladder Pump	12	11/14/2014	10:00
MW-10	MW-10-111414MS	MNA	N/A	L14110979	MS	Bladder Pump	12	11/17/2014	00:00
MW-11I	MW-11I-111214	VOCs, Metals[1], MNA	1518766	L14110799	N	Bladder Pump	25	11/12/2014	15:30
MW-11I	MW-11I-111214MS	MNA	N/A	L14110799	MS	Bladder Pump	25	11/13/2014	00:00
MW-11S	MW-11S-111214	VOCs, Metals[1], MNA	1518766	L14110799	N	Bladder Pump	10	11/12/2014	12:15
MW-16I	MW-16I-111114	VOCs, SVOCs, Metals[1], MNA	1518765	L14110760	N	Bladder Pump	29	11/11/2014	09:45

Table 2-1
Summary of Groundwater Samples Collected
Groundwater Monitoring Results Report, November 2014 Monitoring Event
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Sampling Location	Sample Identification	Laboratory Analysis	Sample Delivery Group (VOCs)	Sample Delivery Group[3]	Sample Type	Sampling Method	Pump Placement Depth (ft. from TIC)	Sample Date	Sample Time
MW-16I	MW-16I-111114MS	VOCs, SVOCs, Metals[1], MNA	1518765	L14110760	MS	Bladder Pump	29	11/11/2014	09:45
MW-16I	MW-16I-111114-MS	VOCs	1518765	N/A	MS	Bladder Pump	29	11/11/2014	09:45
MW-16I	MW-16I-111114SD	VOCs, SVOCs, Metals[1], MNA	1518765	L14110760	MSD	Bladder Pump	29	11/11/2014	09:45
MW-16I	MW-16I-111114-SD	VOCs	1518765	N/A	MSD	Bladder Pump	29	11/11/2014	09:45
MW-17	MW-17-111414	VOCs, SVOCs, Metals[1], MNA	1519438	L14110979	N	Bladder Pump	13.5	11/14/2014	10:25
MW-19	MW19-111814	VOCs, SVOCs, Metals[1], MNA	1520227	L14111144	N	Bladder Pump	15.5	11/18/2014	10:30
MW19-1	MW19-111814MS	MNA	N/A	L14111144	MS	Bladder Pump	15.5	12/3/2014	00:00
MW-20	MW-20-111114	VOCs, SVOCs, Metals[1], MNA	1518765	L14110760	N	Bladder Pump	13.5	11/11/2014	12:45
MW-21	MW-21-111314	VOCs, Metals[1], MNA	1519440	L14110871	N	Bladder Pump	10	11/13/2014	10:15
MW-23	DUP-GW-111214	VOCs, Metals[1]	1518766	L14110799	FD[2]	Bladder Pump	8	11/12/2014	08:00
MW-23	MW-23-111214	VOCs, Metals[1], MNA	1518766	L14110799	N	Bladder Pump	8	11/12/2014	11:30
MW-24	MW-24-111214	VOCs, Metals[1], MNA	1518766	L14110799	N	Bladder Pump	12.5	11/12/2014	16:05
MW-24	MW-24-111214MS	Metals	N/A	L14110799	MS	Bladder Pump	12.5	11/22/2014	00:00
MW-24	MW-24-111214SD	Metals	N/A	L14110799	MSD	Bladder Pump	12.5	11/22/2014	00:00
MW-26	DUP-GW-111114	VOCs, SVOCs, Metals[1]	1518765	L14110760	FD[2]	Bladder Pump	14.5	11/11/2014	08:00
MW-26	MW-26-111114	VOCs, SVOCs, Metals[1], MNA	1518765	L14110760	N	Bladder Pump	14.5	11/11/2014	12:05

Table 2-1
Summary of Groundwater Samples Collected
Groundwater Monitoring Results Report, November 2014 Monitoring Event
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Sampling Location	Sample Identification	Laboratory Analysis	Sample Delivery Group (VOCs)	Sample Delivery Group[3]	Sample Type	Sampling Method	Pump Placement Depth (ft. from TIC)	Sample Date	Sample Time
MW-29	MW-29-111314	VOCs, Metals[1], MNA	1519440	L14110871	N	Bladder Pump	10	11/13/2014	10:35
MW-29	MW-29-111314MS	Metals[1], MNA	N/A	L14110871	MS	Bladder Pump	10	11/13/2014	10:35
MW-29	MW-29-111314-MS	VOCs	1519440	N/A	MS	Bladder Pump	10	11/13/2014	10:35
MW-29	MW-29-111314SD	Metals[1], MNA	N/A	L14110871	MSD	Bladder Pump	10	11/13/2014	10:35
MW-29	MW-29-111314-SD	VOCs	1519440	N/A	MSD	Bladder Pump	10	11/13/2014	10:35
MW-30	MW-30-111214	VOCs, Metals[1], MNA	1518766	L14110799	N	Bladder Pump	10	11/12/2014	13:50
MW-31	MW-31-111214	VOCs, Metals[1], MNA	1518766	L14110799	N	Bladder Pump	12	11/12/2014	13:35
MW-33	MW33-111714	VOCs, Metals[1], MNA	1520226	L14111128	N	Bladder Pump	8	11/17/2014	13:00
MW-34	DUP-GW-111314	VOCs, Metals[1]	1519440	L14110871	FD[2]	Bladder Pump	10	11/13/2014	08:00
MW-34	MW-34-111314	VOCs, Metals[1], MNA	1519440	L14110871	N	Bladder Pump	10	11/13/2014	13:12
MW-34	MW-34-111314MS	MNA	N/A	L14110871	MS	Bladder Pump	10	11/21/2014	00:00
PZ-01	PZ01-111714	VOCs, Metals[1], MNA	1520226	L14111128	N	Bladder Pump	7	11/17/2014	11:45
PZ-03	PZ03-111714	VOCs, Metals[1], MNA	1520226	L14111128	N	Bladder Pump	8	11/17/2014	10:50
PZ-04	PZ-04-111314	VOCs, Metals[1], MNA	1519440	L14110871	N	Bladder Pump	8	11/13/2014	12:25
PZ-05	PZ-05-111314	VOCs, Metals[1], MNA	1519440	L14110871	N	Bladder Pump	8.5	11/13/2014	12:35
PZ-07	PZ-07-111214	VOCs, Metals[1], MNA	1518766	L14110799	N	Bladder Pump	8.5	11/12/2014	10:50

Table 2-1
Summary of Groundwater Samples Collected
Groundwater Monitoring Results Report, November 2014 Monitoring Event
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Sampling Location	Sample Identification	Laboratory Analysis	Sample Delivery Group (VOCs)	Sample Delivery Group[3]	Sample Type	Sampling Method	Pump Placement Depth (ft. from TIC)	Sample Date	Sample Time
TW-01	TW-01-111114	VOCs, SVOCs, Metals[1], MNA	1518765	L14110760	N	Bladder Pump	18	11/11/2014	15:25
TW-01	TW-01-111114MS	MNA	N/A	L14110760	MS	Bladder Pump	18	11/19/2014	00:00
EB	EB-GW-111214	VOCs, SVOCs, Metals	1518766	L14110799	EB	N/A	N/A	11/12/2014	13:20
EB	EB-GW-111214MS	Metals	N/A	L14110799	MS	N/A	N/A	11/20/2014	00:00
EB	EB-GW-111214SD	Metals	N/A	L14110799	MSD	N/A	N/A	11/20/2014	00:00
EB	EB-GW-111314	VOCs, Metals	1519440	L14110871	EB	N/A	N/A	11/13/2014	09:10
EB	EB-GW-111414	VOCs, SVOCs, Metals	1519438	L14110979	EB	N/A	N/A	11/14/2014	12:50
TB	TB-111114	VOCs	1518765	N/A	TB	N/A	N/A	11/5/2014	10:47
TB	TB-111214	VOCs	1518766	N/A	TB	N/A	N/A	11/5/2014	10:49
TB	TB-111314	VOCs	1519440	N/A	TB	N/A	N/A	11/5/2014	10:47
TB	TB-111414	VOCs	1519438	N/A	TB	N/A	N/A	11/5/2014	10:47
TB	TB-111714	VOCs	1520226	N/A	TB	N/A	N/A	11/17/2014	00:00
TB	TB-111814	VOCs	1520227	N/A	TB	N/A	N/A	11/18/2014	10:47

Table 2-1

Summary of Groundwater Samples Collected

Groundwater Monitoring Results Report, November 2014 Monitoring Event

Former Hampshire Chemical Corp. Facility, Waterloo, New York

Sampling Location	Sample Identification	Laboratory Analysis	Sample Delivery Group (VOCs)	Sample Delivery Group[3]	Sample Type	Sampling Method	Pump Placement Depth (ft. from TIC)	Sample Date	Sample Time

Notes:

1. All normal environmental samples were analyzed for total and dissolved metals
2. MNA parameters were not analyzed in field duplicates
3. Sample delivery group for orthophosphate, phosphorus, nitrate, total Kjeldahl nitrogen, ammonia, sulfate, chloride, alkalinity, TDS, and TOC

MNA - Natural Attenuation Parameters, and includes sulfates, nitrates, methane, carbon dioxide, alkalinity, phosphorus, and total organic carbon

VOC - Volatile Organic Compounds

SVOC - Semivolatile Organic Compounds

TOC - Total Organic Carbon

TDS - Total Dissolved Solids

TIC - Top of Inner Casing

TB - Trip Blank

EB - Equipment Blank

FD - Field Duplicate Sample

N - Normal Environmental Sample

MS - Matrix Spike

MSD - Matrix Spike Duplicate

N/A - Not Applicable

TABLE 3-1
Groundwater Elevation Measurements
Groundwater Monitoring Results Report, November 2014 Groundwater Event
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Well Number	Well Depth (ft TIC)	Ground Elevation (ft amsl)	Inner Casing Elevation (ft amsl)	Depth to Water (ft from TIC)	Groundwater Elevation (ft amsl)
MW-01	16.13	434.42	434.42	4.50	429.92
MW-02	15.45	433.56	433.56	4.00	429.56
MW-03	16.18	434.53	434.53	2.50	432.03
MW-05S	12.82	445.40	445.40	7.31	438.09
MW-05I	29.52	445.45	445.45	12.58	432.87
MW-06	13.26	446.87	446.87	5.50	441.37
MW-07	12.26	437.98	437.98	5.08	432.90
MW-08	12.89	440.02	440.02	6.70	433.32
MW-09R	14.95	435.00	434.56	5.23	429.33
MW-10	12.68	445.66	445.66	5.67	439.99
MW-11S	13.37	433.57	433.57	1.48	432.09
MW-11I	26.80	433.72	433.72	5.29	428.43
MW-12	NM	433.85	433.85	4.40	429.45
MW-13	15.47	433.91	433.91	4.25	429.66
MW-14	16.21	444.10	443.48	1.52	441.96
MW-15	15.19	443.91	443.91	NM	NA
MW-16S	33.74	453.23	453.23	23.35	429.88
MW-16I	32.05	452.80	452.80	22.85	429.95
MW-17	14.50	441.65	441.65	NM	NA
MW-18	12.77	441.14	441.14	16.42	424.72
MW-19	16.84	445.89	445.89	13.12	432.77
MW-20	15.68	449.18	449.18	NM	NA
MW-21	13.58	433.83	433.83	3.55	430.28
MW-22	12.42	433.90	433.90	4.35	429.55
MW-23	12.20	433.03	433.03	3.62	429.41
MW-24	13.71	434.34	434.34	4.61	429.73
MW-25	15.46	441.65	441.32	10.91	430.41
MW-26	16.00	437.95	440.16	11.16	429.00
MW-27	12.55	444.44	444.09	10.35	433.74
MW-28	15.75	444.83	444.55	NM	NA
MW-29	13.15	434.27	433.87	4.77	429.10
MW-30	13.45	433.83	433.42	4.62	428.80
MW-31	16.12	433.21	432.72	4.20	428.52
MW-32	13.90	433.37	433.22	4.39	428.83
MW-33	11.390	434.41	434.00	2.11	431.89
MW-34	14.430	434.49	433.91	2.04	431.87
TW-01	20.01	444.21	446.76	NM	NA
TW-02	12.40	437.84	440.06	NM	NA

TABLE 3-1

Groundwater Elevation Measurements

Groundwater Monitoring Results Report, November 2014 Groundwater Event

Former Hampshire Chemical Corp. Facility, Waterloo, New York

Well Number	Well Depth (ft TIC)	Ground Elevation (ft amsl)	Inner Casing Elevation (ft amsl)	Depth to Water (ft from TIC)	Groundwater Elevation (ft amsl)
PZ-01	9.76	434.54	434.30	NM	NA
PZ-03	11.02	434.47	434.11	NM	NA
PZ-04	9.60	432.78	432.20	3.34	428.86
PZ-05	9.60	433.12	432.74	4.05	428.69
PZ-06	9.10	433.11	432.82	3.24	429.58
PZ-07	9.71	433.44	433.10	4.50	428.60
BLDG4-Pit-SSP	7.37	NA	434.56	2.20	432.36

Notes:

1. Water level measurements were collected on November 10, 2014.

2. Water level measurements were not collected from MW-15, MW-17, MW-20, MW-28, TW-01, TW-03, PZ-01, and PZ-03 because these areas were not accessible.

3. All wells were surveyed to the New York Central state plane coordinate system (NAD 1983).

amsl - above mean sea level
bgs - below ground surface
ft - feet
NA - not available
NM - not measured
TIC - top of inner casing

Table 3-2a
Groundwater Sampling Results for SWMU 1 — Volatile Organic Compounds
Groundwater Monitoring Results Report, November 2014 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-16I	MW-17	MW-26		TW-01
Sample ID			MW-16I-111114	MW-17-111414	DUP-GW-111114	MW-26-111114	TW-01-111114
Sample Date			11/11/2014	11/14/2014	11/11/2014	11/11/2014	11/11/2014
Analyte	**CAS#**	**TOGS 1.1.1 GA***					
VOA (ug/l)							
1,1,1-Trichloroethane	71-55-6	5	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
1,1,2,2-Tetrachloroethane	79-34-5	5	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	--	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,1,2-Trichloroethane	79-00-5	1	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
1,1-Dichloroethane	75-34-3	5	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
1,1-Dichloroethene	75-35-4	5	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
1,2,3-Trichlorobenzene	87-61-6	--	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
1,2,4-Trichlorobenzene	120-82-1	5	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
1,2-Dibromo-3-chloropropane	96-12-8	--	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,2-Dibromoethane	106-93-4	--	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
1,2-Dichlorobenzene	95-50-1	3	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
1,2-Dichloroethane	107-06-2	0.6	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
1,2-Dichloroethene, cis-	156-59-2	5	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
1,2-Dichloroethene, trans-	156-60-5	5	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
1,2-Dichloropropane	78-87-5	1	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
1,3-Dichlorobenzene	541-73-1	3	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
1,3-Dichloropropene, cis-	10061-01-5	0.4	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
1,3-Dichloropropene, trans-	10061-02-6	0.4	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
1,4-Dichlorobenzene	106-46-7	3	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
2-Butanone	78-93-3	50	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Hexanone	591-78-6	50	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Methyl-2-pentanone (MIBK)	108-10-1	50 **	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acetone	67-64-1	50	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Benzene	71-43-2	1	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Bromochloromethane	74-97-5	--	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Bromodichloromethane	75-27-4	50	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Bromoform	75-25-2	50	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Bromomethane	74-83-9	5	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Carbon Disulfide	75-15-0	60	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U
Carbon tetrachloride	56-23-5	5	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Chlorobenzene	108-90-7	5	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Chloroethane	75-00-3	5	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Chloroform	67-66-3	7	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Chloromethane	74-87-3	5	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Cyclohexane	110-82-7	--	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Dibromochloromethane	124-48-1	50	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U

Table 3-2a
Groundwater Sampling Results for SWMU 1 — Volatile Organic Compounds
Groundwater Monitoring Results Report, November 2014 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-16I	MW-17	MW-26		TW-01
Sample ID			MW-16I-111114	MW-17-111414	DUP-GW-111114	MW-26-111114	TW-01-111114
Sample Date			11/11/2014	11/14/2014	11/11/2014	11/11/2014	11/11/2014
Analyte	**CAS#**	**TOGS 1.1.1 GA***					
VOA (ug/l)							
Dichlorodifluoromethane	75-71-8	--	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Ethylbenzene	100-41-4	5	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Isopropylbenzene	98-82-8	--	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Methyl Acetate	79-20-9	--	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
Methylcyclohexane	108-87-2	--	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Methylene chloride	75-09-2	5	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Styrene	100-42-5	5	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
tert-Butyl Methyl Ether	1634-04-4	--	0.10 U	0.10 U	0.10 U	0.10 U	**0.10 J**
Tetrachloroethene	127-18-4	5	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Toluene	108-88-3	5	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Trichloroethene	79-01-6	5	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Trichlorofluoromethane	75-69-4	--	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Vinyl chloride	75-01-4	2	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Xylene, m,p-	108-38-3/1	--	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Xylene, o-	95-47-6	--	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U

Notes:
* - Technical & Operational Guidance Series (TOGS) 1.1.1, New York State Ambient Water Quality Standards and Guidance Values, and Ground Water Effluent Limitations (Class GA). June 1998; modified January 1999; modified April 2000; modified June 2004.
** - There is no TOGS Class GA Standard for MIBK. Per the NYSDEC (2005), the New York State Department of Health (NYSDOH) guidance value for MIBK
Bold indicates the analyte was detected
-- = Not available
J = The analyte was positively identified; the associated numerical value is the approximate concentration.
SWMU = solid waste management unit
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
ug/l = micrograms per liter

Table 3-2b
Groundwater Sampling Results for SWMU 1 — Semivolatile Organic Compounds
Groundwater Monitoring Results Report, November 2014 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-16I	MW-17	MW-26		TW-01
Sample ID			MW-16I-111114	MW-17-111414	DUP-GW-111114	MW-26-111114	TW-01-111114
Sample Date			11/11/2014	11/14/2014	11/11/2014	11/11/2014	11/11/2014
Analyte	**CAS#**	**TOGS 1.1.1 GA***					
SVOA (ug/l)							
2-Methylnaphthalene	91-57-6	--	0.0269 U	0.0278 U	0.0272 U	0.0269 U	0.0294 U
Acenaphthene	83-32-9	20	0.0269 U	0.0278 U	0.0272 U	0.0269 U	0.0294 U
Acenaphthylene	208-96-8	--	0.0269 U	0.0278 U	0.0272 U	0.0269 U	0.0294 U
Anthracene	120-12-7	50	0.0269 U	0.0278 U	0.0272 U	0.0269 U	0.0294 U
Benzo(a)anthracene	56-55-3	0.002	0.0269 U	0.0278 U	0.0272 U	0.0269 U	0.0294 U
Benzo(a)pyrene	50-32-8	0.002	0.0269 U	0.0278 U	0.0272 U	0.0269 U	0.0294 U
Benzo(b)fluoranthene	205-99-2	0.002	0.0269 U	0.0278 U	0.0272 U	0.0269 U	0.0294 U
Benzo(g,h,i)perylene	191-24-2	--	0.0269 U	0.0278 U	0.0272 U	0.0269 U	0.0294 U
Benzo(k)fluoranthene	207-08-9	0.002	0.0269 U	0.0278 U	0.0272 U	0.0269 U	0.0294 U
Chrysene	218-01-9	0.002	0.0269 U	0.0278 U	0.0272 U	0.0269 U	0.0294 U
Dibenzo (a,h) anthracene	53-70-3	--	0.0269 U	0.0278 U	0.0272 U	0.0269 U	0.0294 U
Fluoranthene	206-44-0	50	0.0269 U	0.0278 U	0.0272 U	**0.0425 J**	0.0294 U
Fluorene	86-73-7	50	0.0269 U	0.0278 U	0.0272 U	0.0269 U	0.0294 U
Indeno (1,2,3-c,d) pyrene	193-39-5	0.002	0.0269 U	0.0278 U	0.0272 U	0.0269 U	0.0294 U
Naphthalene	91-20-3	10	**0.0330 J**	**0.0690**	0.0272 U	**0.0361 J**	0.0294 U
Phenanthrene	85-01-8	50	0.0269 U	0.0278 U	0.0272 U	0.0269 U	0.0294 U
Pyrene	129-00-0	50	0.0269 U	0.0278 U	0.0272 U	0.0269 U	0.0294 U

Notes:
* - Technical & Operational Guidance Series (TOGS) 1.1.1, New York State Ambient Water Quality Standards and Guidance Values, and Ground Water Effluent Limitations (Class GA). June 1998; modified January 1999; modified April 2000; modified June 2004.
Bold indicates the analyte was detected
-- = Not available
J = The analyte was positively identified; the associated numerical value is the approximate concentration.
SWMU = solid waste management unit
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
ug/l = micrograms per liter

Table 3-2c
Groundwater Sampling Results for SWMU 1 — Metals
Groundwater Monitoring Results Report, November 2014 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-16I	MW-17	MW-26		TW-01
Sample ID			MW-16I-111114	MW-17-111414	DUP-GW-111114	MW-26-111114	TW-01-111114
Sample Date			11/11/2014	11/14/2014	11/11/2014	11/11/2014	11/11/2014
Analyte	**CAS#**	**TOGS 1.1.1 GA***					
Metals (ug/l)							
Aluminum	7429-90-5	--	100 U	100 U	100 U	100 U	100 U
Antimony	7440-36-0	3	0.500 U	0.500 U	0.500 U	0.500 U	**0.652 J**
Arsenic	7440-38-2	25	**1.44**	**9.28**	**1.64**	**1.67**	**3.17**
Barium	7440-39-3	1,000	**105**	**151**	**195**	**195**	**176**
Beryllium	7440-41-7	3	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Cadmium	7440-43-9	5	**0.800 J**	0.500 U	0.500 U	0.500 U	0.500 U
Calcium	7440-70-2	--	**115,000**	**222,000**	**89,600**	**89,500**	**249,000**
Chromium	7440-47-3	50	2.50 U	2.50 U	**2.56 J**	2.50 U	2.50 U
Cobalt	7440-48-4	--	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U
Copper	7440-50-8	200	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U
Iron	7439-89-6	300	**7,580**	**1,570**	**2,960**	**2,980**	**40,100**
Lead	7439-92-1	25	0.500 U	**0.636 J**	**1.88**	**1.96**	**5.77**
Magnesium	7439-95-4	35,000	**22,600**	**37,100**	**15,900**	**15,900**	**59,300**
Manganese	7439-96-5	300	**191**	**396**	**169**	**169**	**480**
Mercury	7439-97-6	0.7	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U
Nickel	7440-02-0	100	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U
Potassium	7440-09-7	--	**4,650**	**10,100**	**3,900**	**3,940**	**11,100**
Selenium	7782-49-2	10	**2.25**	**3.53**	**0.802 J**	**1.01**	**2.82**
Silica	SIL	--	**12,100**	**16,900**	- -	**10,800**	**22,700**
Silicon	7440-21-3	--	**5,650**	**7,890**	- -	**5,030**	**10,600**
Silver	7440-22-4	50	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U
Sodium	7440-23-5	20,000	**71,700**	**46,600**	**74,300**	**74,200**	**66,300**
Thallium	7440-28-0	0.5	**0.125 J**	**0.145 J**	**0.145 J**	**0.120 J**	**0.140 J**
Vanadium	7440-62-2	--	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U
Zinc	7440-66-6	2,000	**13.7 J**	10.0 U	**45.2**	**44.6**	**92.9**
Metals, Dissolved (ug/l) **							
Aluminum, Dissolved	7429-90-5_D	--	100 U	100 U	100 U	100 U	100 U
Antimony, Dissolved	7440-36-0_D	3	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Arsenic, Dissolved	7440-38-2_D	25	**1.28**	0.500 U	**1.56**	**1.62**	**2.89**
Barium, Dissolved	7440-39-3_D	1,000	**102**	**159**	**190**	**191**	**175**
Beryllium, Dissolved	7440-41-7_D	3	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Cadmium, Dissolved	7440-43-9_D	5	0.500 U	**0.588 J**	0.500 U	0.500 U	**0.538 J**
Calcium, Dissolved	7440-70-2_D	--	**112,000**	**222,000**	**86,300**	**87,000**	**241,000**
Chromium, Dissolved	7440-47-3_D	50	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U
Cobalt, Dissolved	7440-48-4_D	--	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U
Copper, Dissolved	7440-50-8_D	200	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U

Table 3-2c
Groundwater Sampling Results for SWMU 1 — Metals
Groundwater Monitoring Results Report, November 2014 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-16I	MW-17	MW-26		TW-01
Sample ID			MW-16I-111114	MW-17-111414	DUP-GW-111114	MW-26-111114	TW-01-111114
Sample Date			11/11/2014	11/14/2014	11/11/2014	11/11/2014	11/11/2014
Analyte	**CAS#**	**TOGS 1.1.1 GA***					
Iron, Dissolved	7439-89-6_D	300	**6,930**	**1,920**	**2,640**	**2,710**	**39,800**
Lead, Dissolved	7439-92-1_D	25	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Magnesium, Dissolved	7439-95-4_D	35,000	**22,200**	**38,000**	**15,100**	**15,300**	**57,900**
Manganese, Dissolved	7439-96-5_D	300	**191**	**394**	**161**	**165**	**423**
Mercury, Dissolved	7439-97-6_D	0.7	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U
Nickel, Dissolved	7440-02-0_D	100	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U
Potassium, Dissolved	7440-09-7_D	--	**4,540**	**9,890**	**3,770**	**3,790**	**10,700**
Selenium, Dissolved	7782-49-2_D	10	**1.31**	0.500 U	**1.04**	**1.01**	**2.10**
Silver, Dissolved	7440-22-4_D	50	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U
Sodium, Dissolved	7440-23-5_D	20,000	**70,700**	**49,000**	**72,100**	**72,900**	**64,800**
Thallium, Dissolved	7440-28-0_D	0.5	**0.124 J**	0.100 U	**0.146 J**	**0.128 J**	**0.125 J**
Vanadium, Dissolved	7440-62-2_D	--	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U
Zinc, Dissolved	7440-66-6_D	2,000	10.0 U	10.0 U	**38.5**	**38.1**	**58.8**

Notes:
* - Technical & Operational Guidance Series (TOGS) 1.1.1, New York State Ambient Water Quality Standards and Guidance Values, and Ground Water Effluent Limitations (Class GA). June 1998; modified January 1999; modified April 2000; modified June 2004.
** - The TOGS Class GA Standards for total metals were used as screening criteria for dissolved metals
Bold indicates the analyte was detected
Shading indicates the result exceeded screening criteria
- - = Not analyzed
-- = Not available
J = The analyte was positively identified; the associated numerical value is the approximate concentration.
SWMU = solid waste management unit
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
ug/l = micrograms per liter

Table 3-2d
Groundwater Sampling Results for SWMU 1 — General Chemistry
Groundwater Monitoring Results Report, November 2014 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-16I	MW-17	MW-26		TW-01
Sample ID			MW-16I-111114	MW-17-111414	DUP-GW-111114	MW-26-111114	TW-01-111114
Sample Date			11/11/2014	11/14/2014	11/11/2014	11/11/2014	11/11/2014
Analyte	**CAS#**	**TOGS 1.1.1 GA***					
Wet Chemistry (ug/l)							
Alkalinity	ALK	--	**356,000**	**577,000**	- -	**266,000**	**679,000**
Ammonia	7664-41-7	--	**438**	**608**	- -	**77.2 J**	**2,520**
Chloride	16887-00-6	250,000	**119,000**	**69,100**	- -	**131,000**	**98,000**
Nitrate	14797-55-8	--	**62.0**	**874**	- -	**81.0**	**210**
Nitrogen	7727-37-9	--	482 U	**408 J**	- -	102 U	**1,780**
Phosphate	14265-44-2	--	**41.5 J**	25.0 U	- -	**76.7**	**44.7 J**
Phosphorus	7723-14-0	--	100 U	100 U	- -	100 U	**110 J**
Sulfate	14808-79-8	250,000	**64,700**	**243,000**	- -	**20,000**	**256,000**
Total Dissolved Solids	TDS	--	**554,000**	**970,000**	- -	**456,000**	**1,120,000**
Total Organic Carbon	TOC	--	**3,490**	**5,110**	- -	**1,930**	**7,000**

Notes:
* - Technical & Operational Guidance Series (TOGS) 1.1.1, New York State Ambient Water Quality Standards and Guidance Values, and Ground Water Effluent Limitations (Class GA). June 1998; modified January 1999; modified April 2000; modified June 2004.
Bold indicates the analyte was detected
Shading indicates the result exceeded screening criteria
- - = Not analyzed
-- = Not available
J = The analyte was positively identified; the associated numerical value is the approximate concentration.
SWMU = solid waste management unit
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
ug/l = micrograms per liter

Table 3-3a
Groundwater Sampling Results for AOC B — Volatile Organic Compounds
Groundwater Monitoring Results Report, November 2014 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-01	MW-02	MW-03	MW-33	MW-34		PZ-01	PZ-03	PZ-04	PZ-05	PZ-07
Sample ID			MW-01-111214	MW-02-111214	MW03-111714	MW33-111714	DUP-GW-111314	MW-34-111314	PZ01-111714	PZ03-111714	PZ-04-111314	PZ-05-111314	PZ-07-111214
Sample Date			11/12/2014	11/12/2014	11/17/2014	11/17/2014	11/13/2014	11/13/2014	11/17/2014	11/17/2014	11/13/2014	11/13/2014	11/12/2014
Analyte	**CAS#**	**TOGS 1.1.1 GA***											
VOA (ug/l)													
1,1,1-Trichloroethane	71-55-6	5	0.10 U	0.50 UJ	2.0 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	1.0 UJ	1.0 UJ	0.10 U
1,1,2,2-Tetrachloroethane	79-34-5	5	0.10 U	0.50 UJ	2.0 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	1.0 UJ	1.0 UJ	0.10 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	--	0.20 U	1.0 UJ	4.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	2.0 UJ	2.0 UJ	0.20 U
1,1,2-Trichloroethane	79-00-5	1	0.10 U	0.50 UJ	2.0 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	1.0 UJ	1.0 UJ	0.10 U
1,1-Dichloroethane	75-34-3	5	0.10 U	0.50 UJ	2.0 U	**0.50**	**0.10 J**	**0.10 J**	**0.70**	0.10 U	1.0 UJ	1.0 UJ	0.10 U
1,1-Dichloroethene	75-35-4	5	0.10 U	0.50 UJ	2.0 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	1.0 UJ	1.0 UJ	0.10 U
1,2,3-Trichlorobenzene	87-61-6	--	0.10 U	0.50 UJ	2.0 UJ	0.10 UJ	0.10 U	0.10 U	0.10 UJ	0.10 UJ	1.0 UJ	1.0 UJ	0.10 U
1,2,4-Trichlorobenzene	120-82-1	5	0.10 U	0.50 UJ	2.0 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	1.0 UJ	1.0 UJ	0.10 U
1,2-Dibromo-3-chloropropane	96-12-8	--	0.20 U	1.0 UJ	4.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	2.0 UJ	2.0 UJ	0.20 U
1,2-Dibromoethane	106-93-4	--	0.10 U	0.50 UJ	2.0 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	1.0 UJ	1.0 UJ	0.10 U
1,2-Dichlorobenzene	95-50-1	3	0.10 U	0.50 UJ	2.0 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	1.0 UJ	1.0 UJ	0.10 U
1,2-Dichloroethane	107-06-2	0.6	0.10 U	0.50 UJ	2.0 U	0.10 U	0.10 U	0.10 U	0.10 U	**0.80**	1.0 UJ	1.0 UJ	0.10 U
1,2-Dichloroethene, cis-	156-59-2	5	0.10 U	0.50 UJ	**3.9 J**	**2.0**	**0.10 J**	**0.20 J**	**2.8**	0.10 U	1.0 UJ	1.0 UJ	0.10 U
1,2-Dichloroethene, trans-	156-60-5	5	0.10 U	0.50 UJ	2.0 U	**0.20 J**	0.10 U	0.10 U	**0.80**	0.10 U	1.0 UJ	1.0 UJ	0.10 U
1,2-Dichloropropane	78-87-5	1	**0.20 J**	0.50 UJ	2.0 U	**0.40 J**	0.10 U	0.10 U	0.10 U	**0.20 J**	1.0 UJ	1.0 UJ	0.10 U
1,3-Dichlorobenzene	541-73-1	3	0.10 U	0.50 UJ	2.0 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	1.0 UJ	1.0 UJ	0.10 U
1,3-Dichloropropene, cis-	10061-01-5	0.4	0.10 U	0.50 UJ	2.0 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	1.0 UJ	1.0 UJ	0.10 U
1,3-Dichloropropene, trans-	10061-02-6	0.4	0.10 U	0.50 UJ	2.0 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	1.0 UJ	1.0 UJ	0.10 U
1,4-Dichlorobenzene	106-46-7	3	0.10 U	0.50 UJ	2.0 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	1.0 UJ	1.0 UJ	0.10 U
2-Butanone	78-93-3	50	1.0 U	5.0 UJ	**39 J**	**6.4**	1.0 U	1.0 U	1.0 U	1.0 U	10 UJ	10 UJ	1.0 U
2-Hexanone	591-78-6	50	1.0 U	5.0 UJ	20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 UJ	10 UJ	1.0 U
4-Methyl-2-pentanone (MIBK)	108-10-1	50 **	1.0 U	**500 J**	**12,000**	**3,800**	1.0 U	1.0 U	1.0 U	1.0 U	10 UJ	**420 J**	1.0 U
Acetone	67-64-1	50	3.0 U	15 UJ	**2,000**	**310**	3.0 U	3.0 U	3.0 U	3.0 U	30 UJ	30 UJ	3.0 U
Benzene	71-43-2	1	0.10 U	0.50 UJ	2.0 U	**2.7**	0.10 U	0.10 U	0.10 U	0.10 U	1.0 UJ	1.0 UJ	0.10 U
Bromochloromethane	74-97-5	--	0.10 U	0.50 UJ	2.0 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	1.0 UJ	1.0 UJ	0.10 U
Bromodichloromethane	75-27-4	50	0.10 U	0.50 UJ	2.0 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	1.0 UJ	1.0 UJ	0.10 U
Bromoform	75-25-2	50	0.10 U	0.50 UJ	2.0 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	1.0 UJ	1.0 UJ	0.10 U
Bromomethane	74-83-9	5	0.10 U	0.50 UJ	2.0 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	1.0 UJ	1.0 UJ	0.10 U
Carbon Disulfide	75-15-0	60	0.40 U	**110 J**	**29**	**5.4**	0.40 U	0.40 U	0.40 U	0.40 U	**11 J**	**40 J**	0.40 U
Carbon tetrachloride	56-23-5	5	0.10 U	0.50 UJ	2.0 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	1.0 UJ	1.0 UJ	0.10 U
Chlorobenzene	108-90-7	5	0.10 U	0.50 UJ	**6.2 J**	**0.90**	0.10 U	0.10 U	0.10 U	0.10 U	1.0 UJ	1.0 UJ	**0.60**
Chloroethane	75-00-3	5	0.10 U	0.50 UJ	2.0 U	0.10 U	0.10 U	0.10 U	**0.30 J**	0.10 U	1.0 UJ	1.0 UJ	0.10 U
Chloroform	67-66-3	7	**1.4**	**29 J**	**16**	**22**	0.10 U	0.10 U	0.10 U	0.10 U	**16 J**	**20 J**	0.10 U
Chloromethane	74-87-3	5	0.20 U	1.0 UJ	4.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	2.0 UJ	2.0 UJ	0.20 U
Cyclohexane	110-82-7	--	0.10 U	0.50 UJ	2.0 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	1.0 UJ	1.0 UJ	0.10 U
Dibromochloromethane	124-48-1	50	0.10 U	0.50 UJ	2.0 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	1.0 UJ	1.0 UJ	0.10 U
Dichlorodifluoromethane	75-71-8	--	0.10 U	0.50 UJ	2.0 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	1.0 UJ	1.0 UJ	0.10 U
Ethylbenzene	100-41-4	5	0.10 U	0.50 UJ	**2.3 J**	**0.40 J**	0.10 U	0.10 U	0.10 U	0.10 U	1.0 UJ	1.0 UJ	0.10 U
Isopropylbenzene	98-82-8	--	0.10 U	0.50 UJ	2.0 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	1.0 UJ	1.0 UJ	0.10 U
Methyl Acetate	79-20-9	--	0.30 U	1.5 UJ	6.0 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	3.0 UJ	3.0 UJ	0.30 U
Methylcyclohexane	108-87-2	--	0.10 U	0.50 UJ	2.0 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	1.0 UJ	1.0 UJ	0.10 U
Methylene chloride	75-09-2	5	0.20 U	5.0 U	39 U	**21**	0.20 U	0.20 U	0.20 U	0.20 U	4.3 U	5.4 U	0.20 U
Styrene	100-42-5	5	0.10 U	0.50 UJ	2.0 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	1.0 UJ	1.0 UJ	0.10 U
tert-Butyl Methyl Ether	1634-04-4	--	0.10 U	0.50 UJ	2.0 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	1.0 UJ	1.0 UJ	0.10 U
Tetrachloroethene	127-18-4	5	0.10 U	0.50 UJ	2.0 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	1.0 UJ	1.0 UJ	0.10 U
Toluene	108-88-3	5	0.10 U	**11 J**	**88**	**8.1**	0.10 U	0.10 U	0.10 U	0.10 U	1.0 UJ	**10 J**	**0.10 J**
Trichloroethene	79-01-6	5	**0.10 J**	0.50 UJ	2.0 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	1.0 UJ	1.0 UJ	0.10 U
Trichlorofluoromethane	75-69-4	--	0.10 U	0.50 UJ	2.0 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	1.0 UJ	1.0 UJ	0.10 U
Vinyl chloride	75-01-4	2	0.10 U	0.50 UJ	2.0 U	0.10 U	0.10 U	0.10 U	**1.2**	0.10 U	1.0 UJ	1.0 UJ	0.10 U
Xylene, m,p-	108-38-3/1	--	0.10 U	**3.1 J**	**9.6 J**	**0.20 J**	0.10 U	0.10 U	0.10 U	0.10 U	1.0 UJ	**2.7 J**	0.10 U
Xylene, o-	95-47-6	--	0.10 U	**0.90 J**	**7.5 J**	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	1.0 UJ	1.0 UJ	0.10 U

Notes:
* - Technical & Operational Guidance Series (TOGS) 1.1.1, New York State Ambient Water Quality Standards and Guidance Values, and Ground Water Effluent Limitations (Class GA). June 1998; modified January 1999; modified April 2000; modified June 2004.
** - There is no TOGS Class GA Standard for MIBK. Per the NYSDEC (2005), the New York State Department of Health (NYSDOH) guidance value for MIBK
Bold indicates the analyte was detected
Shading indicates the result exceeded screening criteria
-- = Not available
AOC = area of concern
N = Detection of TICs
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
UN = The analyte is a Tentatively Identified Compound, and was not detected above the reported sample quantitation limit.
ug/l = micrograms per liter

Table 3-3b
Groundwater Sampling Results for AOC B — Metals
Groundwater Monitoring Results Report, November 2014 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-01	MW-02	MW-03	MW-33	MW-34		PZ-01	PZ-03	PZ-04	PZ-05	PZ-07
Sample ID			MW-01-111214	MW-02-111214	MW03-111714	MW33-111714	DUP-GW-111314	MW-34-111314	PZ01-111714	PZ03-111714	PZ-04-111314	PZ-05-111314	PZ-07-111214
Sample Date			11/12/2014	11/12/2014	11/17/2014	11/17/2014	11/13/2014	11/13/2014	11/17/2014	11/17/2014	11/13/2014	11/13/2014	11/12/2014
Analyte	CAS#	TOGS 1.1.1 GA*											
Metals (ug/l)													
Aluminum	7429-90-5	--	100 U	100 U	**190 J**	100 U	100 U	100 U	100 U	100 U	**318**	**3,110**	**103 J**
Antimony	7440-36-0	3	0.500 U	0.500 U	**6.73**	**4.38**	0.500 U	0.500 U	0.500 U	0.500 U	**1.02**	**1.43**	0.500 U
Arsenic	7440-38-2	25	**3.80**	**9.47**	**265**	**16.1**	**16.3**	**17.0**	**7.00**	**30.7**	**5.42**	**13.3**	**2.40**
Barium	7440-39-3	1,000	**66.2**	**48.7**	**2,110**	**609**	**84.8**	**87.8**	**787**	**48.9**	**140**	**69.4**	**71.5**
Beryllium	7440-41-7	3	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Cadmium	7440-43-9	5	0.500 U	**0.963 J**	**4.59**	0.500 U	**0.825 J**	**0.863 J**	0.500 U	**0.625 J**	**0.600 J**	**5.40**	**1.11**
Calcium	7440-70-2	--	**68,100**	**407,000**	**734,000**	**284,000**	**70,600**	**75,000**	**117,000**	**205,000**	**140,000**	**433,000**	**75,000**
Chromium	7440-47-3	50	2.50 U	**17.5**	**1,440**	**2,880**	2.50 U	2.50 U	2.50 U	2.50 U	**13.1**	**22.3**	2.50 U
Cobalt	7440-48-4	--	10.0 U	10.0 U	**12.5 J**	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U
Copper	7440-50-8	200	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	**30.2**	10.0 U
Iron	7439-89-6	300	**115**	**1,700**	**487**	**88.3 J**	**1,060**	**1,160**	**3,970**	**4,610**	**655**	**23,900**	**2,350**
Lead	7439-92-1	25	**10.6**	**5.23**	**2.90**	0.500 U	0.500 U	0.500 U	0.500 U	**0.652 J**	**2.73**	**38.1**	**4.97**
Magnesium	7439-95-4	35,000	**7,240**	**42,900**	**193,000**	**67,500**	**65,500**	**68,400**	**100,000**	**106,000**	**31,000**	**58,900**	**15,000**
Manganese	7439-96-5	300	**59.9**	**53.6**	**1,890**	**637**	**20.3**	**23.5**	**39.7**	**328**	**34.1**	**283**	**86.2**
Mercury	7439-97-6	0.7	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	**0.200**	**0.158 J**	0.100 U
Nickel	7440-02-0	100	20.0 U	20.0 U	**77.7**	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U
Potassium	7440-09-7	--	**3,810**	**18,700**	**92,400**	**15,000**	**2,640**	**2,830**	**4,250**	**8,880**	**25,700**	**19,100**	**3,820**
Selenium	7782-49-2	10	**0.871 J**	**4.99**	**8.55**	**2.81**	**0.986 J**	**1.22**	**2.26**	**1.25**	**3.60**	**5.40**	**1.05**
Silica	SIL	--	**10,100**	**75,300**	**36,400**	**27,600**	- -	**24,600**	**25,000**	**27,900**	**84,000**	**67,000**	**13,600**
Silicon	7440-21-3	--	**4,700**	**35,200**	**17,000**	**12,900**	- -	**11,500**	**11,700**	**13,000**	**39,300**	**31,300**	**6,370**
Silver	7440-22-4	50	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U
Sodium	7440-23-5	20,000	**67,200**	**1,690,000**	**618,000**	**329,000**	**78,700**	**82,500**	**91,300**	**533,000**	**1,960,000**	**1,270,000**	**103,000**
Thallium	7440-28-0	0.5	**0.158 J**	0.100 U	0.100 U	0.100 U	**0.116 J**	0.100 U	0.100 U	0.100 U	0.100 U	**0.179 J**	**0.120 J**
Vanadium	7440-62-2	--	5.00 U	**14.7**	**58.8**	**10.1**	5.00 U	5.00 U	5.00 U	5.00 U	**15.9**	**11.9**	5.00 U
Zinc	7440-66-6	2,000	**18.3 J**	**42.8**	**111**	10.0 U	10.0 U	10.0 U	**10.1 J**	**12.7 J**	**72.0**	**805**	**114**
Metals, Dissolved (ug/l) **													
Aluminum, Dissolved	7429-90-5_D		100 U	100 U	100 UJ	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Antimony, Dissolved	7440-36-0_D	3	0.500 U	0.500 U	**6.55 J**	**4.13**	0.500 U	0.500 U	0.500 U	0.500 U	**0.912 J**	0.500 U	0.500 U
Arsenic, Dissolved	7440-38-2_D	25	**3.15**	**8.57**	**236 J**	**16.1**	**16.1**	**15.5**	**6.62**	**28.7**	**4.36**	**4.20**	**1.98**
Barium, Dissolved	7440-39-3_D	1,000	**68.4**	**45.3**	**2,160 J**	**557**	**82.7**	**82.1**	**696**	**49.3**	**132**	**44.2**	**72.1**
Beryllium, Dissolved	7440-41-7_D	3	1.00 U	1.00 U	1.00 UJ	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Cadmium, Dissolved	7440-43-9_D	5	0.500 U	**0.875 J**	**3.51 J**	0.500 U	**0.813 J**	**0.875 J**	0.500 U	**0.588 J**	0.500 U	**0.650 J**	0.500 U
Calcium, Dissolved	7440-70-2_D		**69,800**	**376,000**	**752,000 J**	**258,000**	**72,100**	**72,600**	**105,000**	**208,000**	**134,000**	**396,000**	**76,500**
Chromium, Dissolved	7440-47-3_D	50	2.50 U	**15.6**	**1,790 J**	**2,840**	2.50 U	2.50 U	2.50 U	2.50 U	**8.85**	**5.96**	2.50 U
Cobalt, Dissolved	7440-48-4_D		10.0 U	10.0 U	**12.1 J**	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U
Copper, Dissolved	7440-50-8_D	200	10.0 U	10.0 U	10.0 UJ	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U
Iron, Dissolved	7439-89-6_D	300	**94.6 J**	**88.3 J**	50.0 UJ	50.0 U	**1,020**	**1,030**	**2,470**	**4,050**	50.0 U	**56.5 J**	**2,180**
Lead, Dissolved	7439-92-1_D	25	**8.23**	0.500 U	0.500 UJ	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Magnesium, Dissolved	7439-95-4_D	35,000	**7,520**	**39,500**	**197,000 J**	**60,700**	**67,100**	**67,300**	**90,200**	**110,000**	**28,200**	**45,900**	**15,400**
Manganese, Dissolved	7439-96-5_D	300	**62.8**	**42.5**	**1,880 J**	**538**	**20.3**	**19.9**	**34.2**	**323**	**36.8**	**17.0**	**83.7**
Mercury, Dissolved	7439-97-6_D	0.7	0.100 U	0.100 U	0.100 UJ	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U
Nickel, Dissolved	7440-02-0_D	100	20.0 U	20.0 U	**74.4 J**	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U
Potassium, Dissolved	7440-09-7_D		**3,810**	**17,400**	**94,500 J**	**13,800**	**2,620**	**2,660**	**3,790**	**8,110**	**22,100**	**18,300**	**3,880**
Selenium, Dissolved	7782-49-2_D	10	**0.808 J**	**5.18**	**6.88 J**	**2.08**	**1.09**	**1.37**	**2.26**	**1.41**	**3.18**	**3.28**	**0.771 J**
Silver, Dissolved	7440-22-4_D	50	5.00 U	5.00 U	5.00 UJ	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U
Sodium, Dissolved	7440-23-5_D	20,000	**68,200**	**1,480,000**	**603,000 J**	**301,000**	**78,700**	**77,000**	**83,000**	**524,000**	**1,770,000**	**1,280,000**	**106,000**
Thallium, Dissolved	7440-28-0_D	0.5	**0.112 J**	0.100 U	0.100 UJ	0.100 U	**0.106 J**	**0.110 J**	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U
Vanadium, Dissolved	7440-62-2_D		5.00 U	**12.6**	**66.4 J**	**11.6**	5.00 U	5.00 U	5.00 U	5.00 U	**8.40 J**	5.00 U	5.00 U
Zinc, Dissolved	7440-66-6_D	2,000	**18.6 J**	10.0 U	**15.0 J**	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	**31.0**	10.0 U

Notes:
* - Technical & Operational Guidance Series (TOGS) 1.1.1, New York State Ambient Water Quality Standards and Guidance Values, and Ground Water Effluent Limitations (Class GA). June 1998; modified January 1999; modified April 2000; modified June 2004.
** - The TOGS Class GA Standards for total metals were used as screening criteria for dissolved metals
Bold indicates the analyte was detected
Shading indicates the result exceeded screening criteria
- - = Not analyzed
-- = Not available
AOC = area of concern
J = The analyte was positively identified; the associated numerical value is the approximate concentration.
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
UJ = The analyte was below the reported sample quantitation limit. However, the reported value is approximate.
ug/l = micrograms per liter

Table 3-3c
Groundwater Sampling Results for AOC B — General Chemistry
Groundwater Monitoring Results Report, November 2014 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-01	MW-02	MW-03	MW-33	MW-34		PZ-01	PZ-03	PZ-04	PZ-05	PZ-07
Sample ID			MW-01-111214	MW-02-111214	MW03-111714	MW33-111714	DUP-GW-111314	MW-34-111314	PZ01-111714	PZ03-111714	PZ-04-111314	PZ-05-111314	PZ-07-111214
Sample Date			11/12/2014	11/12/2014	11/17/2014	11/17/2014	11/13/2014	11/13/2014	11/17/2014	11/17/2014	11/13/2014	11/13/2014	11/12/2014
Analyte	**CAS#**	**TOGS 1.1.1 GA***											
Wet Chemistry (ug/l)													
Alkalinity	ALK	--	**205,000**	**2,000,000**	**4,130,000 J**	**1,290,000**	- -	**484,000**	**587,000**	**422,000**	**2,060,000**	**1,630,000**	**247,000**
Ammonia	7664-41-7	--	**370**	**7,260**	**137,000**	**18,100**	- -	**346**	**1,140**	**1,320**	**12,600**	**5,560**	**1,560**
Chloride	16887-00-6	250,000	**62,300**	**317,000**	**859,000**	**412,000**	- -	**61,900**	**245,000**	**964,000**	**642,000**	**430,000**	**178,000**
Nitrate	14797-55-8	--	**120 J**	1,250 U	**5,900**	**8,900**	- -	**3,800**	2,500 U	**2,120**	**1,580**	**4,350**	**73.0**
Nitrogen	7727-37-9	--	100 U	**9,500**	**112,000**	**10,500**	- -	100 U	**1,370**	**668**	**5,350**	**2,940**	**763**
Phosphate	14265-44-2	--	**55.9**	40,000 U	9,000 U	5,000 U	- -	25.0 U	25.0 U	**25.6 J**	40,000 U	40,000 U	25.0 U
Phosphorus	7723-14-0	--	100 U	**776**	**505**	100 U	- -	100 U	100 U	**259**	**448**	**388**	100 U
Sulfate	14808-79-8	250,000	**79,500**	**2,070,000**	**24,600**	**38,500**	- -	**122,000**	**20,000**	**510,000**	**1,300,000**	**1,770,000**	**88,800**
Total Dissolved Solids	TDS	--	**432,000**	**5,030,000**	**6,960,000**	**2,060,000**	- -	**752,000**	**1,020,000**	**2,680,000**	**4,560,000**	**4,900,000**	**574,000**
Total Organic Carbon	TOC	--	**4,520**	**36,000**	**1,350,000**	**187,000**	- -	**1,800**	**3,300**	**6,180**	**24,600**	**36,800**	**2,830**

Notes:
* - Technical & Operational Guidance Series (TOGS) 1.1.1, New York State Ambient Water Quality Standards and Guidance Values, and Ground Water Effluent Limitations (Class GA). June 1998; modified January 1999; modified April 2000; modified June 2004.
Bold indicates the analyte was detected
Shading indicates the result exceeded screening criteria
- - = Not analyzed
-- = Not available
AOC = area of concern
J = The analyte was positively identified; the associated numerical value is the approximate concentration.
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
ug/l = micrograms per liter

Table 3-4a
Groundwater Sampling Results for AOC C — Volatile Organic Compounds
Groundwater Monitoring Results Report, November 2014 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-07
Sample ID			MW-07-111414
Sample Date			11/14/2014
Analyte	**CAS#**	**TOGS 1.1.1 GA***	
VOA (ug/l)			
1,1,1-Trichloroethane	71-55-6	5	0.10 U
1,1,2,2-Tetrachloroethane	79-34-5	5	0.10 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	--	0.20 U
1,1,2-Trichloroethane	79-00-5	1	0.10 U
1,1-Dichloroethane	75-34-3	5	0.10 U
1,1-Dichloroethene	75-35-4	5	0.10 U
1,2,3-Trichlorobenzene	87-61-6	--	0.10 U
1,2,4-Trichlorobenzene	120-82-1	5	0.10 U
1,2-Dibromo-3-chloropropane	96-12-8	--	0.20 U
1,2-Dibromoethane	106-93-4	--	0.10 U
1,2-Dichlorobenzene	95-50-1	3	0.10 U
1,2-Dichloroethane	107-06-2	0.6	0.10 U
1,2-Dichloroethene, cis-	156-59-2	5	0.10 U
1,2-Dichloroethene, trans-	156-60-5	5	0.10 U
1,2-Dichloropropane	78-87-5	1	0.10 U
1,3-Dichlorobenzene	541-73-1	3	0.10 U
1,3-Dichloropropene, cis-	10061-01-5	0.4	0.10 U
1,3-Dichloropropene, trans-	10061-02-6	0.4	0.10 U
1,4-Dichlorobenzene	106-46-7	3	0.10 U
2-Butanone	78-93-3	50	1.0 U
2-Hexanone	591-78-6	50	1.0 U
4-Methyl-2-pentanone (MIBK)	108-10-1	50 **	1.0 U
Acetone	67-64-1	50	3.0 U
Benzene	71-43-2	1	0.10 U
Bromochloromethane	74-97-5	--	0.10 U
Bromodichloromethane	75-27-4	50	0.10 U
Bromoform	75-25-2	50	0.10 U
Bromomethane	74-83-9	5	0.10 U
Carbon Disulfide	75-15-0	60	0.40 U
Carbon tetrachloride	56-23-5	5	0.10 U
Chlorobenzene	108-90-7	5	0.10 U
Chloroethane	75-00-3	5	0.10 U
Chloroform	67-66-3	7	0.10 U
Chloromethane	74-87-3	5	0.20 U
Cyclohexane	110-82-7	--	0.10 U
Dibromochloromethane	124-48-1	50	0.10 U
Dichlorodifluoromethane	75-71-8	--	0.10 U
Ethylbenzene	100-41-4	5	0.10 U
Isopropylbenzene	98-82-8	--	0.10 U
Methyl Acetate	79-20-9	--	0.30 U
Methylcyclohexane	108-87-2	--	0.10 U
Methylene chloride	75-09-2	5	0.20 U
Styrene	100-42-5	5	0.10 U
tert-Butyl Methyl Ether	1634-04-4	--	0.10 U
Tetrachloroethene	127-18-4	5	0.10 U
Toluene	108-88-3	5	0.10 U
Trichloroethene	79-01-6	5	0.10 U
Trichlorofluoromethane	75-69-4	--	0.10 U
Vinyl chloride	75-01-4	2	0.10 U
Xylene, m,p-	108-38-3/1	--	0.10 U
Xylene, o-	95-47-6	--	0.10 U

Notes:
* - Technical & Operational Guidance Series (TOGS) 1.1.1, New York State Ambient Water Quality Standards and Guidance Values, and Ground Water Effluent Limitations (Class GA). June 1998; modified January 1999; modified April 2000; modified June 2004.
** - There is no TOGS Class GA Standard for MIBK. Per the NYSDEC (2005), the New York State Department of Health (NYSDOH) guidance value for MIBK
-- = Not available
AOC = area of concern
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
ug/l = micrograms per liter

Table 3-4b
Groundwater Sampling Results for AOC C — Semivolatile Organic Compounds
Groundwater Monitoring Results Report, November 2014 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-07
Sample ID			MW-07-111414
Sample Date			11/14/2014
Analyte	**CAS#**	**TOGS 1.1.1 GA***	
SVOA (ug/l)			
2-Methylnaphthalene	91-57-6	--	0.0284 U
Acenaphthene	83-32-9	20	0.0284 U
Acenaphthylene	208-96-8	--	0.0284 U
Anthracene	120-12-7	50	0.0284 U
Benzo(a)anthracene	56-55-3	0.002	0.0284 U
Benzo(a)pyrene	50-32-8	0.002	0.0284 U
Benzo(b)fluoranthene	205-99-2	0.002	0.0284 U
Benzo(g,h,i)perylene	191-24-2	--	0.0284 U
Benzo(k)fluoranthene	207-08-9	0.002	0.0284 U
Chrysene	218-01-9	0.002	0.0284 U
Dibenzo (a,h) anthracene	53-70-3	--	0.0284 U
Fluoranthene	206-44-0	50	0.0284 U
Fluorene	86-73-7	50	0.0284 U
Indeno (1,2,3-c,d) pyrene	193-39-5	0.002	0.0284 U
Naphthalene	91-20-3	10	0.0284 U
Phenanthrene	85-01-8	50	0.0284 U
Pyrene	129-00-0	50	0.0284 U

Notes:
* - Technical & Operational Guidance Series (TOGS) 1.1.1, New York State Ambient Water Quality Standards and Guidance Values, and Ground Water Effluent Limitations (Class GA). June 1998; modified January 1999; modified April 2000; modified June 2004.
-- = Not available
AOC = area of concern
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
ug/l = micrograms per liter

Table 3-4c
Groundwater Sampling Results for AOC C — Metals
Groundwater Monitoring Results Report, November 2014 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-07
Sample ID			MW-07-111414
Sample Date			11/14/2014
Analyte	**CAS#**	**TOGS 1.1.1 GA***	
Metals (ug/l)			
Aluminum	7429-90-5	--	**238 J**
Antimony	7440-36-0	3	**1.10**
Arsenic	7440-38-2	25	7.34 U
Barium	7440-39-3	1,000	**52.1**
Beryllium	7440-41-7	3	1.00 U
Cadmium	7440-43-9	5	0.500 U
Calcium	7440-70-2	--	**48,200**
Chromium	7440-47-3	50	2.50 U
Cobalt	7440-48-4	--	10.0 U
Copper	7440-50-8	200	10.0 U
Iron	7439-89-6	300	**434 J**
Lead	7439-92-1	25	**1.44**
Magnesium	7439-95-4	35,000	**6,700**
Manganese	7439-96-5	300	5.00 U
Mercury	7439-97-6	0.7	0.100 U
Nickel	7440-02-0	100	20.0 U
Potassium	7440-09-7	--	**3,310 J**
Selenium	7782-49-2	10	**18.4**
Silica	SIL	--	**19,000**
Silicon	7440-21-3	--	**8,880**
Silver	7440-22-4	50	5.00 U
Sodium	7440-23-5	20,000	**304,000**
Thallium	7440-28-0	0.5	**0.271**
Vanadium	7440-62-2	--	**73.7**
Zinc	7440-66-6	2,000	**14.6 J**
Metals, Dissolved (ug/l) **			
Aluminum, Dissolved	7429-90-5_D	--	100 U
Antimony, Dissolved	7440-36-0_D	3	**1.04**
Arsenic, Dissolved	7440-38-2_D	25	6.60 U
Barium, Dissolved	7440-39-3_D	1,000	**51.9**
Beryllium, Dissolved	7440-41-7_D	3	1.00 U
Cadmium, Dissolved	7440-43-9_D	5	0.500 U
Calcium, Dissolved	7440-70-2_D	--	**47,100**
Chromium, Dissolved	7440-47-3_D	50	2.50 U
Cobalt, Dissolved	7440-48-4_D	--	10.0 U
Copper, Dissolved	7440-50-8_D	200	10.0 U
Iron, Dissolved	7439-89-6_D	300	50.0 U
Lead, Dissolved	7439-92-1_D	25	0.500 U
Magnesium, Dissolved	7439-95-4_D	35,000	**6,380**
Manganese, Dissolved	7439-96-5_D	300	5.00 U
Mercury, Dissolved	7439-97-6_D	0.7	0.100 U
Nickel, Dissolved	7440-02-0_D	100	20.0 U
Potassium, Dissolved	7440-09-7_D	--	**3,260 J**
Selenium, Dissolved	7782-49-2_D	10	**18.1**
Silver, Dissolved	7440-22-4_D	50	5.00 U
Sodium, Dissolved	7440-23-5_D	20,000	**307,000**
Thallium, Dissolved	7440-28-0_D	0.5	**0.241**
Vanadium, Dissolved	7440-62-2_D	--	**64.9**
Zinc, Dissolved	7440-66-6_D	2,000	**11.1 J**

Notes:
* - Technical & Operational Guidance Series (TOGS) 1.1.1, New York State Ambient Water Quality Standards and Guidance Values, and Ground Water Effluent Limitations (Class GA). June 1998; modified January 1999; modified April 2000; modified June 2004.
** - The TOGS Class GA Standards for total metals were used as screening criteria for dissolved metals
Bold indicates the analyte was detected
Shading indicates the result exceeded screening criteria
-- = Not available
AOC = area of concern
J = The analyte was positively identified; the associated numerical value is the approximate concentration.
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
ug/l = micrograms per liter

Table 3-4d
Groundwater Sampling Results for AOC C — General Chemistry
Groundwater Monitoring Results Report, November 2014 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-07
Sample ID			MW-07-111414
Sample Date			11/14/2014
Analyte	**CAS#**	**TOGS 1.1.1 GA***	
Wet Chemistry (ug/l)			
Alkalinity	ALK	--	**473,000 J**
Ammonia	7664-41-7	--	**209**
Chloride	16887-00-6	250,000	**270,000**
Nitrate	14797-55-8	--	**2,170**
Nitrogen	7727-37-9	--	100 UJ
Phosphate	14265-44-2	--	**44.7 J**
Phosphorus	7723-14-0	--	253 U
Sulfate	14808-79-8	250,000	**61,300**
Total Dissolved Solids	TDS	--	**1,030,000**
Total Organic Carbon	TOC	--	**4,100**

Notes:
* - Technical & Operational Guidance Series (TOGS) 1.1.1, New York State Ambient Water Quality Standards and Guidance Values, and Ground Water Effluent Limitations (Class GA). June 1998; modified January 1999; modified April 2000; modified June 2004.
Bold indicates the analyte was detected
Shading indicates the result exceeded screening criteria
-- = Not available
AOC = area of concern
J = The analyte was positively identified; the associated numerical value is the approximate concentration.
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
UJ = The analyte was below the reported sample quantitation limit. However, the reported value is approximate.
ug/l = micrograms per liter

Table 3-5a
Groundwater Sampling Results for AOC D — Volatile Organic Compounds
Groundwater Monitoring Results Report, November 2014 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-11I	MW-11S	MW-21	MW-23		MW-24	MW-29	MW-30	MW-31
Sample ID			MW-11I-111214	MW-11S-111214	MW-21-111314	DUP-GW-111214	MW-23-111214	MW-24-111214	MW-29-111314	MW-30-111214	MW-31-111214
Sample Date			11/12/2014	11/12/2014	11/13/2014	11/12/2014	11/12/2014	11/12/2014	11/13/2014	11/12/2014	11/12/2014
Analyte	CAS#	TOGS 1.1.1 GA*									
VOA (ug/l)											
1,1,1-Trichloroethane	71-55-6	5	0.10 U	0.10 U	1.0 UJ	0.50 UJ	0.50 UJ	0.10 U	0.10 U	0.10 U	0.50 UJ
1,1,2,2-Tetrachloroethane	79-34-5	5	0.10 U	0.10 U	1.0 UJ	0.50 UJ	0.50 UJ	0.10 U	0.10 U	0.10 U	0.50 UJ
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	--	0.20 U	0.20 U	2.0 UJ	1.0 UJ	1.0 UJ	0.20 U	0.20 U	0.20 U	1.0 UJ
1,1,2-Trichloroethane	79-00-5	1	0.10 U	0.10 U	1.0 UJ	0.50 UJ	0.50 UJ	0.10 U	0.10 U	0.10 U	0.50 UJ
1,1-Dichloroethane	75-34-3	5	0.10 U	0.10 U	1.0 UJ	0.50 UJ	0.50 UJ	0.10 U	0.10 U	0.10 U	0.50 UJ
1,1-Dichloroethene	75-35-4	5	0.10 U	0.10 U	1.0 UJ	0.50 UJ	0.50 UJ	0.10 U	0.10 U	0.10 U	0.50 UJ
1,2,3-Trichlorobenzene	87-61-6	--	0.10 U	0.10 U	1.0 UJ	0.50 UJ	0.50 UJ	0.10 U	0.10 U	0.10 U	0.50 UJ
1,2,4-Trichlorobenzene	120-82-1	5	0.10 U	0.10 U	1.0 UJ	0.50 UJ	0.50 UJ	0.10 U	0.10 U	0.10 U	0.50 UJ
1,2-Dibromo-3-chloropropane	96-12-8	--	0.20 U	0.20 U	2.0 UJ	1.0 UJ	1.0 UJ	0.20 U	0.20 U	0.20 U	1.0 UJ
1,2-Dibromoethane	106-93-4	--	0.10 U	0.10 U	1.0 UJ	0.50 UJ	0.50 UJ	0.10 U	0.10 U	0.10 U	0.50 UJ
1,2-Dichlorobenzene	95-50-1	3	0.10 U	0.10 U	1.0 UJ	0.50 UJ	0.50 UJ	0.10 U	0.10 U	0.10 U	0.50 UJ
1,2-Dichloroethane	107-06-2	0.6	**0.20 J**	0.10 U	1.0 UJ	0.50 UJ	0.50 UJ	0.10 U	0.10 U	0.10 U	0.50 UJ
1,2-Dichloroethene, cis-	156-59-2	5	0.10 U	0.10 U	1.0 UJ	0.50 UJ	0.50 UJ	0.10 U	0.10 U	0.10 U	0.50 UJ
1,2-Dichloroethene, trans-	156-60-5	5	0.10 U	0.10 U	1.0 UJ	0.50 UJ	0.50 UJ	0.10 U	0.10 U	0.10 U	0.50 UJ
1,2-Dichloropropane	78-87-5	1	0.10 U	0.10 U	1.0 UJ	0.50 UJ	0.50 UJ	0.10 U	0.10 U	0.10 U	0.50 UJ
1,3-Dichlorobenzene	541-73-1	3	0.10 U	0.10 U	1.0 UJ	0.50 UJ	0.50 UJ	0.10 U	0.10 U	0.10 U	0.50 UJ
1,3-Dichloropropene, cis-	10061-01-5	0.4	0.10 U	0.10 U	1.0 UJ	0.50 UJ	0.50 UJ	0.10 U	0.10 U	0.10 U	0.50 UJ
1,3-Dichloropropene, trans-	10061-02-6	0.4	0.10 U	0.10 U	1.0 UJ	0.50 UJ	0.50 UJ	0.10 U	0.10 U	0.10 U	0.50 UJ
1,4-Dichlorobenzene	106-46-7	3	0.10 U	0.10 U	1.0 UJ	0.50 UJ	0.50 UJ	0.10 U	0.10 U	0.10 U	0.50 UJ
2-Butanone	78-93-3	50	1.0 U	1.0 U	10 UJ	5.0 UJ	5.0 UJ	1.0 U	1.0 U	1.0 U	5.0 UJ
2-Hexanone	591-78-6	50	1.0 U	1.0 U	10 UJ	5.0 UJ	5.0 UJ	1.0 U	1.0 U	1.0 U	5.0 UJ
4-Methyl-2-pentanone (MIBK)	108-10-1	50 **	1.0 U	1.0 U	10 UJ	5.0 UJ	5.0 UJ	1.0 U	1.0 U	1.0 U	5.0 UJ
Acetone	67-64-1	50	3.0 U	3.0 U	30 UJ	15 UJ	15 UJ	3.0 U	3.0 U	3.0 U	18 U
Benzene	71-43-2	1	0.10 U	**0.20 J**	1.0 UJ	0.50 UJ	0.50 UJ	0.10 U	0.10 U	0.10 U	0.50 UJ
Bromochloromethane	74-97-5	--	0.10 U	0.10 U	1.0 UJ	0.50 UJ	0.50 UJ	0.10 U	0.10 U	0.10 U	0.50 UJ
Bromodichloromethane	75-27-4	50	0.10 U	0.10 U	1.0 UJ	0.50 UJ	0.50 UJ	0.10 U	0.10 U	0.10 U	0.50 UJ
Bromoform	75-25-2	50	0.10 U	0.10 U	1.0 UJ	0.50 UJ	0.50 UJ	0.10 U	0.10 U	0.10 U	0.50 UJ
Bromomethane	74-83-9	5	0.10 U	0.10 U	1.0 UJ	0.50 UJ	0.50 UJ	0.10 U	0.10 U	0.10 U	0.50 UJ
Carbon Disulfide	75-15-0	60	0.40 U	**0.60 J**	4.0 UJ	**7.0 J**	**7.2 J**	0.40 U	0.40 U	0.40 U	**3.8 J**
Carbon tetrachloride	56-23-5	5	0.10 U	0.10 U	1.0 UJ	0.50 UJ	0.50 UJ	0.10 U	0.10 U	0.10 U	0.50 UJ
Chlorobenzene	108-90-7	5	**8.6**	0.10 U	1.0 UJ	0.50 UJ	0.50 UJ	0.10 U	0.10 U	0.10 U	0.50 UJ
Chloroethane	75-00-3	5	0.10 U	0.10 U	1.0 UJ	0.50 UJ	0.50 UJ	0.10 U	0.10 U	0.10 U	0.50 UJ
Chloroform	67-66-3	7	0.10 U	0.10 U	1.0 UJ	0.50 UJ	0.50 UJ	0.10 U	0.10 U	0.10 U	0.50 UJ
Chloromethane	74-87-3	5	0.20 U	0.20 U	2.0 UJ	1.0 UJ	1.0 UJ	0.20 U	0.20 U	0.20 U	1.0 UJ
Cyclohexane	110-82-7	--	0.10 U	**1.0**	1.0 UJ	0.50 UJ	0.50 UJ	0.10 U	0.10 U	0.10 U	0.50 UJ
Dibromochloromethane	124-48-1	50	0.10 U	0.10 U	1.0 UJ	0.50 UJ	0.50 UJ	0.10 U	0.10 U	0.10 U	0.50 UJ
Dichlorodifluoromethane	75-71-8	--	0.10 U	0.10 U	1.0 UJ	0.50 UJ	0.50 UJ	0.10 U	0.10 U	0.10 U	0.50 UJ
Ethylbenzene	100-41-4	5	0.10 U	**3.2**	1.0 UJ	0.50 UJ	0.50 UJ	0.10 U	0.10 U	0.10 U	0.50 UJ
Isopropylbenzene	98-82-8	--	0.10 U	0.10 U	1.0 UJ	0.50 UJ	0.50 UJ	0.10 U	0.10 U	0.10 U	0.50 UJ
Methyl Acetate	79-20-9	--	0.30 U	0.30 U	3.0 UJ	1.5 UJ	1.5 UJ	0.30 U	0.30 U	0.30 U	1.5 UJ
Methylcyclohexane	108-87-2	--	0.10 U	**0.70**	1.0 UJ	0.50 UJ	0.50 UJ	0.10 U	0.10 U	0.10 U	0.50 UJ
Methylene chloride	75-09-2	5	0.20 U	0.20 U	2.0 UJ	1.0 UJ	1.0 UJ	0.20 U	0.20 U	0.20 U	1.0 UJ
Styrene	100-42-5	5	0.10 U	0.10 U	1.0 UJ	0.50 UJ	0.50 UJ	0.10 U	0.10 U	0.10 U	0.50 UJ
tert-Butyl Methyl Ether	1634-04-4	--	0.10 U	0.10 U	1.0 UJ	0.50 UJ	0.50 UJ	0.10 U	0.10 U	0.10 U	0.50 UJ
Tetrachloroethene	127-18-4	5	0.10 U	0.10 U	1.0 UJ	0.50 UJ	0.50 UJ	0.10 U	0.10 U	0.10 U	0.50 UJ
Toluene	108-88-3	5	**0.20 J**	**0.10 J**	1.0 UJ	0.50 UJ	0.50 UJ	0.10 U	0.10 U	0.10 U	0.50 UJ
Trichloroethene	79-01-6	5	0.10 U	0.10 U	1.0 UJ	0.50 UJ	0.50 UJ	0.10 U	0.10 U	0.10 U	0.50 UJ
Trichlorofluoromethane	75-69-4	--	0.10 U	0.10 U	1.0 UJ	0.50 UJ	0.50 UJ	0.10 U	0.10 U	0.10 U	0.50 UJ
Vinyl chloride	75-01-4	2	0.10 U	0.10 U	1.0 UJ	0.50 UJ	0.50 UJ	0.10 U	0.10 U	0.10 U	0.50 UJ
Xylene, m,p-	108-38-3/1	--	0.10 U	**3.7**	1.0 UJ	**0.70 J**	**0.70 J**	0.10 U	0.10 U	0.10 U	0.50 UJ

Table 3-5a
Groundwater Sampling Results for AOC D — Volatile Organic Compounds
Groundwater Monitoring Results Report, November 2014 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-11I	MW-11S	MW-21	MW-23		MW-24	MW-29	MW-30	MW-31
Sample ID			MW-11I-111214	MW-11S-111214	MW-21-111314	DUP-GW-111214	MW-23-111214	MW-24-111214	MW-29-111314	MW-30-111214	MW-31-111214
Sample Date			11/12/2014	11/12/2014	11/13/2014	11/12/2014	11/12/2014	11/12/2014	11/13/2014	11/12/2014	11/12/2014
Analyte	**CAS#**	**TOGS 1.1.1 GA***									
VOA (ug/l)											
Xylene, o-	95-47-6	--	0.10 U	**0.20 J**	1.0 UJ	0.50 UJ	0.50 UJ	0.10 U	0.10 U	0.10 U	0.50 UJ

Notes:
* - Technical & Operational Guidance Series (TOGS) 1.1.1, New York State Ambient Water Quality Standards and Guidance Values, and Ground Water Effluent Limitations (Class GA). June 1998; modified January 1999; modified April 2000; modified June 2004.
** - There is no TOGS Class GA Standard for MIBK. Per the NYSDEC (2005), the New York State Department of Health (NYSDOH) guidance value for MIBK
Bold indicates the analyte was detected
Shading indicates the result exceeded screening criteria
-- = Not available
AOC = area of concern
J = The analyte was positively identified; the associated numerical value is the approximate concentration.
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
UN = The analyte is a Tentatively Identified Compound, and was not detected above the reported sample quantitation limit.
ug/l = micrograms per liter

Table 3-5b
Groundwater Sampling Results for AOC D — Metals
Groundwater Monitoring Results Report, November 2014 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-11I	MW-11S	MW-21	MW-23		MW-24	MW-29	MW-30	MW-31
Sample ID			MW-11I-111214	MW-11S-111214	MW-21-111314	DUP-GW-111214	MW-23-111214	MW-24-111214	MW-29-111314	MW-30-111214	MW-31-111214
Sample Date			11/12/2014	11/12/2014	11/13/2014	11/12/2014	11/12/2014	11/12/2014	11/13/2014	11/12/2014	11/12/2014
Analyte	CAS#	TOGS 1.1.1 GA*									
Metals (ug/l)											
Aluminum	7429-90-5	--	100 U	100 U	**748**	**174 J**	100 U	**274**	100 U	**110 J**	**597**
Antimony	7440-36-0	3	0.500 U	0.500 U	**51.8**	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	**0.784 J**
Arsenic	7440-38-2	25	**2.68**	**949**	**6,080**	**58.4**	**55.4**	**7.52**	**0.843 J**	**9.05**	**7.87**
Barium	7440-39-3	1,000	**33.6**	**52.0**	**160**	**74.0**	**75.9**	**88.6**	**69.3**	**40.2**	**206**
Beryllium	7440-41-7	3	1.00 U	1.00 U	**1.44 J**	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Cadmium	7440-43-9	5	0.500 U	**1.74**	**2.53**	0.500 U	0.500 U	**1.13**	**0.563 J**	0.500 U	**19.0**
Calcium	7440-70-2	--	**61,500**	**3,070**	**2,840**	**132,000**	**133,000**	**212,000**	**179,000**	**63,100**	**9,420**
Chromium	7440-47-3	50	2.50 U	2.50 U	**122**	**60.4**	**56.9**	**2.70 J**	2.50 U	**5.95**	**619**
Cobalt	7440-48-4	--	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U
Copper	7440-50-8	200	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	**20.9**
Iron	7439-89-6	300	**451**	**172**	**320**	**247**	**227**	**12,400**	**536**	**813**	**1,810**
Lead	7439-92-1	25	**0.503 J**	**1.23**	**0.611 J**	**0.999 J**	**1.04**	**1.87**	0.500 U	0.500 U	**14.2**
Magnesium	7439-95-4	35,000	**15,200**	**2,750**	**1,910**	**13,500**	**13,700**	**97,200**	**37,000**	**12,500**	**6,450**
Manganese	7439-96-5	300	**80.5**	**13.8**	**6.23 J**	**36.2**	**37.5**	**308**	**201**	**59.7**	**26.1**
Mercury	7439-97-6	0.7	0.100 U	0.100 U	**0.224**	**0.266**	**0.251**	0.100 U	0.100 U	0.100 U	**0.265**
Nickel	7440-02-0	100	20.0 U	20.0 U	**175**	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	**24.1 J**
Potassium	7440-09-7	--	**2,960**	**1,640**	**3,820**	**12,500**	**12,700**	**6,690**	**12,200**	**7,210**	**11,700**
Selenium	7782-49-2	10	**10.6**	**3.24**	**11.5**	**6.04 J**	**7.59 J**	**3.23**	**2.44**	**2.01**	**6.52**
Silica	SIL	--	**3,630**	**9,930**	**13,800**	- -	**43,100**	**32,700**	**20,300**	**22,700**	**35,700**
Silicon	7440-21-3	--	**1,700**	**4,640**	**6,460**	- -	**20,200**	**15,300**	**9,470**	**10,600**	**16,700**
Silver	7440-22-4	50	5.00 U	5.00 U	**9.33 J**	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	**8.16 J**
Sodium	7440-23-5	20,000	**373,000**	**884,000**	**6,940,000**	**2,010,000**	**1,970,000**	**730,000**	**598,000**	**525,000**	**2,280,000**
Thallium	7440-28-0	0.5	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U
Vanadium	7440-62-2	--	5.00 U	5.00 U	**393**	**66.9**	**68.3**	5.00 U	5.00 U	**9.89 J**	**205**
Zinc	7440-66-6	2,000	**62.1**	10.0 U	**31.2 J**	20.0 U	**28.7 J**	**15.2 J**	10.0 U	20.0 U	**166**
Metals, Dissolved (ug/l) **											
Aluminum, Dissolved	7429-90-5_D	--	100 U	100 U	**739**	100 U	100 U	100 U	100 U	100 U	**237**
Antimony, Dissolved	7440-36-0_D	3	0.500 U	0.500 U	**59.4**	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	**0.667 J**
Arsenic, Dissolved	7440-38-2_D	25	**2.31**	**967**	**6,720**	**55.3**	**54.9**	**8.97**	5.00 U	**5.73**	**7.86**
Barium, Dissolved	7440-39-3_D	1,000	**32.4**	**47.9**	**172**	**68.4**	**69.4**	**47.0**	**74.1**	**38.6**	**187**
Beryllium, Dissolved	7440-41-7_D	3	1.00 U	1.00 U	**1.36 J**	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Cadmium, Dissolved	7440-43-9_D	5	0.500 U	**1.96**	**2.45**	0.500 U	0.500 U	**0.875 J**	0.500 U	0.500 U	0.500 U
Calcium, Dissolved	7440-70-2_D	--	**59,700**	**2,750**	**2,540**	**128,000**	**127,000**	**210,000**	**190,000**	**62,300**	**3,450**
Chromium, Dissolved	7440-47-3_D	50	2.50 U	2.50 U	**117**	**40.7**	**46.3**	2.50 U	2.50 U	**5.24**	**558**
Cobalt, Dissolved	7440-48-4_D	--	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U
Copper, Dissolved	7440-50-8_D	200	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U
Iron, Dissolved	7439-89-6_D	300	**289**	50.0 U	**230**	**80.0 J**	**94.5 J**	**11,800**	**500**	**192**	**510**
Lead, Dissolved	7439-92-1_D	25	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	**1.79**
Magnesium, Dissolved	7439-95-4_D	35,000	**14,600**	**2,500**	**1,970**	**13,000**	**12,900**	**104,000**	**39,400**	**12,000**	**6,010**
Manganese, Dissolved	7439-96-5_D	300	**76.4**	**10.9**	**5.26 J**	**33.0**	**34.7**	**225**	**215 J**	**55.3**	**9.40 J**
Mercury, Dissolved	7439-97-6_D	0.7	0.100 U	0.100 U	**0.232**	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U
Nickel, Dissolved	7440-02-0_D	100	20.0 U	20.0 U	**159**	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	**22.4 J**
Potassium, Dissolved	7440-09-7_D	--	**2,900**	**1,550**	**3,380**	**12,300**	**12,200**	**6,190**	**13,000**	**7,130**	**11,800**
Selenium, Dissolved	7782-49-2_D	10	**2.21**	**3.64**	**14.7**	**6.01 J**	**9.67 J**	**3.78 J**	**11.2**	**2.11**	**5.97**
Silver, Dissolved	7440-22-4_D	50	5.00 U	5.00 U	**8.68 J**	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	**6.80 J**
Sodium, Dissolved	7440-23-5_D	20,000	**364,000**	**876,000**	**6,380,000**	**1,930,000**	**1,900,000**	**827,000**	**674,000**	**563,000**	**2,440,000**
Thallium, Dissolved	7440-28-0_D	0.5	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U
Vanadium, Dissolved	7440-62-2_D	--	5.00 U	5.00 U	**353**	**50.7**	**58.1**	5.00 U	5.00 U	**6.19 J**	**183**
Zinc, Dissolved	7440-66-6_D	2,000	**30.9**	10.0 U	**37.3 J**	20.0 U	20.0 U	10.0 U	10.0 U	10.0 U	**38.8 J**

Table 3-5b
Groundwater Sampling Results for AOC D — Metals
Groundwater Monitoring Results Report, November 2014 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-11I	MW-11S	MW-21	MW-23		MW-24	MW-29	MW-30	MW-31
Sample ID			MW-11I-111214	MW-11S-111214	MW-21-111314	DUP-GW-111214	MW-23-111214	MW-24-111214	MW-29-111314	MW-30-111214	MW-31-111214
Sample Date			11/12/2014	11/12/2014	11/13/2014	11/12/2014	11/12/2014	11/12/2014	11/13/2014	11/12/2014	11/12/2014
Analyte	**CAS#**	**TOGS 1.1.1 GA***									

Notes:
* - Technical & Operational Guidance Series (TOGS) 1.1.1, New York State Ambient Water Quality Standards and Guidance Values, and Ground Water Effluent Limitations (Class GA). June 1998; modified January 1999; modified April 2000; modified June 2004.
** - The TOGS Class GA Standards for total metals were used as screening criteria for dissolved metals
Bold indicates the analyte was detected
Shading indicates the result exceeded screening criteria
-- = Not available
AOC = area of concern
J = The analyte was positively identified; the associated numerical value is the approximate concentration.
UJ = The analyte was below the reported sample quantitation limit. However, the reported value is approximate.
ug/l = micrograms per liter

Table 3-5c
Groundwater Sampling Results for AOC D — General Chemistry
Groundwater Monitoring Results Report, November 2014 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-11I	MW-11S	MW-21	MW-23		MW-24	MW-29	MW-30	MW-31
Sample ID			MW-11I-111214	MW-11S-111214	MW-21-111314	DUP-GW-111214	MW-23-111214	MW-24-111214	MW-29-111314	MW-30-111214	MW-31-111214
Sample Date			11/12/2014	11/12/2014	11/13/2014	11/12/2014	11/12/2014	11/12/2014	11/13/2014	11/12/2014	11/12/2014
Analyte	**CAS#**	**TOGS 1.1.1 GA***									
Wet Chemistry (ug/l)											
Alkalinity	ALK	--	**168,000**	**398,000**	**15,100,000**	- -	**1,770,000**	**1,350,000**	**394,000**	**679,000**	**3,390,000**
Ammonia	7664-41-7	--	**482**	**649**	**13,600**	- -	**5,690**	**1,660**	**480**	**1,090**	**3,380**
Chloride	16887-00-6	250,000	**175,000**	**1,090,000**	**356,000**	- -	**376,000**	**440,000**	**945,000**	**341,000**	**1,920,000**
Nitrate	14797-55-8	--	**620**	**188 J**	**6,700**	- -	**775 J**	**2,280**	**114**	5,000 U	**2,000 J**
Nitrogen	7727-37-9	--	100 U	100 U	**11,000**	- -	**3,610**	**1,610**	100 U	**376**	**2,310**
Phosphate	14265-44-2	--	**76.7**	**385**	**17,300**	- -	**2,610**	25.0 U	**97.5**	**467**	**3,670**
Phosphorus	7723-14-0	--	100 U	**213**	**7,670**	- -	**1,500**	**537**	100 U	**1,270**	**1,810**
Sulfate	14808-79-8	250,000	**822,000**	**265,000**	**1,130,000**	- -	**2,240,000**	**905,000**	**450,000**	**342,000**	**218,000**
Total Dissolved Solids	TDS	--	**1,460,000**	**2,240,000**	**16,000,000**	- -	**5,240,000**	**3,080,000**	**2,470,000**	**1,710,000**	**5,220,000**
Total Organic Carbon	TOC	--	**3,400**	**1,930**	**458,000**	- -	**39,800**	**12,400**	**9,000**	**19,700**	**149,000**

Notes:
* - Technical & Operational Guidance Series (TOGS) 1.1.1, New York State Ambient Water Quality Standards and Guidance Values, and Ground Water Effluent Limitations (Class GA). June 1998; modified January 1999; modified April 2000; modified June 2004.
Bold indicates the analyte was detected
Shading indicates the result exceeded screening criteria
-- = Not available
AOC = area of concern
J = The analyte was positively identified; the associated numerical value is the approximate concentration.
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
ug/l = micrograms per liter

Table 3-6a
Groundwater Sampling Results for AOC E — Volatile Organic Compounds
Groundwater Monitoring Results Report, November 2014 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-10
Sample ID			MW-10-111414
Sample Date			11/14/2014
Analyte	**CAS#**	**TOGS 1.1.1 GA***	
VOA (ug/l)			
1,1,1-Trichloroethane	71-55-6	5	0.10 U
1,1,2,2-Tetrachloroethane	79-34-5	5	0.10 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	--	0.20 U
1,1,2-Trichloroethane	79-00-5	1	0.10 U
1,1-Dichloroethane	75-34-3	5	0.10 U
1,1-Dichloroethene	75-35-4	5	0.10 U
1,2,3-Trichlorobenzene	87-61-6	--	0.10 U
1,2,4-Trichlorobenzene	120-82-1	5	0.10 U
1,2-Dibromo-3-chloropropane	96-12-8	--	0.20 U
1,2-Dibromoethane	106-93-4	--	0.10 U
1,2-Dichlorobenzene	95-50-1	3	0.10 U
1,2-Dichloroethane	107-06-2	0.6	0.10 U
1,2-Dichloroethene, cis-	156-59-2	5	0.10 U
1,2-Dichloroethene, trans-	156-60-5	5	0.10 U
1,2-Dichloropropane	78-87-5	1	0.10 U
1,3-Dichlorobenzene	541-73-1	3	0.10 U
1,3-Dichloropropene, cis-	10061-01-5	0.4	0.10 U
1,3-Dichloropropene, trans-	10061-02-6	0.4	0.10 U
1,4-Dichlorobenzene	106-46-7	3	0.10 U
2-Butanone	78-93-3	50	1.0 U
2-Hexanone	591-78-6	50	1.0 U
4-Methyl-2-pentanone (MIBK)	108-10-1	50 **	1.0 U
Acetone	67-64-1	50	3.0 U
Benzene	71-43-2	1	0.10 U
Bromochloromethane	74-97-5	--	0.10 U
Bromodichloromethane	75-27-4	50	0.10 U
Bromoform	75-25-2	50	0.10 U
Bromomethane	74-83-9	5	0.10 U
Carbon Disulfide	75-15-0	60	0.40 U
Carbon tetrachloride	56-23-5	5	0.10 U
Chlorobenzene	108-90-7	5	0.10 U
Chloroethane	75-00-3	5	0.10 U
Chloroform	67-66-3	7	0.10 U
Chloromethane	74-87-3	5	0.20 U
Cyclohexane	110-82-7	--	0.10 U
Dibromochloromethane	124-48-1	50	0.10 U
Dichlorodifluoromethane	75-71-8	--	0.10 U
Ethylbenzene	100-41-4	5	0.10 U
Isopropylbenzene	98-82-8	--	0.10 U
Methyl Acetate	79-20-9	--	0.30 U
Methylcyclohexane	108-87-2	--	0.10 U
Methylene chloride	75-09-2	5	0.20 U
Styrene	100-42-5	5	0.10 U
tert-Butyl Methyl Ether	1634-04-4	--	0.10 U
Tetrachloroethene	127-18-4	5	0.10 U
Toluene	108-88-3	5	0.10 U
Trichloroethene	79-01-6	5	0.10 U
Trichlorofluoromethane	75-69-4	--	0.10 U
Vinyl chloride	75-01-4	2	0.10 U
Xylene, m,p-	108-38-3/1	--	0.10 U
Xylene, o-	95-47-6	--	0.10 U

Notes:
* - Technical & Operational Guidance Series (TOGS) 1.1.1, New York State Ambient Water Quality Standards and Guidance Values, and Ground Water Effluent Limitations (Class GA). June 1998; modified January 1999; modified April 2000; modified June 2004.
** - There is no TOGS Class GA Standard for MIBK. Per the NYSDEC (2005), the New York State Department of Health (NYSDOH) guidance value for MIBK
-- = Not available
AOC = area of concern
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
ug/l = micrograms per liter

Table 3-6b
Groundwater Sampling Results for AOC E — Semivolatile Organic Compounds
Groundwater Monitoring Results Report, November 2014 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-10
Sample ID			MW-10-111414
Sample Date			11/14/2014
Analyte	**CAS#**	**TOGS 1.1.1 GA***	
SVOA (ug/l)			
2-Methylnaphthalene	91-57-6	--	0.0250 U
Acenaphthene	83-32-9	20	0.0250 U
Acenaphthylene	208-96-8	--	0.0250 U
Anthracene	120-12-7	50	0.0250 U
Benzo(a)anthracene	56-55-3	0.002	0.0250 U
Benzo(a)pyrene	50-32-8	0.002	0.0250 U
Benzo(b)fluoranthene	205-99-2	0.002	0.0250 U
Benzo(g,h,i)perylene	191-24-2	--	0.0250 U
Benzo(k)fluoranthene	207-08-9	0.002	0.0250 U
Chrysene	218-01-9	0.002	0.0250 U
Dibenzo (a,h) anthracene	53-70-3	--	0.0250 U
Fluoranthene	206-44-0	50	0.0250 U
Fluorene	86-73-7	50	0.0250 U
Indeno (1,2,3-c,d) pyrene	193-39-5	0.002	0.0250 U
Naphthalene	91-20-3	10	0.0250 U
Phenanthrene	85-01-8	50	0.0250 U
Pyrene	129-00-0	50	0.0250 U

Notes:
* - Technical & Operational Guidance Series (TOGS) 1.1.1, New York State Ambient Water Quality Standards and Guidance Values, and Ground Water Effluent Limitations (Class GA). June 1998; modified January 1999; modified April 2000; modified June 2004.
-- = Not available
AOC = area of concern
UJ = The analyte was below the reported sample quantitation limit. However, the reported value is approximate.
ug/l = micrograms per liter

Table 3-6c
Groundwater Sampling Results for AOC E — Metals
Groundwater Monitoring Results Report, November 2014 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-10
Sample ID			MW-10-111414
Sample Date			11/14/2014
Analyte	**CAS#**	**TOGS 1.1.1 GA***	
Metals (ug/l)			
Aluminum	7429-90-5	--	**123 J**
Antimony	7440-36-0	3	0.500 U
Arsenic	7440-38-2	25	**1.36**
Barium	7440-39-3	1,000	**65.2**
Beryllium	7440-41-7	3	1.00 U
Cadmium	7440-43-9	5	0.500 U
Calcium	7440-70-2	--	**140,000 J**
Chromium	7440-47-3	50	2.50 U
Cobalt	7440-48-4	--	10.0 U
Copper	7440-50-8	200	10.0 U
Iron	7439-89-6	300	**422 J**
Lead	7439-92-1	25	0.500 U
Magnesium	7439-95-4	35,000	**23,000**
Manganese	7439-96-5	300	**13.5 J**
Mercury	7439-97-6	0.7	0.100 U
Nickel	7440-02-0	100	20.0 U
Potassium	7440-09-7	--	**746 J**
Selenium	7782-49-2	10	**7.78**
Silica	SIL	--	**12,900**
Silicon	7440-21-3	--	**6,030**
Silver	7440-22-4	50	5.00 U
Sodium	7440-23-5	20,000	**144,000**
Thallium	7440-28-0	0.5	0.100 U
Vanadium	7440-62-2	--	5.00 U
Zinc	7440-66-6	2,000	10.0 U
**Metals, Dissolved (ug/l) ** **			
Aluminum, Dissolved	7429-90-5_D	--	100 U
Antimony, Dissolved	7440-36-0_D	3	0.500 U
Arsenic, Dissolved	7440-38-2_D	25	**1.10**
Barium, Dissolved	7440-39-3_D	1,000	**65.1**
Beryllium, Dissolved	7440-41-7_D	3	1.00 U
Cadmium, Dissolved	7440-43-9_D	5	0.500 U
Calcium, Dissolved	7440-70-2_D	--	**144,000**
Chromium, Dissolved	7440-47-3_D	50	2.50 U
Cobalt, Dissolved	7440-48-4_D	--	10.0 U
Copper, Dissolved	7440-50-8_D	200	10.0 U
Iron, Dissolved	7439-89-6_D	300	**294 J**
Lead, Dissolved	7439-92-1_D	25	0.500 U
Magnesium, Dissolved	7439-95-4_D	35,000	**21,300**
Manganese, Dissolved	7439-96-5_D	300	**6.28 J**
Mercury, Dissolved	7439-97-6_D	0.7	0.100 U
Nickel, Dissolved	7440-02-0_D	100	20.0 U
Potassium, Dissolved	7440-09-7_D	--	**685 J**
Selenium, Dissolved	7782-49-2_D	10	**8.40**
Silver, Dissolved	7440-22-4_D	50	5.00 U
Sodium, Dissolved	7440-23-5_D	20,000	**144,000**
Thallium, Dissolved	7440-28-0_D	0.5	0.100 U
Vanadium, Dissolved	7440-62-2_D	--	5.00 U
Zinc, Dissolved	7440-66-6_D	2,000	10.0 U

Notes:
* - Technical & Operational Guidance Series (TOGS) 1.1.1, New York State Ambient Water Quality Standards and Guidance Values, and Ground Water Effluent Limitations (Class GA). June 1998; modified January 1999; modified April 2000; modified June 2004.
** - The TOGS Class GA Standards for total metals were used as screening criteria for dissolved metals
Bold indicates the analyte was detected
Shading indicates the result exceeded screening criteria
-- = Not available
AOC = area of concern
J = The analyte was positively identified; the associated numerical value is the approximate concentration.
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
ug/l = micrograms per liter

Table 3-6d
Groundwater Sampling Results for AOC E — General Chemistry
Groundwater Monitoring Results Report, November 2014 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-10
Sample ID			MW-10-111414
Sample Date			11/14/2014
Analyte	**CAS#**	**TOGS 1.1.1 GA***	
Wet Chemistry (ug/l)			
Alkalinity	ALK	--	**311,000**
Ammonia	7664-41-7	--	**430**
Chloride	16887-00-6	250,000	**325,000**
Nitrate	14797-55-8	--	**2,740**
Nitrogen	7727-37-9	--	**409 J**
Phosphate	14265-44-2	--	25.0 U
Phosphorus	7723-14-0	--	100 U
Sulfate	14808-79-8	250,000	**48,400**
Total Dissolved Solids	TDS	--	**904,000**
Total Organic Carbon	TOC	--	**1,870**

Notes:
* - Technical & Operational Guidance Series (TOGS) 1.1.1, New York State Ambient Water Quality Standards and Guidance Values, and Ground Water Effluent Limitations (Class GA). June 1998; modified January 1999; modified April 2000; modified June 2004.
Bold indicates the analyte was detected
Shading indicates the result exceeded screening criteria
-- = Not available
AOC = area of concern
J = The analyte was positively identified; the associated numerical value is the approximate concentration.
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
ug/l = micrograms per liter

Table 3-7a
Groundwater Sampling Results for Sitewide Wells — Volatile Organic Compounds
Groundwater Monitoring Results Report, November 2014 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-05I	MW-09R	MW-19
Sample ID			MW-5I-111114	MW9R-111814	MW19-111814
Sample Date			11/11/2014	11/18/2014	11/18/2014
Analyte	**CAS#**	**TOGS 1.1.1 GA***			
VOA (ug/l)					
1,1,1-Trichloroethane	71-55-6	5	0.10 U	0.10 U	0.10 U
1,1,2,2-Tetrachloroethane	79-34-5	5	0.10 U	0.10 U	0.10 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	--	0.20 U	0.20 U	0.20 U
1,1,2-Trichloroethane	79-00-5	1	0.10 U	0.10 U	0.10 U
1,1-Dichloroethane	75-34-3	5	0.10 U	**0.20 J**	**0.20 J**
1,1-Dichloroethene	75-35-4	5	0.10 U	0.10 U	0.10 U
1,2,3-Trichlorobenzene	87-61-6	--	0.10 U	0.10 UJ	0.10 UJ
1,2,4-Trichlorobenzene	120-82-1	5	0.10 U	0.10 U	0.10 U
1,2-Dibromo-3-chloropropane	96-12-8	--	0.20 U	0.20 U	0.20 U
1,2-Dibromoethane	106-93-4	--	0.10 U	0.10 U	0.10 U
1,2-Dichlorobenzene	95-50-1	3	0.10 U	0.10 U	0.10 U
1,2-Dichloroethane	107-06-2	0.6	0.10 U	0.10 U	0.10 U
1,2-Dichloroethene, cis-	156-59-2	5	0.10 U	**0.70**	**0.80**
1,2-Dichloroethene, trans-	156-60-5	5	0.10 U	0.10 U	0.10 U
1,2-Dichloropropane	78-87-5	1	0.10 U	**0.10 J**	**0.10 J**
1,3-Dichlorobenzene	541-73-1	3	0.10 U	0.10 U	0.10 U
1,3-Dichloropropene, cis-	10061-01-5	0.4	0.10 U	0.10 U	0.10 U
1,3-Dichloropropene, trans-	10061-02-6	0.4	0.10 U	0.10 U	0.10 U
1,4-Dichlorobenzene	106-46-7	3	0.10 U	0.10 U	0.10 U
2-Butanone	78-93-3	50	1.0 U	1.0 U	1.0 U
2-Hexanone	591-78-6	50	1.0 U	1.0 U	1.0 U
4-Methyl-2-pentanone (MIBK)	108-10-1	50 **	1.0 U	1.0 U	1.0 U
Acetone	67-64-1	50	3.0 U	3.0 U	3.0 U
Benzene	71-43-2	1	0.10 U	**0.20 J**	**0.20 J**
Bromochloromethane	74-97-5	--	0.10 U	0.10 U	0.10 U
Bromodichloromethane	75-27-4	50	0.10 U	0.10 U	0.10 U
Bromoform	75-25-2	50	0.10 U	0.10 U	0.10 U
Bromomethane	74-83-9	5	0.10 U	0.10 U	0.10 U
Carbon Disulfide	75-15-0	60	0.40 U	0.40 U	0.40 U
Carbon tetrachloride	56-23-5	5	0.10 U	0.10 U	0.10 U
Chlorobenzene	108-90-7	5	0.10 U	**0.20 J**	**0.30 J**
Chloroethane	75-00-3	5	0.10 U	0.10 U	0.10 U
Chloroform	67-66-3	7	0.10 U	0.10 U	0.10 U
Chloromethane	74-87-3	5	0.20 U	0.20 U	0.20 U
Cyclohexane	110-82-7	--	0.10 U	0.10 U	0.10 U
Dibromochloromethane	124-48-1	50	0.10 U	0.10 U	0.10 U
Dichlorodifluoromethane	75-71-8	--	0.10 U	**0.10 J**	**0.10 J**
Ethylbenzene	100-41-4	5	0.10 U	0.10 U	0.10 U
Isopropylbenzene	98-82-8	--	0.10 U	0.10 U	0.10 U
Methyl Acetate	79-20-9	--	0.30 U	0.30 U	0.30 U
Methylcyclohexane	108-87-2	--	0.10 U	0.10 U	0.10 U
Methylene chloride	75-09-2	5	0.20 U	0.20 U	0.20 U
Styrene	100-42-5	5	0.10 U	0.10 U	0.10 U
tert-Butyl Methyl Ether	1634-04-4	--	0.10 U	0.10 U	0.10 U
Tetrachloroethene	127-18-4	5	0.10 U	0.10 U	0.10 U
Toluene	108-88-3	5	0.10 U	0.10 U	0.10 U
Trichloroethene	79-01-6	5	0.10 U	0.10 U	0.10 U
Trichlorofluoromethane	75-69-4	--	0.10 U	0.10 U	0.10 U
Vinyl chloride	75-01-4	2	0.10 U	0.10 U	0.10 U
Xylene, m,p-	108-38-3/1	--	0.10 U	0.10 U	0.10 U
Xylene, o-	95-47-6	--	0.10 U	0.10 U	0.10 U

Notes:
* - Technical & Operational Guidance Series (TOGS) 1.1.1, New York State Ambient Water Quality Standards and Guidance Values, and Ground Water Effluent Limitations (Class GA). June 1998; modified January 1999; modified April 2000; modified June 2004.
** - There is no TOGS Class GA Standard for MIBK. Per the NYSDEC (2005), the New York State Department of Health (NYSDOH) guidance value for MIBK
Bold indicates the analyte was detected
-- = Not available
J = The analyte was positively identified; the associated numerical value is the approximate concentration.
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
UJ = The analyte was below the reported sample quantitation limit. However, the reported value is approximate.
ug/l = micrograms per liter

Table 3-7b
Groundwater Sampling Results for Sitewide Wells — Semivolatile Organic Compounds
Groundwater Monitoring Results Report, November 2014 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-05I	MW-09R	MW-19
Sample ID			MW-5I-111114	MW9R-111814	MW19-111814
Sample Date			11/11/2014	11/18/2014	11/18/2014
Analyte	**CAS#**	**TOGS 1.1.1 GA***			
SVOA (ug/l)					
2-Methylnaphthalene	91-57-6	--	0.0266 UJ	0.272 U	0.0329 U
Acenaphthene	83-32-9	20	0.0266 UJ	0.272 U	**0.0371 J**
Acenaphthylene	208-96-8	--	0.0266 UJ	0.272 U	0.0329 U
Anthracene	120-12-7	50	0.0266 UJ	0.272 U	0.0329 U
Benzo(a)anthracene	56-55-3	0.002	0.0266 UJ	0.272 U	0.0329 U
Benzo(a)pyrene	50-32-8	0.002	0.0266 UJ	0.272 U	0.0329 U
Benzo(b)fluoranthene	205-99-2	0.002	0.0266 UJ	0.272 U	0.0329 U
Benzo(g,h,i)perylene	191-24-2	--	0.0266 UJ	0.272 U	0.0329 U
Benzo(k)fluoranthene	207-08-9	0.002	0.0266 UJ	0.272 U	0.0329 U
Chrysene	218-01-9	0.002	0.0266 UJ	0.272 U	0.0329 U
Dibenzo (a,h) anthracene	53-70-3	--	0.0266 UJ	0.272 U	0.0329 U
Fluoranthene	206-44-0	50	**0.0428 J**	0.272 U	**0.111**
Fluorene	86-73-7	50	0.0266 UJ	0.272 U	0.0329 U
Indeno (1,2,3-c,d) pyrene	193-39-5	0.002	0.0266 UJ	0.272 U	0.0329 U
Naphthalene	91-20-3	10	0.0266 UJ	0.272 U	**0.0372 J**
Phenanthrene	85-01-8	50	0.0266 UJ	0.272 U	0.0329 U
Pyrene	129-00-0	50	0.0266 UJ	0.272 U	**0.0655 J**

Notes:
* - Technical & Operational Guidance Series (TOGS) 1.1.1, New York State Ambient Water Quality Standards and Guidance Values, and Ground Water Effluent Limitations (Class GA). June 1998; modified January 1999; modified April 2000; modified June 2004.
Bold indicates the analyte was detected
-- = Not available
J = The analyte was positively identified; the associated numerical value is the approximate concentration.
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
UJ = The analyte was below the reported sample quantitation limit. However, the reported value is approximate.
ug/l = micrograms per liter

Table 3-7c
Groundwater Sampling Results for Sitewide Wells — Metals
Groundwater Monitoring Results Report, November 2014 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-05I	MW-09R	MW-19
Sample ID			MW-5I-111114	MW9R-111814	MW19-111814
Sample Date			11/11/2014	11/18/2014	11/18/2014
Analyte	**CAS#**	**TOGS 1.1.1 GA***			
Metals (ug/l)					
Aluminum	7429-90-5	--	**121 J**	100 U	100 U
Antimony	7440-36-0	3	0.500 U	0.500 U	0.500 U
Arsenic	7440-38-2	25	**0.586 J**	**6.53**	**7.31**
Barium	7440-39-3	1,000	**104**	**61.4**	**152**
Beryllium	7440-41-7	3	1.00 U	1.00 U	1.00 U
Cadmium	7440-43-9	5	**1.74**	0.500 U	0.500 U
Calcium	7440-70-2	--	**59,200**	**251,000**	**141,000**
Chromium	7440-47-3	50	2.50 U	**4.30 J**	2.50 U
Cobalt	7440-48-4	--	10.0 U	10.0 U	10.0 U
Copper	7440-50-8	200	10.0 U	10.0 U	10.0 U
Iron	7439-89-6	300	**215**	**2,370**	**2,030**
Lead	7439-92-1	25	**0.548 J**	0.500 U	0.500 U
Magnesium	7439-95-4	35,000	**17,000**	**99,500**	**47,400**
Manganese	7439-96-5	300	**37.6**	**447**	**630**
Mercury	7439-97-6	0.7	0.100 U	0.100 U	0.100 U
Nickel	7440-02-0	100	20.0 U	20.0 U	20.0 U
Potassium	7440-09-7	--	**3,200**	**7,810**	**1,550**
Selenium	7782-49-2	10	**0.841 J**	**4.12**	**3.31**
Silica	SIL	--	**6,250**	**28,100**	**25,100**
Silicon	7440-21-3	--	**2,920**	**13,200**	**11,800**
Silver	7440-22-4	50	5.00 U	5.00 U	5.00 U
Sodium	7440-23-5	20,000	**67,800**	**625,000**	**108,000**
Thallium	7440-28-0	0.5	**0.141 J**	0.100 U	0.100 U
Vanadium	7440-62-2	--	5.00 U	5.00 U	5.00 U
Zinc	7440-66-6	2,000	**14.0 J**	10.0 U	**14.0 J**
**Metals, Dissolved (ug/l) ** **					
Aluminum, Dissolved	7429-90-5_D	--	100 U	100 U	100 U
Antimony, Dissolved	7440-36-0_D	3	0.500 U	0.500 U	0.500 U
Arsenic, Dissolved	7440-38-2_D	25	**0.726 J**	**5.76**	**5.72**
Barium, Dissolved	7440-39-3_D	1,000	**99.3**	**54.9**	**127**
Beryllium, Dissolved	7440-41-7_D	3	1.00 U	1.00 U	1.00 U
Cadmium, Dissolved	7440-43-9_D	5	0.500 U	0.500 U	0.500 U
Calcium, Dissolved	7440-70-2_D	--	**58,800**	**227,000**	**137,000**
Chromium, Dissolved	7440-47-3_D	50	2.50 U	2.50 U	2.50 U
Cobalt, Dissolved	7440-48-4_D	--	10.0 U	10.0 U	10.0 U
Copper, Dissolved	7440-50-8_D	200	10.0 U	10.0 U	10.0 U
Iron, Dissolved	7439-89-6_D	300	**91.5 J**	**2,140**	**2,110**
Lead, Dissolved	7439-92-1_D	25	0.500 U	0.500 U	0.500 U
Magnesium, Dissolved	7439-95-4_D	35,000	**17,500**	**90,700**	**42,700**
Manganese, Dissolved	7439-96-5_D	300	**37.8**	**413**	**684**
Mercury, Dissolved	7439-97-6_D	0.7	0.100 U	0.100 U	0.100 U
Nickel, Dissolved	7440-02-0_D	100	20.0 U	20.0 U	20.0 U
Potassium, Dissolved	7440-09-7_D	--	**3,090**	**7,090**	**1,260**
Selenium, Dissolved	7782-49-2_D	10	**1.00**	**4.33**	**3.35**
Silver, Dissolved	7440-22-4_D	50	5.00 U	5.00 U	5.00 U
Sodium, Dissolved	7440-23-5_D	20,000	**67,600**	**562,000**	**106,000**
Thallium, Dissolved	7440-28-0_D	0.5	**0.145 J**	0.100 U	**0.107 J**
Vanadium, Dissolved	7440-62-2_D	--	5.00 U	5.00 U	5.00 U
Zinc, Dissolved	7440-66-6_D	2,000	10.0 U	10.0 U	10.0 U

Notes:
* - Technical & Operational Guidance Series (TOGS) 1.1.1, New York State Ambient Water Quality Standards and Guidance Values, and Ground Water Effluent Limitations (Class GA). June 1998; modified January 1999; modified April 2000; modified June 2004.
** - The TOGS Class GA Standards for total metals were used as screening criteria for dissolved metals
Bold indicates the analyte was detected
Shading indicates the result exceeded screening criteria
-- = Not available
J = The analyte was positively identified; the associated numerical value is the approximate concentration.
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
ug/l = micrograms per liter

Table 3-7d
Groundwater Sampling Results for Sitewide Wells — General Chemistry
Groundwater Monitoring Results Report, November 2014 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-05I	MW-09R	MW-19
Sample ID			MW-5I-111114	MW9R-111814	MW19-111814
Sample Date			11/11/2014	11/18/2014	11/18/2014
Analyte	**CAS#**	**TOGS 1.1.1 GA***			
Wet Chemistry (ug/l)					
Alkalinity	ALK	--	**163,000**	**732,000 J**	**460,000**
Ammonia	7664-41-7	--	**162**	**2,470**	221 U
Chloride	16887-00-6	250,000	**135,000**	**834,000**	**206,000**
Nitrate	14797-55-8	--	**121**	**4,300**	**98.0**
Nitrogen	7727-37-9	--	100 U	**829**	100 U
Phosphate	14265-44-2	--	**43.1 J**	**1,210**	25.0 U
Phosphorus	7723-14-0	--	**977**	**269**	100 U
Sulfate	14808-79-8	250,000	**40,000**	**607,000**	**47,600**
Total Dissolved Solids	TDS	--	**384,000**	**2,910,000**	**928,000**
Total Organic Carbon	TOC	--	**1,510**	**5,950**	**3,970**

Notes:
* - Technical & Operational Guidance Series (TOGS) 1.1.1, New York State Ambient Water Quality Standards and Guidance Values, and Ground Water Effluent Limitations (Class GA). June 1998; modified January 1999; modified April 2000; modified June 2004.
Bold indicates the analyte was detected
-- = Not available
J = The analyte was positively identified; the associated numerical value is the approximate concentration.
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
ug/l = micrograms per liter

Table 3-8a
Groundwater Sampling Results for Background Wells — Volatile Organic Compounds
Groundwater Monitoring Results Report, November 2014 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-06	MW-20
Sample ID			MW-06-111114	MW-20-111114
Sample Date			11/11/2014	11/11/2014
Analyte	**CAS#**	**TOGS 1.1.1 GA***		
VOA (ug/l)				
1,1,1-Trichloroethane	71-55-6	5	0.10 U	0.10 U
1,1,2,2-Tetrachloroethane	79-34-5	5	0.10 U	0.10 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	--	0.20 U	0.20 U
1,1,2-Trichloroethane	79-00-5	1	0.10 U	0.10 U
1,1-Dichloroethane	75-34-3	5	0.10 U	0.10 U
1,1-Dichloroethene	75-35-4	5	0.10 U	0.10 U
1,2,3-Trichlorobenzene	87-61-6	--	0.10 U	0.10 U
1,2,4-Trichlorobenzene	120-82-1	5	0.10 U	0.10 U
1,2-Dibromo-3-chloropropane	96-12-8	--	0.20 U	0.20 U
1,2-Dibromoethane	106-93-4	--	0.10 U	0.10 U
1,2-Dichlorobenzene	95-50-1	3	0.10 U	0.10 U
1,2-Dichloroethane	107-06-2	0.6	0.10 U	0.10 U
1,2-Dichloroethene, cis-	156-59-2	5	0.10 U	0.10 U
1,2-Dichloroethene, trans-	156-60-5	5	0.10 U	0.10 U
1,2-Dichloropropane	78-87-5	1	0.10 U	0.10 U
1,3-Dichlorobenzene	541-73-1	3	0.10 U	0.10 U
1,3-Dichloropropene, cis-	10061-01-5	0.4	0.10 U	0.10 U
1,3-Dichloropropene, trans-	10061-02-6	0.4	0.10 U	0.10 U
1,4-Dichlorobenzene	106-46-7	3	0.10 U	0.10 U
2-Butanone	78-93-3	50	1.0 U	1.0 U
2-Hexanone	591-78-6	50	1.0 U	1.0 U
4-Methyl-2-pentanone (MIBK)	108-10-1	50 **	1.0 U	1.0 U
Acetone	67-64-1	50	3.0 U	3.0 U
Benzene	71-43-2	1	0.10 U	0.10 U
Bromochloromethane	74-97-5	--	0.10 U	0.10 U
Bromodichloromethane	75-27-4	50	0.10 U	0.10 U
Bromoform	75-25-2	50	0.10 U	0.10 U
Bromomethane	74-83-9	5	0.10 U	0.10 U
Carbon Disulfide	75-15-0	60	0.40 U	0.40 U
Carbon tetrachloride	56-23-5	5	0.10 U	0.10 U
Chlorobenzene	108-90-7	5	0.10 U	0.10 U
Chloroethane	75-00-3	5	0.10 U	0.10 U
Chloroform	67-66-3	7	0.10 U	0.10 U
Chloromethane	74-87-3	5	0.20 U	0.20 U
Cyclohexane	110-82-7	--	0.10 U	0.10 U
Dibromochloromethane	124-48-1	50	0.10 U	0.10 U
Dichlorodifluoromethane	75-71-8	--	0.10 U	0.10 U
Ethylbenzene	100-41-4	5	0.10 U	0.10 U
Isopropylbenzene	98-82-8	--	0.10 U	0.10 U
Methyl Acetate	79-20-9	--	0.30 U	0.30 U
Methylcyclohexane	108-87-2	--	0.10 U	0.10 U
Methylene chloride	75-09-2	5	0.20 U	0.20 U
Styrene	100-42-5	5	0.10 U	0.10 U
tert-Butyl Methyl Ether	1634-04-4	--	0.10 U	0.10 U
Tetrachloroethene	127-18-4	5	0.10 U	0.10 U
Toluene	108-88-3	5	0.10 U	0.10 U
Trichloroethene	79-01-6	5	0.10 U	0.10 U
Trichlorofluoromethane	75-69-4	--	0.10 U	0.10 U
Vinyl chloride	75-01-4	2	0.10 U	0.10 U
Xylene, m,p-	108-38-3/1	--	0.10 U	0.10 U
Xylene, o-	95-47-6	--	0.10 U	0.10 U

Notes:
* - Technical & Operational Guidance Series (TOGS) 1.1.1, New York State Ambient Water Quality Standards and Guidance Values, and Ground Water Effluent Limitations (Class GA). June 1998; modified January 1999; modified April 2000; modified June 2004.
** - There is no TOGS Class GA Standard for MIBK. Per the NYSDEC (2005), the New York State Department of Health (NYSDOH) guidance value for MIBK
-- = Not available
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
ug/l = micrograms per liter

Table 3-8b
Groundwater Sampling Results for Background Wells — Semivolatile Organic Compounds
Groundwater Monitoring Results Report for November 2014 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-06	MW-20
Sample ID			MW-06-111114	MW-20-111114
Sample Date			11/11/2014	11/11/2014
Analyte	**CAS#**	**TOGS 1.1.1 GA***		
SVOA (ug/l)				
2-Methylnaphthalene	91-57-6	--	0.0263 U	0.0250 U
Acenaphthene	83-32-9	20	0.0263 U	0.0250 U
Acenaphthylene	208-96-8	--	0.0263 U	0.0250 U
Anthracene	120-12-7	50	0.0263 U	0.0250 U
Benzo(a)anthracene	56-55-3	0.002	0.0263 U	0.0250 U
Benzo(a)pyrene	50-32-8	0.002	0.0263 U	0.0250 U
Benzo(b)fluoranthene	205-99-2	0.002	0.0263 U	0.0250 U
Benzo(g,h,i)perylene	191-24-2	--	0.0263 U	0.0250 U
Benzo(k)fluoranthene	207-08-9	0.002	0.0263 U	0.0250 U
Chrysene	218-01-9	0.002	0.0263 U	0.0250 U
Dibenzo (a,h) anthracene	53-70-3	--	0.0263 U	0.0250 U
Fluoranthene	206-44-0	50	0.0263 U	0.0250 U
Fluorene	86-73-7	50	0.0263 U	0.0250 U
Indeno (1,2,3-c,d) pyrene	193-39-5	0.002	0.0263 U	0.0250 U
Naphthalene	91-20-3	10	0.0263 U	0.0250 U
Phenanthrene	85-01-8	50	0.0263 U	0.0250 U
Pyrene	129-00-0	50	0.0263 U	0.0250 U

Notes:
* - Technical & Operational Guidance Series (TOGS) 1.1.1, New York State Ambient Water Quality Standards and Guidance Values, and Ground Water Effluent Limitations (Class GA). June 1998; modified January 1999; modified April 2000; modified June 2004.
-- = Not available
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
ug/l = micrograms per liter

Table 3-8c
Groundwater Sampling Results for Background Wells — Metals
Groundwater Monitoring Results Report for November 2014 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-06	MW-20
Sample ID			MW-06-111114	MW-20-111114
Sample Date			11/11/2014	11/11/2014
Analyte	**CAS#**	**TOGS 1.1.1 GA***		
Metals (ug/l)				
Aluminum	7429-90-5	--	100 U	100 U
Antimony	7440-36-0	3	0.500 U	0.500 U
Arsenic	7440-38-2	25	**1.04**	**1.16**
Barium	7440-39-3	1,000	**66.9**	**59.0**
Beryllium	7440-41-7	3	1.00 U	1.00 U
Cadmium	7440-43-9	5	**0.700 J**	**0.700 J**
Calcium	7440-70-2	--	**130,000**	**117,000**
Chromium	7440-47-3	50	2.50 U	2.50 U
Cobalt	7440-48-4	--	10.0 U	10.0 U
Copper	7440-50-8	200	10.0 U	10.0 U
Iron	7439-89-6	300	**633**	**217**
Lead	7439-92-1	25	0.500 U	0.500 U
Magnesium	7439-95-4	35,000	**26,800**	**30,900**
Manganese	7439-96-5	300	**252**	**281**
Mercury	7439-97-6	0.7	0.100 U	0.100 U
Nickel	7440-02-0	100	20.0 U	20.0 U
Potassium	7440-09-7	--	**1,920**	**3,520**
Selenium	7782-49-2	10	**1.16**	**0.631 J**
Silica	SIL	--	**14,600**	**16,500**
Silicon	7440-21-3	--	**6,830**	**7,700**
Silver	7440-22-4	50	5.00 U	5.00 U
Sodium	7440-23-5	20,000	**44,100**	**33,400**
Thallium	7440-28-0	0.5	**0.134 J**	0.100 U
Vanadium	7440-62-2	--	5.00 U	5.00 U
Zinc	7440-66-6	2,000	10.0 U	10.0 U
**Metals, Dissolved (ug/l) ** **				
Aluminum, Dissolved	7429-90-5_D	--	100 U	100 U
Antimony, Dissolved	7440-36-0_D	3	0.500 U	0.500 U
Arsenic, Dissolved	7440-38-2_D	25	**0.961 J**	**0.635 J**
Barium, Dissolved	7440-39-3_D	1,000	**71.9**	**60.6**
Beryllium, Dissolved	7440-41-7_D	3	1.00 U	1.00 U
Cadmium, Dissolved	7440-43-9_D	5	**0.588 J**	**0.713 J**
Calcium, Dissolved	7440-70-2_D	--	**122,000**	**123,000**
Chromium, Dissolved	7440-47-3_D	50	2.50 U	2.50 U
Cobalt, Dissolved	7440-48-4_D	--	10.0 U	10.0 U
Copper, Dissolved	7440-50-8_D	200	10.0 U	10.0 U
Iron, Dissolved	7439-89-6_D	300	**616**	50.0 U
Lead, Dissolved	7439-92-1_D	25	0.500 U	0.500 U
Magnesium, Dissolved	7439-95-4_D	35,000	**26,100**	**33,300**
Manganese, Dissolved	7439-96-5_D	300	**290**	**212**
Mercury, Dissolved	7439-97-6_D	0.7	0.100 U	0.100 U
Nickel, Dissolved	7440-02-0_D	100	20.0 U	20.0 U
Potassium, Dissolved	7440-09-7_D	--	**1,730**	**3,990**
Selenium, Dissolved	7782-49-2_D	10	**0.962 J**	**1.26**
Silver, Dissolved	7440-22-4_D	50	5.00 U	5.00 U
Sodium, Dissolved	7440-23-5_D	20,000	**43,700**	**31,700**
Thallium, Dissolved	7440-28-0_D	0.5	**0.130 J**	0.100 U
Vanadium, Dissolved	7440-62-2_D	--	5.00 U	5.00 U
Zinc, Dissolved	7440-66-6_D	2,000	**110**	10.0 U

Notes:
* - Technical & Operational Guidance Series (TOGS) 1.1.1, New York State Ambient Water Quality Standards and Guidance Values, and Ground Water Effluent Limitations (Class GA). June 1998; modified January 1999; modified April 2000; modified June 2004.
** - The TOGS Class GA Standards for total metals were used as screening criteria for dissolved metals
Bold indicates the analyte was detected
Shading indicates the result exceeded screening criteria
-- = Not available
J = The analyte was positively identified; the associated numerical value is the approximate concentration.
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
ug/l = micrograms per liter

Table 3-8d
Groundwater Sampling Results for Background Wells — General Chemistry
Groundwater Monitoring Results Report for November 2014 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-06	MW-20
Sample ID			MW-06-111114	MW-20-111114
Sample Date			11/11/2014	11/11/2014
Analyte	**CAS#**	**TOGS 1.1.1 GA***		
Wet Chemistry (ug/l)				
Alkalinity	ALK	--	**406,000**	**484,000**
Ammonia	7664-41-7	--	**141**	**78.8 J**
Chloride	16887-00-6	250,000	**84,900**	**11,000**
Nitrate	14797-55-8	--	**52.0**	**109**
Nitrogen	7727-37-9	--	100 U	100 U
Phosphate	14265-44-2	--	25.0 U	25.0 U
Phosphorus	7723-14-0	--	100 U	100 U
Sulfate	14808-79-8	250,000	**32,700 J**	**66,800**
Total Dissolved Solids	TDS	--	**550,000**	**504,000**
Total Organic Carbon	TOC	--	**3,440**	**2,440**

Notes:
* - Technical & Operational Guidance Series (TOGS) 1.1.1, New York State Ambient Water Quality Standards and Guidance Values, and Ground Water Effluent Limitations (Class GA). June 1998; modified January 1999; modified April 2000; modified June 2004.
Bold indicates the analyte was detected
-- = Not available
J = The analyte was positively identified; the associated numerical value is the approximate concentration.
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
ug/l = micrograms per liter

Table 3-9
Summary of QA/QC Water Sample Results
Groundwater Monitoring Results Report, November 2014 Monitoring Event
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Sample ID		EB-GW-111214	EB-GW-111314	EB-GW-111414	TB-111114	TB-111214	TB-111314	TB-111414	TB-111714	TB-111814
Sample Date		11/12/2014	11/13/2014	11/14/2014	11/5/2014	11/5/2014	11/5/2014	11/5/2014	11/17/2014	11/18/2014
Analyte	CAS#									
VOA (ug/l)										
1,1,1-Trichloroethane	71-55-6	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
1,1,2,2-Tetrachloroethane	79-34-5	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,1,2-Trichloroethane	79-00-5	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
1,1-Dichloroethane	75-34-3	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
1,1-Dichloroethene	75-35-4	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
1,2,3-Trichlorobenzene	87-61-6	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
1,2,4-Trichlorobenzene	120-82-1	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
1,2-Dibromo-3-chloropropane	96-12-8	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,2-Dibromoethane	106-93-4	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
1,2-Dichlorobenzene	95-50-1	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
1,2-Dichloroethane	107-06-2	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
1,2-Dichloroethene, cis-	156-59-2	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
1,2-Dichloroethene, trans-	156-60-5	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
1,2-Dichloropropane	78-87-5	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
1,3-Dichlorobenzene	541-73-1	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
1,3-Dichloropropene, cis-	10061-01-5	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
1,3-Dichloropropene, trans-	10061-02-6	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
1,4-Dichlorobenzene	106-46-7	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
2-Butanone	78-93-3	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Hexanone	591-78-6	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Methyl-2-pentanone (MIBK)	108-10-1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acetone	67-64-1	**3.4 J**	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Benzene	71-43-2	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Bromochloromethane	74-97-5	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Bromodichloromethane	75-27-4	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Bromoform	75-25-2	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Bromomethane	74-83-9	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Carbon Disulfide	75-15-0	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U
Carbon tetrachloride	56-23-5	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Chlorobenzene	108-90-7	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Chloroethane	75-00-3	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Chloroform	67-66-3	**0.10 J**	**0.10 J**	**0.10 J**	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Chloromethane	74-87-3	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Cyclohexane	110-82-7	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Dibromochloromethane	124-48-1	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Dichlorodifluoromethane	75-71-8	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Ethylbenzene	100-41-4	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Isopropylbenzene	98-82-8	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Methyl Acetate	79-20-9	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
Methylcyclohexane	108-87-2	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U

Table 3-9
Summary of QA/QC Water Sample Results
Groundwater Monitoring Results Report, November 2014 Monitoring Event
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Sample ID		EB-GW-111214	EB-GW-111314	EB-GW-111414	TB-111114	TB-111214	TB-111314	TB-111414	TB-111714	TB-111814
Sample Date		11/12/2014	11/13/2014	11/14/2014	11/5/2014	11/5/2014	11/5/2014	11/5/2014	11/17/2014	11/18/2014
Analyte	**CAS#**									
Methylene chloride	75-09-2	0.20 U	0.20 U	0.20 U	**0.20 J**	**0.70**	**0.80**	**0.60**	**0.70**	**0.70**
Styrene	100-42-5	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
tert-Butyl Methyl Ether	1634-04-4	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Tetrachloroethene	127-18-4	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Toluene	108-88-3	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Trichloroethene	79-01-6	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Trichlorofluoromethane	75-69-4	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Vinyl chloride	75-01-4	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Xylene, m,p-	108-38-3/1	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Xylene, o-	95-47-6	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
SVOA (ug/l)										
2-Methylnaphthalene	91-57-6	0.0269 U	- -	0.0269 U	- -	- -	- -	- -	- -	- -
Acenaphthene	83-32-9	0.0269 U	- -	0.0269 U	- -	- -	- -	- -	- -	- -
Acenaphthylene	208-96-8	0.0269 U	- -	0.0269 U	- -	- -	- -	- -	- -	- -
Anthracene	120-12-7	0.0269 U	- -	0.0269 U	- -	- -	- -	- -	- -	- -
Benzo(a)anthracene	56-55-3	0.0269 U	- -	0.0269 U	- -	- -	- -	- -	- -	- -
Benzo(a)pyrene	50-32-8	0.0269 U	- -	0.0269 U	- -	- -	- -	- -	- -	- -
Benzo(b)fluoranthene	205-99-2	0.0269 U	- -	0.0269 U	- -	- -	- -	- -	- -	- -
Benzo(g,h,i)perylene	191-24-2	0.0269 U	- -	0.0269 U	- -	- -	- -	- -	- -	- -
Benzo(k)fluoranthene	207-08-9	0.0269 U	- -	0.0269 U	- -	- -	- -	- -	- -	- -
Chrysene	218-01-9	0.0269 U	- -	0.0269 U	- -	- -	- -	- -	- -	- -
Dibenzo (a,h) anthracene	53-70-3	0.0269 U	- -	0.0269 U	- -	- -	- -	- -	- -	- -
Fluoranthene	206-44-0	0.0269 U	- -	0.0269 U	- -	- -	- -	- -	- -	- -
Fluorene	86-73-7	0.0269 U	- -	0.0269 U	- -	- -	- -	- -	- -	- -
Indeno (1,2,3-c,d) pyrene	193-39-5	0.0269 U	- -	0.0269 U	- -	- -	- -	- -	- -	- -
Naphthalene	91-20-3	**0.0555**	- -	0.0269 U	- -	- -	- -	- -	- -	- -
Phenanthrene	85-01-8	0.0269 U	- -	0.0269 U	- -	- -	- -	- -	- -	- -
Pyrene	129-00-0	0.0269 U	- -	0.0269 U	- -	- -	- -	- -	- -	- -
Metals (ug/l)										
Aluminum	7429-90-5	100 U	100 U	100 U	- -	- -	- -	- -	- -	- -
Antimony	7440-36-0	0.500 U	0.500 U	0.500 U	- -	- -	- -	- -	- -	- -
Arsenic	7440-38-2	0.500 U	0.500 U	**10.5**	- -	- -	- -	- -	- -	- -
Barium	7440-39-3	5.00 U	5.00 U	5.00 U	- -	- -	- -	- -	- -	- -
Beryllium	7440-41-7	1.00 U	1.00 U	1.00 U	- -	- -	- -	- -	- -	- -
Cadmium	7440-43-9	0.500 U	0.500 U	0.500 U	- -	- -	- -	- -	- -	- -
Calcium	7440-70-2	**265 J**	250 U	250 U	- -	- -	- -	- -	- -	- -
Chromium	7440-47-3	2.50 U	2.50 U	2.50 U	- -	- -	- -	- -	- -	- -
Cobalt	7440-48-4	10.0 U	10.0 U	10.0 U	- -	- -	- -	- -	- -	- -
Copper	7440-50-8	10.0 U	10.0 U	10.0 U	- -	- -	- -	- -	- -	- -
Iron	7439-89-6	50.0 U	50.0 U	50.0 U	- -	- -	- -	- -	- -	- -
Lead	7439-92-1	0.500 U	0.500 U	0.500 U	- -	- -	- -	- -	- -	- -
Magnesium	7439-95-4	250 U	250 U	250 U	- -	- -	- -	- -	- -	- -

Table 3-9
Summary of QA/QC Water Sample Results
Groundwater Monitoring Results Report, November 2014 Monitoring Event
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Sample ID		EB-GW-111214	EB-GW-111314	EB-GW-111414	TB-111114	TB-111214	TB-111314	TB-111414	TB-111714	TB-111814
Sample Date		11/12/2014	11/13/2014	11/14/2014	11/5/2014	11/5/2014	11/5/2014	11/5/2014	11/17/2014	11/18/2014
Analyte	**CAS#**									
Manganese	7439-96-5	5.00 U	5.00 U	5.00 U	- -	- -	- -	- -	- -	- -
Mercury	7439-97-6	0.100 U	0.100 U	0.100 U	- -	- -	- -	- -	- -	- -
Nickel	7440-02-0	20.0 U	20.0 U	20.0 U	- -	- -	- -	- -	- -	- -
Potassium	7440-09-7	500 U	500 U	500 U	- -	- -	- -	- -	- -	- -
Selenium	7782-49-2	**1.88**	0.500 U	**3.08**	- -	- -	- -	- -	- -	- -
Silver	7440-22-4	5.00 U	5.00 U	5.00 U	- -	- -	- -	- -	- -	- -
Sodium	7440-23-5	**368 J**	**823**	**2210**	- -	- -	- -	- -	- -	- -
Thallium	7440-28-0	0.100 U	0.100 U	**0.140 J**	- -	- -	- -	- -	- -	- -
Vanadium	7440-62-2	5.00 U	5.00 U	5.00 U	- -	- -	- -	- -	- -	- -
Zinc	7440-66-6	10.0 U	10.0 U	10.0 U	- -	- -	- -	- -	- -	- -

Notes:
Bold indicates the analyte was detected
- - = Not analyzed
J = The analyte was positively identified; the associated numerical value is the approximate concentration.
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
ug/l = micrograms per liter

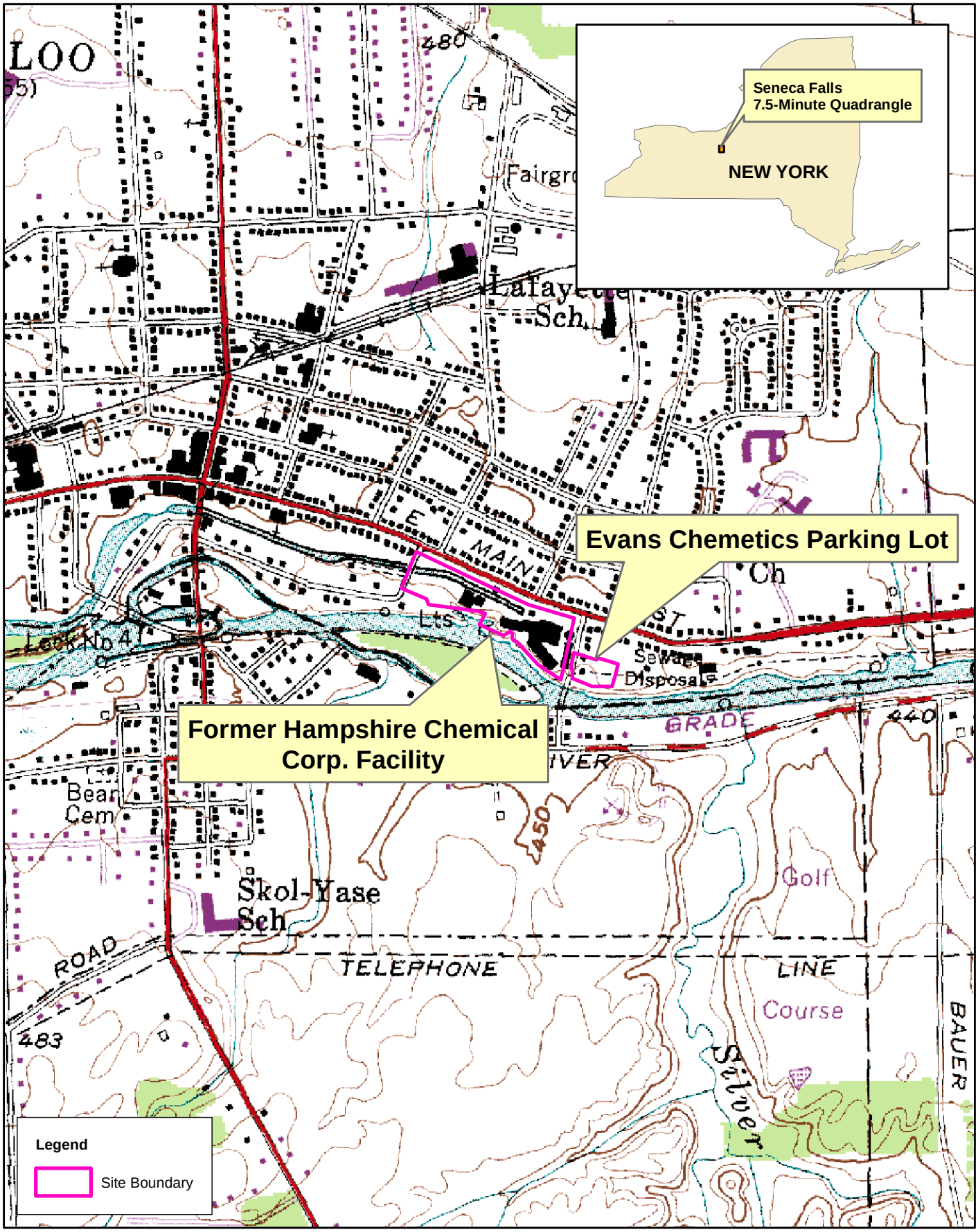
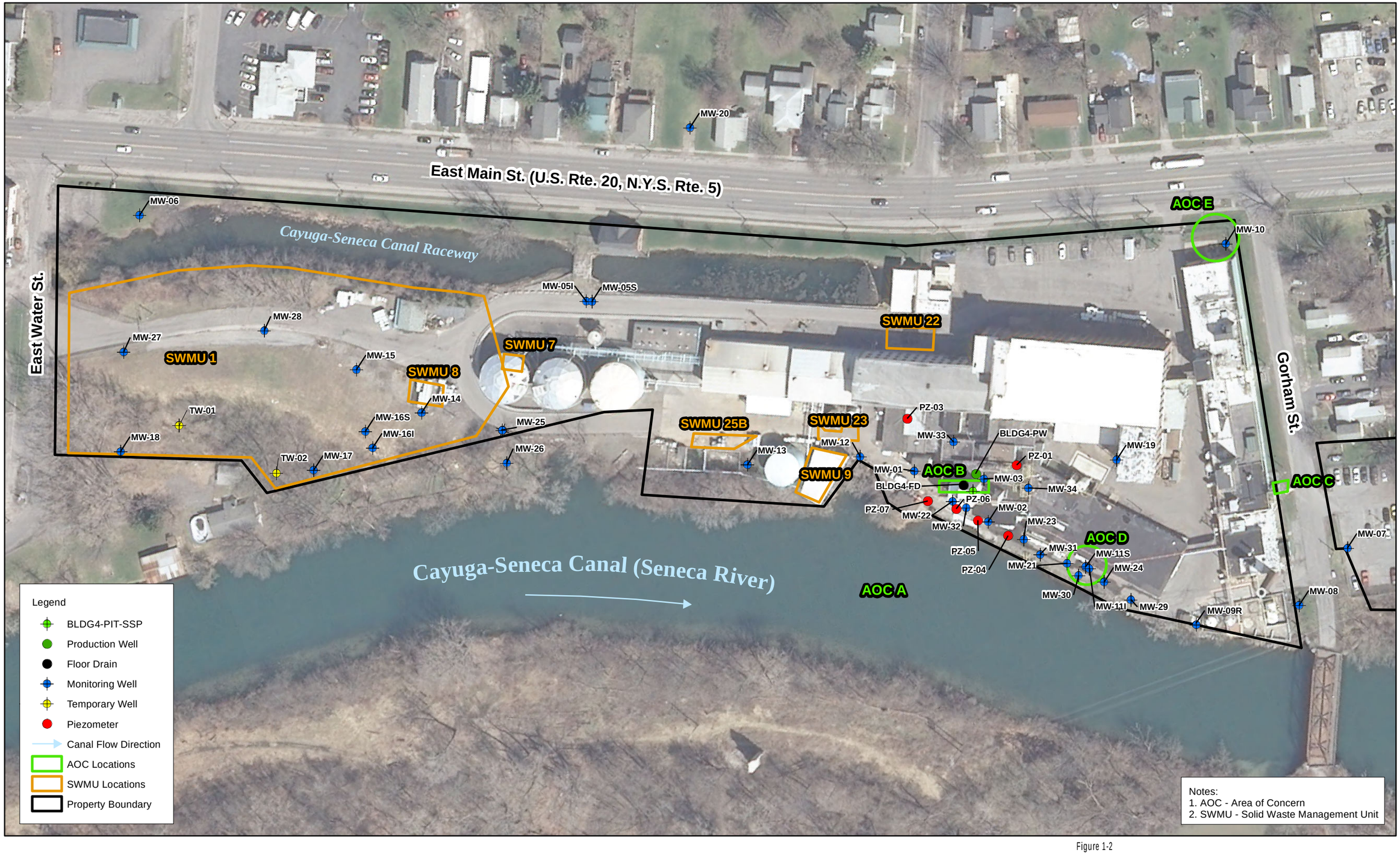


Figure 1-1
Facility Location Map
Groundwater Monitoring Results Report, November 2014 Monitoring Event
Former Hampshire Chemical Corp. Facility
Waterloo, New York



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Feet

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Figure 1-2

Site Layout Map

Groundwater Monitoring Results Report, November 2014 Monitoring Event

Former Hampshire Chemical Corp. Facility

Waterloo, New York

ch2m

\\LAKEFRONT\PROJ\GIS\DOW\WATERLOO\REPORTS\2015\MAPFILES\GWMONITORINGRESULTSREPORT_NOV2014EVENT\FIGURE 1-2 - SITE LAYOUT MAP.MXD JHANSEN1 12/1/2015 4:08:53 PM

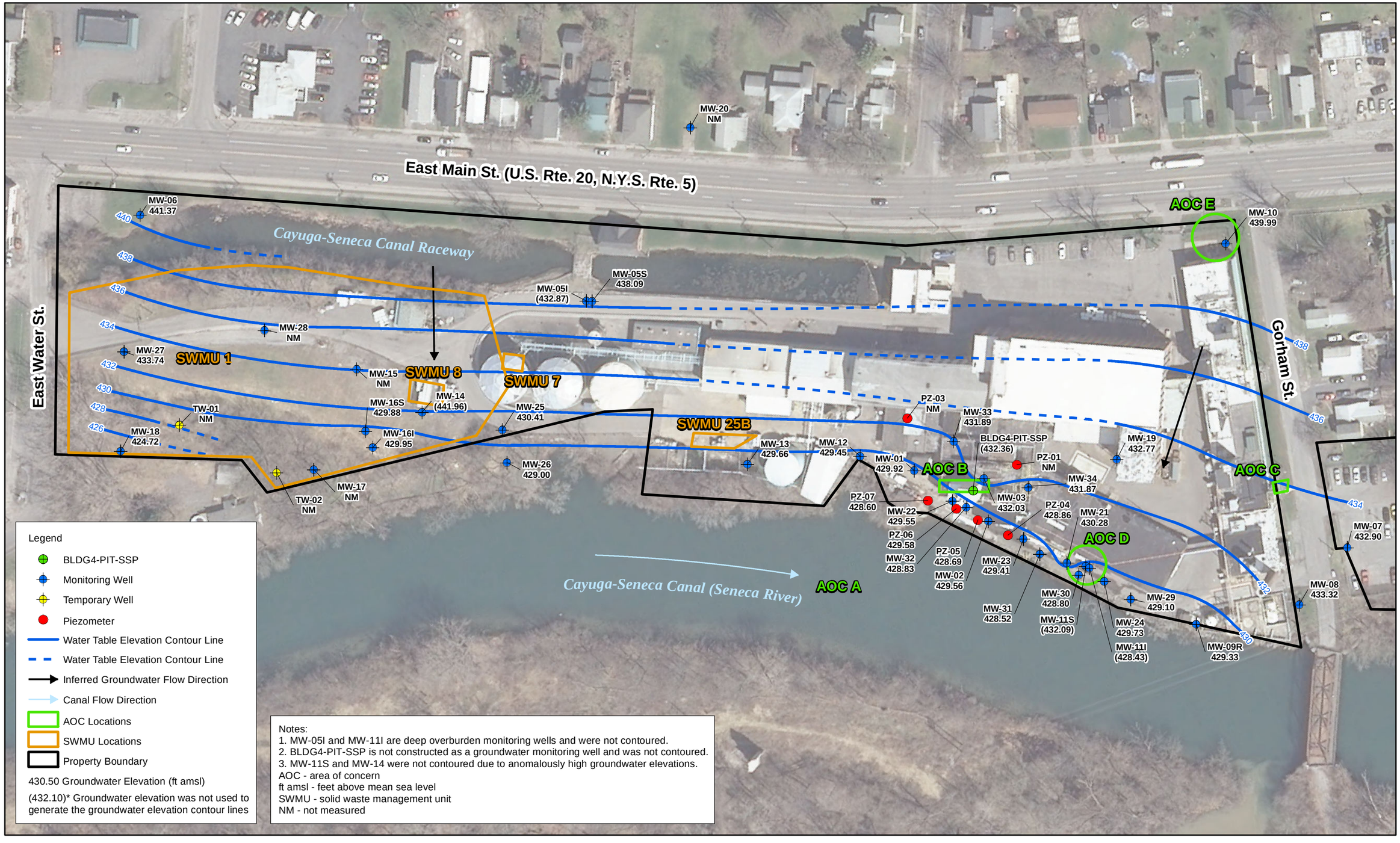
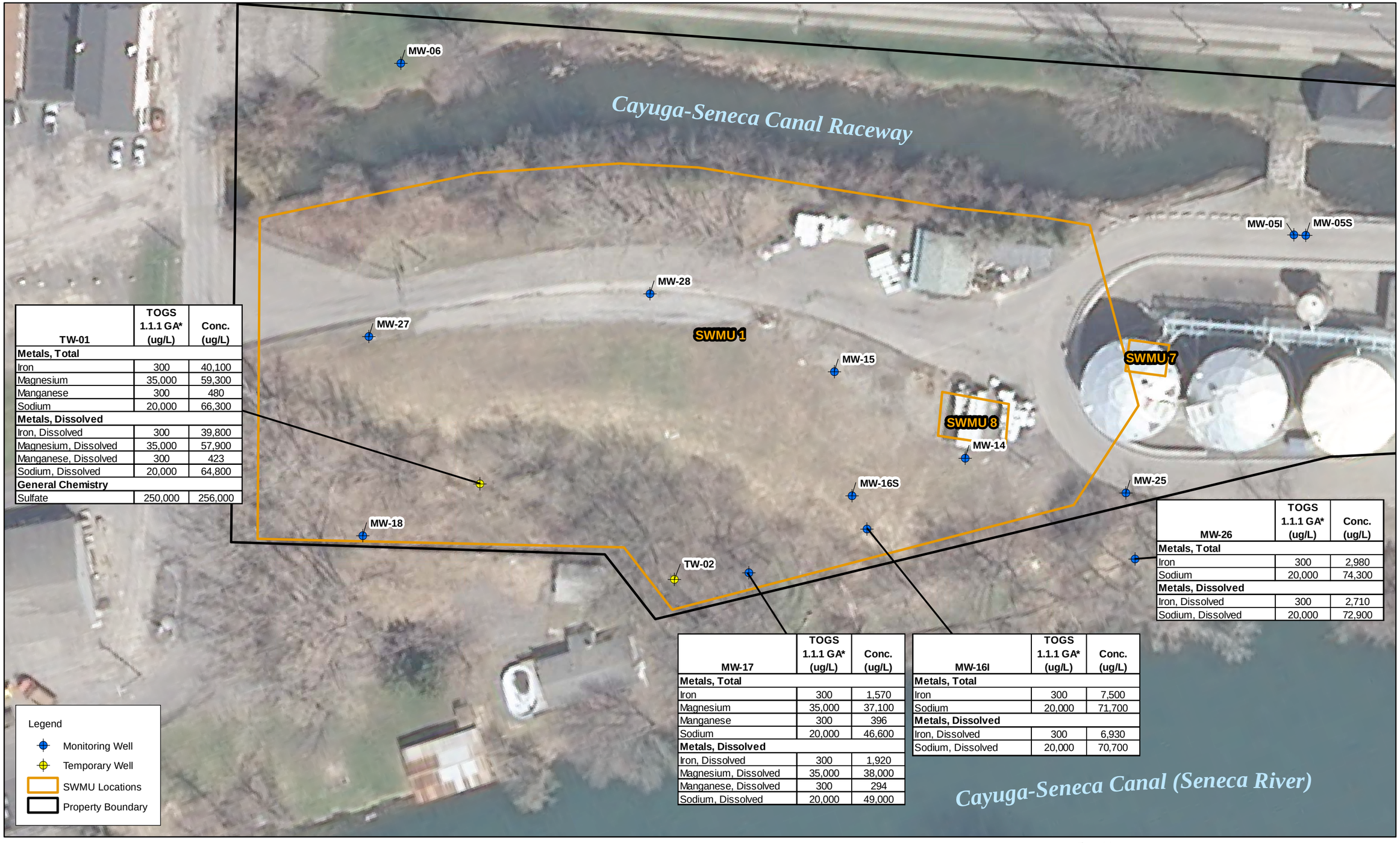


Figure 3-1
Groundwater Elevation Contour Map
Groundwater Monitoring Results Report, November 2014 Monitoring Event
Former Hampshire Chemical Corp. Facility
Waterloo, New York



TW-01	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
Metals, Total		
Iron	300	40,100
Magnesium	35,000	59,300
Manganese	300	480
Sodium	20,000	66,300
Metals, Dissolved		
Iron, Dissolved	300	39,800
Magnesium, Dissolved	35,000	57,900
Manganese, Dissolved	300	423
Sodium, Dissolved	20,000	64,800
General Chemistry		
Sulfate	250,000	256,000

MW-26	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
Metals, Total		
Iron	300	2,980
Sodium	20,000	74,300
Metals, Dissolved		
Iron, Dissolved	300	2,710
Sodium, Dissolved	20,000	72,900

MW-17	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
Metals, Total		
Iron	300	1,570
Magnesium	35,000	37,100
Manganese	300	396
Sodium	20,000	46,600
Metals, Dissolved		
Iron, Dissolved	300	1,920
Magnesium, Dissolved	35,000	38,000
Manganese, Dissolved	300	294
Sodium, Dissolved	20,000	49,000

MW-16I	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
Metals, Total		
Iron	300	7,500
Sodium	20,000	71,700
Metals, Dissolved		
Iron, Dissolved	300	6,930
Sodium, Dissolved	20,000	70,700

0 50 100
Feet

Notes:
1. TOGS 1.1.1 GA – Technical and Operational Guidance Series, New York State Ambient Water
2. Quality Standards and Guidance Values and Groundwater Effluent Limitations, June 2004
3. SWMU - Solid Waste Management Unit
4. ug/L – micrograms per liter
5. J – the constituent compound was estimated
6. NYSDEC TOGS 1.1.1 GA values for total metals were used as screening criteria for dissolved metal concentrations
7. Where field duplicate samples were collected the higher concentration is shown.

Figure 3-2
Groundwater Analytical Exceedances at SWMU 1
Groundwater Monitoring Results Report, November 2014 Monitoring Event
Former Hampshire Chemical Corp. Facility
Waterloo, New York

\\LAKEFRONT\PROJ\GIS\DOW\WATERLOO\REPORTS\2015\MAPFILES\GWMONITORINGRESULTSREPORT_NOV2014EVENT\FIGURE 3-2 - GW ANALYTICAL EXCEEDANCES AT SWMU1.MXD JHANSEN1 9/21/2015 4:00:09 PM

MW-01	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
Metals, Total		
Sodium	20,000	67,200
Metals, Dissolved		
Sodium, Dissolved	20,000	68,200

PZ-03	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
VOCs		
1,2-Dichloroethane	0.60	0.8
Metals, Total		
Arsenic	25	30.7
Iron	300	4,610
Magnesium	35,000	106,000
Manganese	300	328
Sodium	20,000	367,000
Metals, Dissolved		
Arsenic, Dissolved	25	28.7
Iron, Dissolved	300	4,050
Magnesium, Dissolved	35,000	110,000
Manganese, Dissolved	300	323
Sodium, Dissolved	20,000	524,000
General Chemistry		
Chloride	250,000	964,000
Sulfate	250,000	510,000

MW-33	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
VOCs		
4-Methyl-2-pentanone	50	3,800
Acetone	50	310
Benzene	1	2.7
Chloroform	7	22
Methylene chloride	5	21
Toluene	5	8.1
Metals, Total		
Antimony	3	4.38
Chromium	50	2,880
Magnesium	35,000	67,500
Manganese	300	637
Sodium	20,000	329,000
Metals, Dissolved		
Antimony, Dissolved	3	4.13
Chromium, Dissolved	50	2,840
Magnesium, Dissolved	35,000	60,700
Manganese, Dissolved	300	538
Sodium, Dissolved	20,000	301,000
General Chemistry		
Chloride	250,000	412,000

PZ-01	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
Metals, Total		
Iron	300	3,970
Magnesium	35,000	100,000
Sodium	20,000	91,300
Metals, Dissolved		
Iron, Dissolved	300	2,470
Magnesium, Dissolved	35,000	90,200
Sodium, Dissolved	20,000	83,000

MW-03	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)	
VOCs			
4-Methyl-2-pentanone	50	12,000	
Acetone	50	2,000	
Chlorobenzene	5	6.2	J
Chloroform	7	16	J
Toluene	5	11	J
Metals, Total			
Antimony	3	6.73	
Arsenic	25	265	
Barium	1,000	2110	
Chromium	50	1,440	
Iron	300	487	
Magnesium	35,000	193,000	
Manganese	300	1,890	
Sodium	20,000	618,000	
Metals, Dissolved			
Antimony, Dissolved	3	6.55	J
Arsenic, Dissolved	25	236	J
Barium, Dissolved	1,000	2,160	J
Chromium, Dissolved	50	1,790	J
Magnesium, Dissolved	35,000	197,000	J
Manganese, Dissolved	300	1,880	J
Sodium, Dissolved	20,000	603,000	J
General Chemistry			
Chloride	250,000	859,000	

MW-34	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
Metals, Total		
Iron	300	1,160
Magnesium	35,000	68,400
Sodium	20,000	82,500
Metals, Dissolved		
Iron, Dissolved	300	1,030
Magnesium, Dissolved	35,000	67,300
Sodium, Dissolved	20,000	77,000

PZ-04	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
VOCs		
Chloroform	7	16 J
Metals, Total		
Iron	300	655
Sodium	20,000	1,960,000
Metals, Dissolved		
Sodium, Dissolved	20,000	1,770,000
General Chemistry		
Chloride	250,000	642,000
Sulfate	250,000	1,300,000

PZ-07	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
Metals, Total		
Iron	300	2,350
Sodium	20,000	103,000
Metals, Dissolved		
Iron, Dissolved	300	2,180
Sodium, Dissolved	20,000	106,000

PZ-05	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)	
VOCs			
4-Methyl-2-pentanone	50	420	J
Chloroform	7	20	J
Toluene	5	10	J
Metals, Total			
Cadmium	5	5	
Iron	300	23,900	
Lead	25	38	
Magnesium	35,000	58,900	
Sodium	20,000	1,270,000	
Metals, Dissolved			
Magnesium, Dissolved	35,000	45,900	
Sodium, Dissolved	20,000	1,280,000	
General Chemistry			
Chloride	250,000	430,000	
Sulfate	250,000	1,770,000	

MW-02	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)	
VOCs			
4-Methyl-2-pentanone	50	500	J
Carbon Disulfide	60	110	J
Chloroform	7	29	J
Toluene	5	11	J
Metals, Total			
Iron	300	1,700	
Magnesium	35,000	42,900	
Sodium	20,000	1,690,000	
Metals, Dissolved			
Magnesium, Dissolved	35,000	39,500	
Sodium, Dissolved	20,000	1,480,000	
General Chemistry			
Chloride	250,000	317,000	
Sulfate	250,000	2,070,000	

Notes:
1. TOGS 1.1.1 GA – Technical and Operational Guidance Series, New York State Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, June 2004
2. VOC - Volatile Organic Compounds
3. SVOC – Semi Volatile Organic Compounds
4. AOC - Area of Concern
5. J – the constituent compound was estimated
6. ug/L – micrograms per liter
7. NYSDEC TOGS 1.1.1 GA values for total metals were used as screening criteria for dissolved metal concentrations. There is no TOGS GA Standard for 4-methyl-2-pentanone (also known as methyl isobutyl ketone). Per the NYSDEC (2005), the 4-methyl-2-pentanone guidance value is based on the maximum contaminant level (MCL) for unspecified organic contaminants in the NYSDOH Part 5 Sanitary Code for Public Water Systems (NYSDOH 2011)

Figure 3-3
Groundwater Analytical Exceedances at AOC B
Groundwater Monitoring Results Report, November 2014 Monitoring Event
Former Hampshire Chemical Corp. Facility
Waterloo, New York

MW-07	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
Metals, Total		
Iron	300	434 J
Selenium	10	18.4
Sodium	20,000	304,000
Metals, Dissolved		
Selenium	10	18.1
Sodium, Dissolved	20,000	307,000
General Chemistry		
Chloride	250,000	270,000

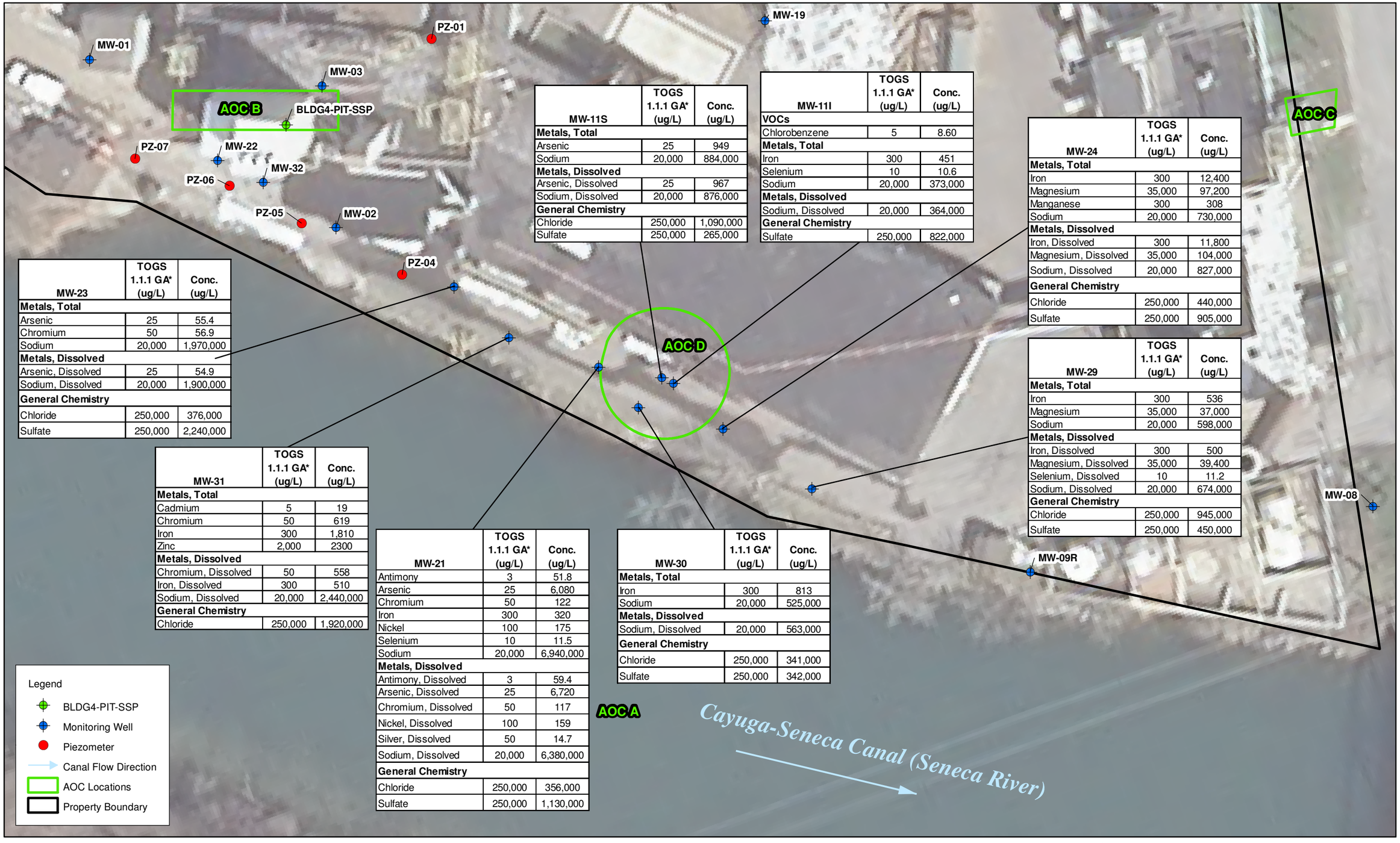
0 30 60
Feet

Notes:
1. TOGS 1.1.1 GA – Technical and Operational Guidance Series, New York State Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, June 2004
2. SVOC - Semi-Volatile Organic Compounds
3. AOC - Area of Concern
4. J - the constituent compound was estimated
5. ug/L – micrograms per liter
6. NYSDEC TOGS 1.1.1 GA values for total metals were used as screening criteria for dissolved metal concentrations

Figure 3-4
Groundwater Analytical Exceedances at AOC C
Groundwater Monitoring Results Report, November 2014 Monitoring Event
Former Hampshire Chemical Corp. Facility
Waterloo, New York

ch2m

\\LAKEFRONT\PROJ\GIS\DOW\WATERLOO\REPORTS\2015\MAPFILES\GWMONITORINGRESULTSREPORT_NOV2014EVENT\FIGURE 3-4 - GROUNDWATER ANALYTICAL EXCEEDANCES AT AOC C.MXD JHANSEN1 9/23/2015 4:02:10 PM



MW-11S	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
Metals, Total		
Arsenic	25	949
Sodium	20,000	884,000
Metals, Dissolved		
Arsenic, Dissolved	25	967
Sodium, Dissolved	20,000	876,000
General Chemistry		
Chloride	250,000	1,090,000
Sulfate	250,000	265,000

MW-11I	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
VOCs		
Chlorobenzene	5	8.60
Metals, Total		
Iron	300	451
Selenium	10	10.6
Sodium	20,000	373,000
Metals, Dissolved		
Sodium, Dissolved	20,000	364,000
General Chemistry		
Sulfate	250,000	822,000

MW-24	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
Metals, Total		
Iron	300	12,400
Magnesium	35,000	97,200
Manganese	300	308
Sodium	20,000	730,000
Metals, Dissolved		
Iron, Dissolved	300	11,800
Magnesium, Dissolved	35,000	104,000
Sodium, Dissolved	20,000	827,000
General Chemistry		
Chloride	250,000	440,000
Sulfate	250,000	905,000

MW-23	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
Metals, Total		
Arsenic	25	55.4
Chromium	50	56.9
Sodium	20,000	1,970,000
Metals, Dissolved		
Arsenic, Dissolved	25	54.9
Sodium, Dissolved	20,000	1,900,000
General Chemistry		
Chloride	250,000	376,000
Sulfate	250,000	2,240,000

MW-29	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
Metals, Total		
Iron	300	536
Magnesium	35,000	37,000
Sodium	20,000	598,000
Metals, Dissolved		
Iron, Dissolved	300	500
Magnesium, Dissolved	35,000	39,400
Selenium, Dissolved	10	11.2
Sodium, Dissolved	20,000	674,000
General Chemistry		
Chloride	250,000	945,000
Sulfate	250,000	450,000

MW-31	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
Metals, Total		
Cadmium	5	19
Chromium	50	619
Iron	300	1,810
Zinc	2,000	2300
Metals, Dissolved		
Chromium, Dissolved	50	558
Iron, Dissolved	300	510
Sodium, Dissolved	20,000	2,440,000
General Chemistry		
Chloride	250,000	1,920,000

MW-21	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
Antimony	3	51.8
Arsenic	25	6,080
Chromium	50	122
Iron	300	320
Nickel	100	175
Selenium	10	11.5
Sodium	20,000	6,940,000
Metals, Dissolved		
Antimony, Dissolved	3	59.4
Arsenic, Dissolved	25	6,720
Chromium, Dissolved	50	117
Nickel, Dissolved	100	159
Silver, Dissolved	50	14.7
Sodium, Dissolved	20,000	6,380,000
General Chemistry		
Chloride	250,000	356,000
Sulfate	250,000	1,130,000

MW-30	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
Metals, Total		
Iron	300	813
Sodium	20,000	525,000
Metals, Dissolved		
Sodium, Dissolved	20,000	563,000
General Chemistry		
Chloride	250,000	341,000
Sulfate	250,000	342,000

0 30 60
Feet

Notes:
1. TOGS 1.1.1 GA – Technical and Operational Guidance Series, New York State Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, June 2004
2. VOC– Volatile Organic Compounds
3. SVOC – Semi Volatile Organic Compounds
4. AOC - Area of Concern
5. ug/L – micrograms per liter
6. J – the constituent compound was estimated
7. NYSDEC TOGS 1.1.1 GA values for total metals were used as screening criteria for dissolved metal concentrations

Figure 3-5
Groundwater Analytical Exceedances at AOC D
Groundwater Monitoring Results Report, November 2014 Monitoring Event
Former Hampshire Chemical Corp. Facility
Waterloo, New York

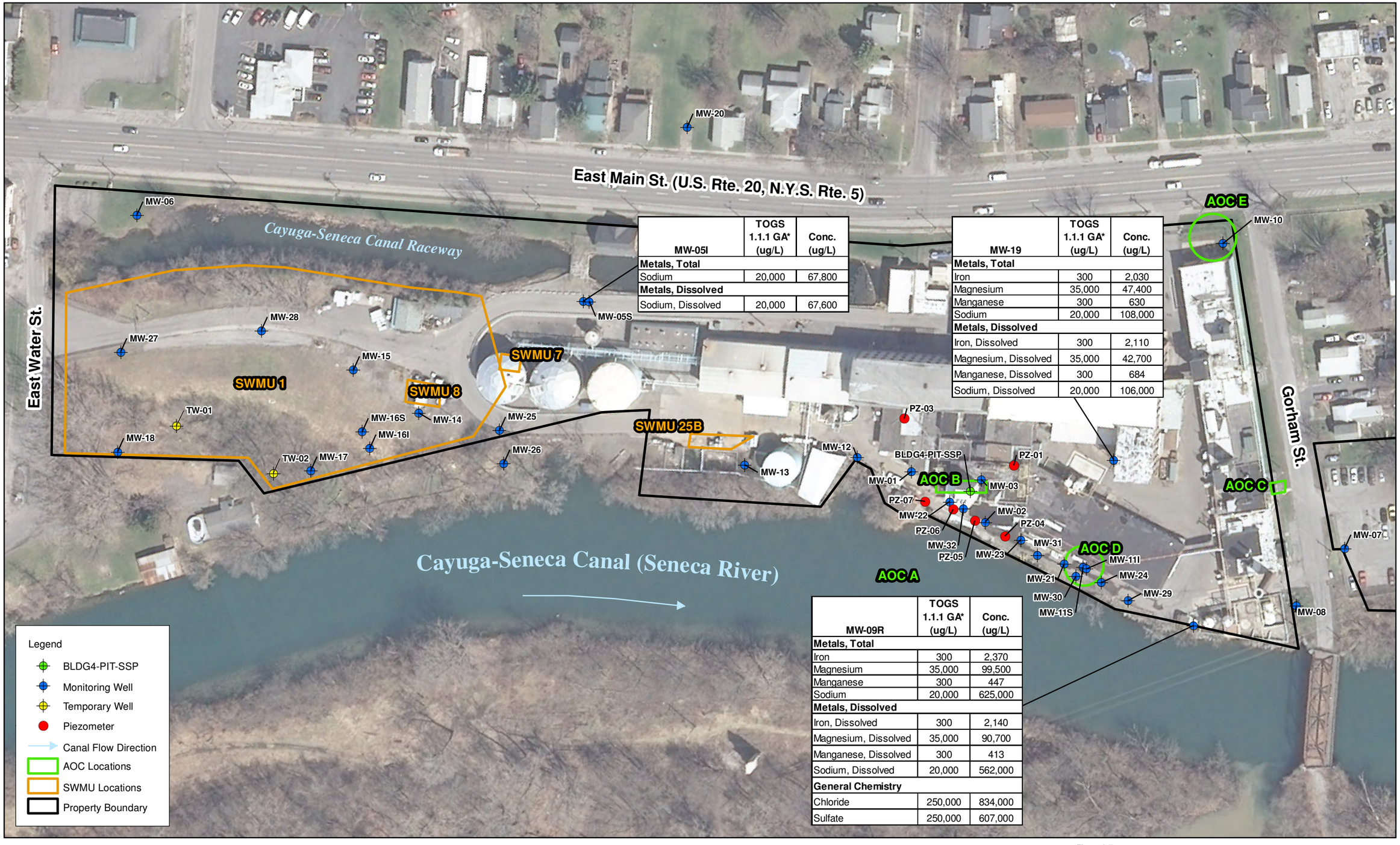
\\LAKEFRONT\PROJ\GIS\DOW\WATERLOO\REPORTS\2015\MAPFILES\GWMONITORINGRESULTSREPORT_NOV2014EVENT\FIGURE 3-5 - GW ANALYTICAL EXCEEDANCES AT AOC D.MXD JHANSEN1 12/1/2015 4:42:21 PM

MW-10	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
Metals, Total		
Lead	300	422 J
Sodium	20,000	144,000
Metals, Dissolved		
Sodium, Dissolved	20,000	144,000
General Chemistry		
Chloride	250,000	325,000

0 30 60
Feet

Notes:
1. TOGS 1.1.1 GA – Technical and Operational Guidance Series, New York State Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, June 2004
2. AOC - Area of Concern
3. J - the constituent compound was estimated
4. ug/L – micrograms per liter
5. NYSDEC TOGS 1.1.1 GA values for total metals were used as screening criteria for dissolved metal concentrations

Figure 3-6
Groundwater Analytical Exceedances at AOC E
Groundwater Monitoring Results Report, November 2014 Monitoring Event
Former Hampshire Chemical Corp. Facility
Waterloo, New York



MW-05I	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
Metals, Total		
Sodium	20,000	67,800
Metals, Dissolved		
Sodium, Dissolved	20,000	67,600

MW-19	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
Metals, Total		
Iron	300	2,030
Magnesium	35,000	47,400
Manganese	300	630
Sodium	20,000	108,000
Metals, Dissolved		
Iron, Dissolved	300	2,110
Magnesium, Dissolved	35,000	42,700
Manganese, Dissolved	300	684
Sodium, Dissolved	20,000	106,000

MW-09R	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
Metals, Total		
Iron	300	2,370
Magnesium	35,000	99,500
Manganese	300	447
Sodium	20,000	625,000
Metals, Dissolved		
Iron, Dissolved	300	2,140
Magnesium, Dissolved	35,000	90,700
Manganese, Dissolved	300	413
Sodium, Dissolved	20,000	562,000
General Chemistry		
Chloride	250,000	834,000
Sulfate	250,000	607,000

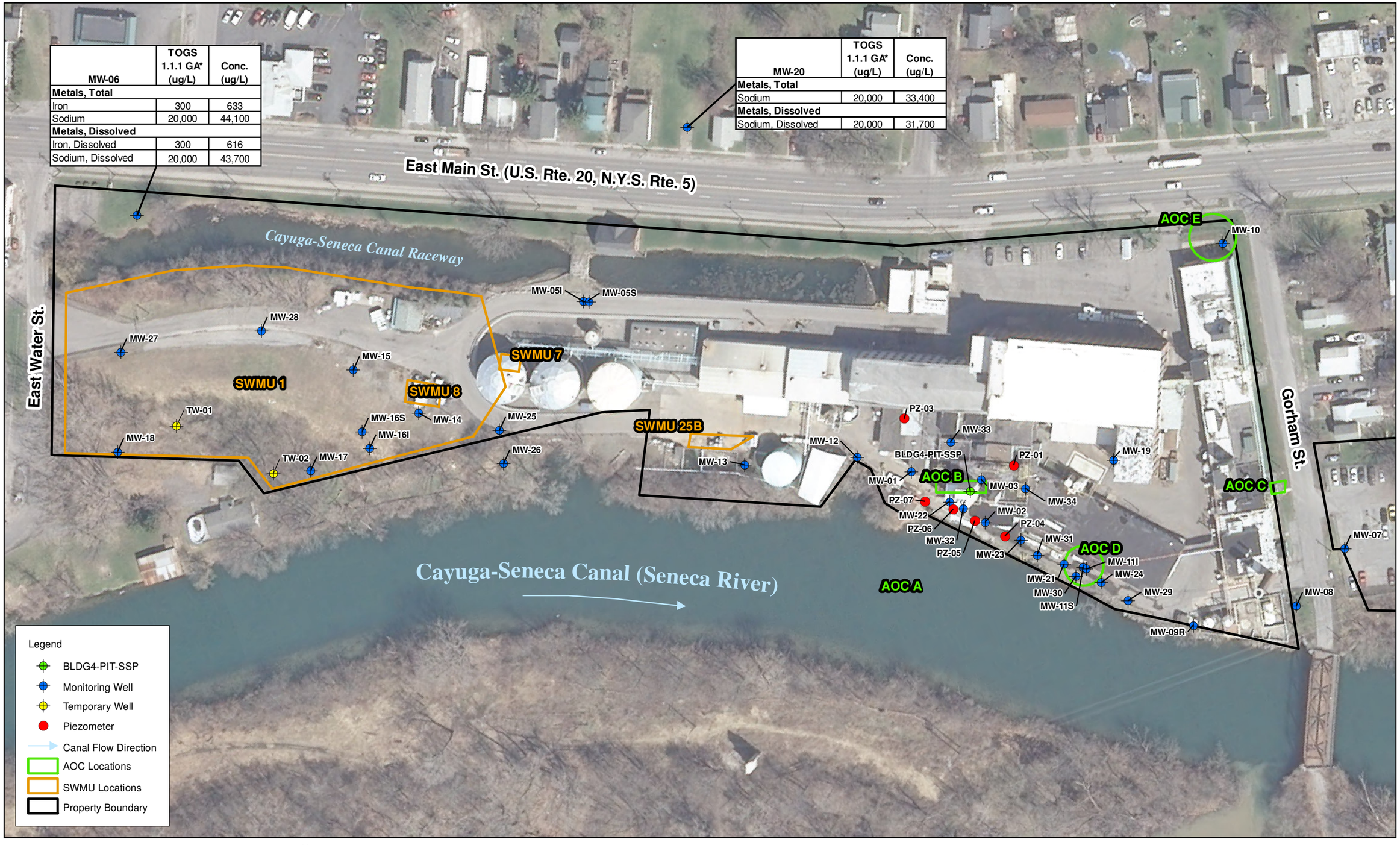
0 100 200
Feet

Notes:
1. TOGS 1.1.1 GA – Technical and Operational Guidance Series, New York State Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, June 2004
2. SVOC – Semi Volatile Organic Compounds
3. VOC - Volatile Organic Compounds
4. AOC - Area of Concern
5. SWMU - Solid Waste Management Unit
6. J – the constituent compound was estimated
7. ug/L – micrograms per liter
8. NYSDEC TOGS 1.1.1 GA values for total metals were used as screening criteria for dissolved metal concentrations

Figure 3-7
Groundwater Analytical Exceedances - Sitewide
Groundwater Monitoring Results Report, November 2014 Monitoring Event
Former Hampshire Chemical Corp. Facility
Waterloo, New York

MW-06	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
Metals, Total		
Iron	300	633
Sodium	20,000	44,100
Metals, Dissolved		
Iron, Dissolved	300	616
Sodium, Dissolved	20,000	43,700

MW-20	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
Metals, Total		
Sodium	20,000	33,400
Metals, Dissolved		
Sodium, Dissolved	20,000	31,700



0 100 200
Feet

Notes:
1. TOGS 1.1.1 GA – Technical and Operational Guidance Series, New York State Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, June 2004
2. AOC - Area of Concern
3. SWMU - Solid Waste Management Unit
4. ug/L – micrograms per liter
5. J – the constituent compound was estimated
6. NYSDEC TOGS 1.1.1 GA values for total metals were used as screening criteria for dissolved metal concentrations

Figure 3-8
Groundwater Analytical Exceedances - Background
Groundwater Monitoring Results Report, November 2014 Monitoring Event
Former Hampshire Chemical Corp. Facility
Waterloo, New York

\\LAKEFRONT\PROJ\GIS\DOW\WATERLOO\REPORTS\2015\MAPFILES\GWMONITORINGRESULTSREPORT_NOV2014EVENT\FIGURE 3-8 - GW ANALYTICAL EXCEEDANCES BACKGROUND.MXD JHANSEN1 12/1/2015 4:47:09 PM

Appendix B
Groundwater Sampling
Field Data Sheets

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: MW-01 | **Site:** Former Hampshire Corporation (Waterloo, NY)

Field Crew: T. Salsburg | **Date: 11/12/2014** | **Project #: 495104.01.WA**

Well Depth (ft.): 16.5
DTW (ft.): 4.68
Water Column (ft.): NR
Well Diameter (in.): 2
Gal. per ft.: 0.163
Well Volume (gal.): NR
Depth of Screen (ft.): 3-16.5

Purge Methodology: Low Flow using a bladder pump, with HDPE, Teflon-Lined tubing

Diameter	Gal. Per Foot	Diameter	Gal. Per Foot
2"	.163	5"	1.020
3"	.367	6"	1.469
4"	.653	8"	2.611

Field Parameters

	Time	DTW (tic)	Flow Rate (ml/min)	Total Volume (gal)	pH (Std. Units)	Cond. (mS/cm)	Turbidity (NTU)	D.O. [Surface] (mg/l)	Temp (C)	ORP (mV)	Color/Odor
	Stabilization	< 0.3'	300 - 500		+/- 0.1	+/- 3 %	+/- 10%	+/- 10 %		+/- 10 mV	
Initial	8:55	5.35	420	--	5.86	0.659	12.1	6.92	12.90	205	light brown
	9:00	5.75	400	0.4	6.17	0.652	8.9	4.65	13.21	196	clear
	9:05	6.32	400	0.8	6.33	0.650	3.4	3.33	13.31	174	clear
	9:10	6.60	380	1.2	6.41	0.657	1.4	2.50	13.41	146	clear
	9:15	6.72	380	1.6	6.56	0.667	0.4	2.06	13.48	114	clear
	9:20	6.80	380	2.1	6.59	0.672	0.1	2.02	13.50	97	clear
	9:25	6.87	380	2.6	6.63	0.676	0.1	1.80	13.51	81	clear
	9:30	6.90	380	3.1	6.67	0.678	0.0	1.73	13.56	69	clear
	9:35	6.92	380	3.7	6.68	0.680	0.0	1.54	13.66	57	clear
	9:40	6.96	380	4.3	6.72	0.678	0.0	4.33	13.59	44	clear
	9:45	6.94	380	5.0	6.70	0.678	0.0	1.28	13.68	34	clear
	9:50	6.97	380	5.4	6.71	0.678	0.0	1.21	13.65	29	clear
	9:55	6.98	380	5.8	6.74	0.678	0.0	1.15	13.60	24	clear
	10:00	6.97	380	6.4	6.75	0.678	0.0	1.09	13.70	19	clear
	10:05	Collect Sample									
Final	10:30	6.94	375	NR	6.75	0.683	0.0	4.37	13.53	28	clear

Remarks:

Pump Intake Depth:	Control Box Setting:	Refill:	Discharge:	PSI:
9.5		10	5	21

Ferrous iron = 0.07 mg/L

not a strong odor, but odors present in area, difficult to separate

SAMPLING

Depth to Water Before Sampling: 6.97

Sample Methodology: Low Flow

Sample ID: MW01-111214 QC Sample: None

Sample Date/Time: 11/12/2014 10:05

Sampler / Signature: Taylor Salsburg

Sample Observations: clear

Parameters: VOCs, PAH, metals, MNA parameters

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: MW-02 | **Site:** Former Hampshire Corporation (Waterloo, NY)

Field Crew: D. Holmes | **Date: 11/12/2014** | **Project #: 495104.01.WA**

Well Depth (ft.): 16.5
DTW (ft.): 4.1
Water Column (ft.): 12.4
Well Diameter (in.): 2
Gal. per ft.: 0.163
Well Volume (gal.): NR
Depth of Screen (ft.): 3-16

Purge Methodology: Low Flow using a bladder pump, with HDPE, Teflon-Lined tubing

Diameter	Gal. Per Foot	Diameter	Gal. Per Foot
2"	.163	5"	1.020
3"	.367	6"	1.469
4"	.653	8"	2.611

Field Parameters

	Time	DTW (tic)	Flow Rate (ml/min)	Total Volume (gal)	pH (Std. Units)	Cond. (mS/cm)	Turbidity (NTU)	D.O. [Surface] (mg/l)	Temp (C)	ORP (mV)	Color/Odor
	Stabilization	< 0.3'	300 - 500		+/- 0.1	+/- 3 %	+/- 10%	+/- 10 %		+/- 10 mV	
Initial	9:08	4.40	450	0.0	6.62	8.33	74.5	1.32	16.63	-330	black / strong organic odor, sulfur-like
	9:13	4.40	450	0.6	6.61	6.85	48.7	1.48	16.89	-343	black / strong organic odor, sulfur-like
	9:18	4.40	450	1.2	6.63	6.80	34.9	1.48	16.91	-349	black / strong organic odor, sulfur-like
	9:23	4.38	300	1.8	6.64	6.87	13.4	1.52	16.77	-353	slightly turbid / sulfur like organic odor
	9:28	4.40	300	2.2	6.64	6.90	2.5	1.53	16.81	-356	slightly turbid / sulfur like organic odor
	9:33	4.45	300	2.7	6.65	7.00	0.0	1.50	16.84	-360	slightly turbid / sulfur like odor
	9:38	4.45	300	3.2	6.66	7.07	0.0	1.47	16.86	-362	slightly turbid / sulfur like odor
	9:43	4.45	300	3.7	6.66	7.15	0.0	1.45	16.94	-364	slightly turbid / sulfur like odor
	9:55	Collect Sample									
Final	10:10	4.5	300	6.0	6.74	7.26	0.0	1.85	16.64	-361	slightly turbid / sulfur like odor

Remarks: Pump Intake Depth: 9.5 | Control Box Setting: | Refill: 10 | Discharge: 5 | PSI: 10

Ferrous iron = 0.11 mg/L

SAMPLING

Depth to Water Before Sampling: 4.45

Sample Methodology: Low Flow

Sample ID: MW02-111214 | QC Sample: None

Sample Date/Time: 11/12/2014 09:55

Sampler / Signature: Dan Holmes

Sample Observations: None

Parameters: VOCs, PAH, metals, MNA parameters

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: MW-03 | **Site:** Former Hampshire Corporation (Waterloo, NY)

Field Crew: Dan Holmes | **Date: 11/17/2014** | **Project #: 495104.01.WA**

Well Depth (ft.): 16.5
DTW (ft.): 2.45
Water Column (ft.): 14.05
Well Diameter (in.): 2
Gal. per ft.: 0.163
Well Volume (gal.): 2.29
Depth of Screen (ft.): 3-16

Purge Methodology: Low Flow using a bladder pump, with HDPE, Teflon-Lined tubing

Diameter	Gal. Per Foot	Diameter	Gal. Per Foot
2"	.163	5"	1.020
3"	.367	6"	1.469
4"	.653	8"	2.611

Field Parameters

	Time	DTW (tic)	Flow Rate (ml/min)	Total Volume (gal)	pH (Std. Units)	Cond. (mS/cm)	Turbidity (NTU)	D.O. [Surface] (mg/l)	Temp (C)	ORP (mV)	Color/Odor
	Stabilization	< 0.3'	300 - 500		+/- 0.1	+/- 3 %	+/- 10%	+/- 10 %		+/- 10 mV	
Initial	12:35	2.80	240	0.0	6.32	8.02	6.7	1.58	18.58	-342	slight black color / organic odor
	12:40	3.20	240	0.2	6.24	9.25	0.0	0.55	18.49	-356	slight black color / organic odor
	12:45	3.75	240	0.4	6.23	9.36	0.0	0.55	18.60	-362	slight black color / organic odor
	12:50	3.85	100	0.6	6.24	9.33	0.0	0.57	18.86	-365	slight black color / organic odor
	12:55	3.85	100	0.8	6.26	9.21	0.0	0.59	18.92	-368	slight black color / organic odor
	13:00	3.85	100	1.0	6.27	8.89	2.3	0.60	18.95	-369	slight black color / organic odor
	13:10	3.40	100	1.3	6.27	8.70	3.3	0.62	19.10	-371	slight black color / organic odor
	13:15	3.45	100	1.5	6.31	8.32	8.4	0.66	18.99	-370	slight black color / organic odor
	13:20	3.50	100	1.8	6.31	8.34	11.4	0.69	19.00	-372	slight black color / organic odor
	13:25	3.50	100	2.1	6.31	8.36	12.4	0.70	19.00	-372	slight black color / organic odor
	13:30	3.58	100	2.3	6.30	8.43	13.4	0.72	19.00	-373	slight black color / organic odor
	13:35	3.58	100	2.5	6.29	8.46	13.6	0.77	19.02	-373	slight black color / organic odor
	13:40	3.58	100	2.7	6.29	8.58	13.8	0.76	19.01	-374	slight black color / organic odor
	13:50	Collect Sample									
Post	14:40	3.55	100	3.5	6.31	9.12	30.2	0.73	19.03	-366	

Remarks: Pump Intake Depth: 14 | Control Box Setting: | Refill: 10 | Discharge: 5 | PSI: 10

paused purging from 13:00-13:10 to retrieve VOC vials

Ferrous Iron: 0.01 mg/L

SAMPLING

Depth to Water Before Sampling: 3.58

Sample Methodology: Low Flow

Sample ID: MW-03-111714 QC Sample: None

Sample Date/Time: 11/17/2014 13:50

Sampler / Signature: Dan Holmes

Sample Observations: None

Parameters: VOCs, PAH, metals, MNA parameters

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: MW-05I | **Site:** Former Hampshire Corporation (Waterloo, NY)

Field Crew: D. Holmes | **Date: 11/11/2014** | **Project #: 495104.01.WA**

Well Depth (ft.): 30
DTW (ft.): 12.40
Water Column (ft.): NR
Well Diameter (in.): 2
Gal. per ft.: 0.163
Well Volume (gal.): NR
Depth of Screen (ft.): NR

Purge Methodology: Low Flow using a bladder pump, with HDPE, Teflon-Lined tubing

Diameter	Gal. Per Foot	Diameter	Gal. Per Foot
2"	.163	5"	1.020
3"	.367	6"	1.469
4"	.653	8"	2.611

Field Parameters

	Time	DTW (tic)	Flow Rate (ml/min)	Total Volume (gal)	pH (Std. Units)	Cond. (mS/cm)	Turbidity (NTU)	D.O. [Surface] (mg/l)	Temp (C)	ORP (mV)	Color/Odor
	Stabilization	< 0.3'	300 - 500		+/- 0.1	+/- 3 %	+/- 10%	+/- 10 %		+/- 10 mV	
Initial	13:32	13.80	400	0.0	7.83	1.66	151.0	7.33	15.88	-17	cloudy
	13:37	15.40	300	0.4	8.95	1.71	98.8	5.89	13.71	-43	cloudy
	13:42	16.50	300	0.8	9.25	1.73	78.7	4.94	13.89	-43	cloudy
	13:47	17.60	300	1.2	9.20	1.78	54.5	4.13	13.68	-33	cloudy
	13:52	18.50	300	1.6	9.07	1.81	49.6	3.69	13.49	-27	cloudy
	13:57	19.30	300	2.0	8.92	1.84	45.1	3.18	13.31	-22	slightly turbid
	14:02	20.02	300	2.4	8.82	1.86	42.1	3.04	13.21	-20	slightly turbid
	14:07	20.65	300	2.8	8.73	1.87	36.7	2.82	13.12	-20	slightly turbid
	14:12	21.20	300	3.2	8.61	1.91	33.5	2.75	13.03	-20	slightly turbid
	14:17	21.72	300	3.6	8.53	1.92	30.2	2.65	12.94	-26	slightly turbid
	14:22	22.30	300	4.0	8.44	1.92	25.1	2.21	12.99	-31	slightly turbid
	14:27	21.75	100	4.4	8.38	1.93	23.5	2.23	13.16	-33	slightly turbid
	14:32	21.6	250	4.7	8.31	2.04	20.0	1.58	13.15	-30	slightly turbid
	14:37	21.55	250	5.0	8.21	2.05	17.5	1.45	13.05	-36	slightly turbid
	14:42	21.45	250	5.2	8.15	2.03	16.4	1.50	13.03	-41	slightly turbid
	14:47	21.4	250	5.4	8.13	2.03	15.6	1.50	13.02	-45	slightly turbid
	14:50	Collect Sample									
Final	15:50	21.9	250	8.0	7.96	2.08	15.8	1.60	13.25	-36	slightly turbid

Remarks: Pump Intake Depth: 27.5 | Control Box Setting: Refill: 10 | Discharge: 5 | PSI: 20

SAMPLING

Depth to Water Before Sampling: NR

Sample Methodology: Low Flow

Sample ID: MW5I-111114 QC Sample: None

Sample Date/Time: 11/11/2014 14:50

Sampler / Signature: Dan Holmes

Sample Observations: NR

Parameters: VOCs, PAH, metals, MNA parameters

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: MW-06 | **Site:** Former Hampshire Corporation (Waterloo, NY)

Field Crew: T. Salsburg | **Date: 11/11/2014** | **Project #: 495104.01.WA**

Well Depth (ft.): 14
DTW (ft.): 5.48
Water Column (ft.): 8.52
Well Diameter (in.): 2
Gal. per ft.: 0.163
Well Volume (gal.): 1.39
Depth of Screen (ft.): 4-14

Purge Methodology: Low Flow using a bladder pump, with HDPE, Teflon-Lined tubing

Diameter	Gal. Per Foot	Diameter	Gal. Per Foot
2"	.163	5"	1.020
3"	.367	6"	1.469
4"	.653	8"	2.611

Field Parameters

	Time	DTW (tic)	Flow Rate (ml/min)	Total Volume (gal)	pH (Std. Units)	Cond. (mS/cm)	Turbidity (NTU)	D.O. [Surface] (mg/l)	Temp (C)	ORP (mV)	Color/Odor
	Stabilization	< 0.3'	300 - 500		+/- 0.1	+/- 3 %	+/- 10%	+/- 10 %		+/- 10 mV	
Initial	8:38	6.05	400	0.2	6.74	1.06	48.2	10.48	14.26	40	clear
	8:43	6.59	400	0.4	6.91	1.05	35.3	10.02	14.43	55	clear
	8:48	6.62	100	0.5	6.93	1.05	20.7	9.64	14.42	55	clear
	8:53	6.71	100	0.6	6.92	1.05	11.7	9.60	14.23	46	clear
	8:58	6.83	120	0.7	6.90	1.05	6.3	9.29	14.39	27	clear
	9:03	6.97	120	0.8	6.88	1.06	3.5	9.30	14.56	3	clear
	9:08	7.08	100	0.9	6.88	1.06	2.4	8.94	14.56	-2	clear
	9:13	7.21	100	1.0	6.89	1.06	2.1	8.61	14.59	-7	clear
	9:18	7.28	80	1.1	6.89	1.06	0.0	8.36	14.73	-10	clear
	9:23	7.30	80	1.2	6.89	1.06	0.0	8.23	14.87	-13	clear
	9:28	7.31	80	1.3	6.89	1.06	0.0	8.08	15.00	-15	clear
	9:33	8.31	80	1.4	6.89	1.06	0.0	7.99	15.16	-16	clear
	9:35	Collect Sample									
Final	11:13:00	8.62	60	0.0	6.95	1.05	0.0	2.37	15.12	-32	clear

Remarks: Pump Intake Depth: 9 | Control Box Setting: Refill: 10 | Discharge: 5 | PSI: 12

High DO but no bubbling noted, also low ORP

SAMPLING

Depth to Water Before Sampling: 7.31

Sample Methodology: Low Flow

Sample ID: MW06-111114 | QC Sample: None

Sample Date/Time: 11/11/2014 09:35

Sampler / Signature: Taylor Salsburg

Sample Observations: clear

Parameters: VOCs, PAH, metals, MNA parameters

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: MW-07 | **Site:** Former Hampshire Corporation (Waterloo, NY)

Field Crew: Dan Holmes | **Date: 11/14/2014** | **Project #: 495104.01.WA**

Well Depth (ft.): 13
DTW (ft.): 5.32
Water Column (ft.): 7.68
Well Diameter (in.): 2
Gal. per ft.: 0.163
Well Volume (gal.): 1.25
Depth of Screen (ft.): 3-13

Purge Methodology: Low Flow using a bladder pump, with HDPE, Teflon-Lined tubing

Diameter	Gal. Per Foot	Diameter	Gal. Per Foot
2"	.163	5"	1.020
3"	.367	6"	1.469
4"	.653	8"	2.611

Field Parameters

	Time	DTW (tic)	Flow Rate (ml/min)	Total Volume (gal)	pH (Std. Units)	Cond. (mS/cm)	Turbidity (NTU)	D.O. [Surface] (mg/l)	Temp (C)	ORP (mV)	Color/Odor
	Stabilization	< 0.3'	300 - 500		+/- 0.1	+/- 3 %	+/- 10%	+/- 10 %		+/- 10 mV	
Initial	12:15	5.55	200	--	6.00	1.75	575.0	7.72	12.32	57	brown, cloudy / no odor
	12:20	5.85	200	0.2	5.75	1.72	315.0	6.42	12.94	72	brown, cloudy / no odor
	12:25	6.05	200	0.5	5.68	1.73	206.0	5.78	13.03	73	brown, cloudy / no odor
	12:30	6.28	200	0.7	5.64	1.75	108.0	5.24	13.14	71	brown, cloudy / no odor
	12:35	6.45	200	1.0	5.63	1.75	50.6	4.79	13.15	71	brown, cloudy / no odor
	12:40	6.60	200	1.3	5.61	1.74	8.9	4.07	13.17	70	slightly turbid / no odor
	12:45	6.75	200	1.6	5.60	1.73	0.0	3.54	13.17	68	clear / no odor
	12:50	6.95	200	2.0	5.57	1.73	0.0	3.11	13.21	67	clear / no odor
	12:55	7.00	150	2.3	5.58	1.73	0.0	2.94	12.93	65	clear / no odor
	13:00	7.08	150	2.5	5.58	1.73	0.0	2.87	12.95	64	clear / no odor
	13:05	7.20	150	2.7	5.59	1.73	0.0	2.74	13.00	64	clear / no odor
	13:10	Collect Sample									
Post	13:50	8.3	NR	4.0	5.73	1.85	0.0	2.64	12.92	61	clear / no odor

Remarks: Pump Intake Depth: 11 | Control Box Setting: | Refill: 10 | Discharge: 5 | PSI: 10

SAMPLING

Depth to Water Before Sampling: 7.30

Sample Methodology: Low Flow

Sample ID: MW-07-111414 QC Sample: None

Sample Date/Time: 11/14/14 13:10

Sampler / Signature: D. Holmes

Sample Observations: None

Parameters: VOCs, PAH, metals, MNA parameters

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: MW-09R | **Site:** Former Hampshire Corporation (Waterloo, NY)

Field Crew: Dan Holmes | **Date: 11/18/2014** | **Project #: 495104.01.WA**

Well Depth (ft.): 15
DTW (ft.): 5.45
Water Column (ft.): 9.55
Well Diameter (in.): 2
Gal. per ft.: 0.163
Well Volume (gal.): 1.55
Depth of Screen (ft.): 6-16

Purge Methodology: Low Flow using a bladder pump, with HDPE, Teflon-Lined tubing

Diameter	Gal. Per Foot	Diameter	Gal. Per Foot
2"	.163	5"	1.020
3"	.367	6"	1.469
4"	.653	8"	2.611

Field Parameters

	Time	DTW (tic)	Flow Rate (ml/min)	Total Volume (gal)	pH (Std. Units)	Cond. (mS/cm)	Turbidity (NTU)	D.O. [Surface] (mg/l)	Temp (C)	ORP (mV)	Color/Odor
	Stabilization	< 0.3'	300 - 500		+/- 0.1	+/- 3 %	+/- 10%	+/- 10 %		+/- 10 mV	
Initial	9:38	5.98	400	0.0	6.44	4.74	0.0	2.45	12.98	-54	blackish/gray color / no odor
	9:43	6.20	160	0.4	6.46	4.67	0.0	1.52	13.91	-62	blackish/gray color / no odor
	9:48	6.40	160	0.7	6.48	4.60	0.0	1.47	14.02	-67	blackish/gray color / no odor
	9:53	6.58	160	1.0	6.46	4.61	0.0	1.42	14.18	-80	blackish/gray color / no odor
	9:58	6.85	160	1.2	6.41	4.63	0.0	1.22	14.75	-90	blackish/gray color / no odor
	10:18	6.75	220	1.7	6.40	4.79	0.0	1.52	10.90	-81	blackish/gray color / no odor
	10:23	7.10	100	2.1	6.41	4.80	0.0	1.15	13.82	-100	blackish/gray color / no odor
	10:28	7.18	100	2.3	6.40	4.81	0.0	1.14	13.73	-104	blackish/gray color / no odor
	10:33	7.25	100	2.5	6.41	4.77	0.0	1.12	13.60	-110	blackish/gray color / no odor
	10:38	7.32	100	2.7	6.42	4.76	0.0	1.15	13.47	-116	blackish/gray color / no odor
	10:45	Collect Sample									
Final	44:45:00	8.8	100	4.5	6.41	4.56	0.0	1.47	13.62	-0.152	

Remarks: Pump Intake Depth: 12 | Control Box Setting: | Refill: 10 | Discharge: 5 | PSI: 10

Paused purging from 10;00-10:15 to warm up control box.

Ferrous Iron: 2.26 mg/L

SAMPLING

Depth to Water Before Sampling: 7.40

Sample Methodology: Low Flow

Sample ID: MW-09R-111814 QC Sample: None

Sample Date/Time: 11/18/2014 10:45

Sampler / Signature: Dan Holmes

Sample Observations: None

Parameters: VOCs, PAH, metals, MNA parameters

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: MW-10 | **Site:** Former Hampshire Corporation (Waterloo, NY)

Field Crew: T. Salsburg | **Date: 11/14/2014** | **Project #: 495104.01.WA**

Well Depth (ft.): 13
DTW (ft.): 6.75
Water Column (ft.): 6.25
Well Diameter (in.): 2
Gal. per ft.: 0.163
Well Volume (gal.): 1.01
Depth of Screen (ft.): 4-14

Purge Methodology: Low Flow using a bladder pump, with HDPE, Teflon-Lined tubing

Diameter	Gal. Per Foot	Diameter	Gal. Per Foot
2"	.163	5"	1.020
3"	.367	6"	1.469
4"	.653	8"	2.611

Field Parameters

	Time	DTW (tic)	Flow Rate (ml/min)	Total Volume (gal)	pH (Std. Units)	Cond. (mS/cm)	Turbidity (NTU)	D.O. [Surface] (mg/l)	Temp (C)	ORP (mV)	Color/Odor
	Stabilization	< 0.3'	300 - 500		+/- 0.1	+/- 3 %	+/- 10%	+/- 10 %		+/- 10 mV	
Initial	9:15	7.03	200	--	6.31	2.79	0.3	8.74	10.61	-43	clear/cloudy
	9:20	7.98	225	0.3	6.79	1.90	0.0	9.19	13.12	22	beige, cloudy / odor
	9:25	8.23	175	0.5	6.85	1.87	0.0	8.32	12.76	29	clearing up
	9:30	8.45	175	0.8	6.89	1.86	0.0	7.76	12.86	27	clearing up
	9:35	8.65	150	1.0	6.90	1.86	0.0	7.50	12.93	26	clearing up
	9:40	8.68	150	1.2	6.91	1.89	0.0	6.57	11.99	26	mostly clear
	9:45	8.70	150	1.4	6.91	1.87	0.0	6.60	11.64	15	mostly clear
	9:50	8.73	150	1.5	6.91	1.87	0.0	6.67	11.50	21	mostly clear
	9:55	NR	150	1.8	6.91	1.86	0.0	6.20	11.56	27	mostly clear
	10:00	Collect Samples									
Post	11:50	9.64	125	NR	6.91	1.84	6.4	8.92	12.29	27	clear / odor

Remarks:

Pump Intake Depth:	Control Box Setting:	Refill:	Discharge:	PSI:
12		10	5	15

Chemical Odor

SAMPLING

Depth to Water Before Sampling: 8.78

Sample Methodology: Low Flow

Sample ID: MW10-111414 QC Sample: None

Sample Date/Time: 11/14/14 10:00

Sampler / Signature: Taylor Salsburg

Sample Observations: Clear / Chemical Odor

Parameters: VOCs, PAH, metals, MNA parameters

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: MW-11I | **Site:** Former Hampshire Corporation (Waterloo, NY)

Field Crew: T. Salsburg | **Date: 11/12/2014** | **Project #: 495104.01.WA**

Well Depth (ft.): 27.5
DTW (ft.): 6.46
Water Column (ft.): NR
Well Diameter (in.): 2
Gal. per ft.: 0.163
Well Volume (gal.): NR
Depth of Screen (ft.): 22.5-27.5

Purge Methodology: Low Flow using a bladder pump, with HDPE, Teflon-Lined tubing

Diameter	Gal. Per Foot	Diameter	Gal. Per Foot
2"	.163	5"	1.020
3"	.367	6"	1.469
4"	.653	8"	2.611

Field Parameters

	Time	DTW (tic)	Flow Rate (ml/min)	Total Volume (gal)	pH (Std. Units)	Cond. (mS/cm)	Turbidity (NTU)	D.O. [Surface] (mg/l)	Temp (C)	ORP (mV)	Color/Odor
	Stabilization	< 0.3'	300 - 500		+/- 0.1	+/- 3 %	+/- 10%	+/- 10 %		+/- 10 mV	
Initial	14:40	6.50	275	--	8.93	1.68	45.8	5.62	14.84	-9	some grey / odor
	14:45	6.50	275	0.3	8.43	1.97	16.6	2.87	14.89	-98	clear / odor
	14:50	6.50	275	0.6	8.12	2.03	11.5	2.17	14.73	-123	clear / odor
	14:55	6.50	275	0.9	7.94	2.04	10.5	1.80	14.70	-129	clear / odor
	15:00	6.52	300	1.4	7.78	2.05	7.4	1.43	14.69	-131	clear / odor
	15:05	6.52	300	1.8	7.73	2.06	6.7	1.31	14.69	-132	clear / odor
	15:10	6.52	300	2.5	7.68	2.06	6.3	1.20	14.66	-132	clear / odor
	15:15	6.52	300	3.0	7.64	2.07	5.7	1.10	14.64	-132	clear / odor
	15:20	6.52	300	3.5	7.63	2.07	6.0	1.03	14.66	-132	clear / odor
	15:25	6.52	300	4.0	7.60	2.08	5.7	0.99	14.66	-132	clear / odor
	15:30	Collect Sample									
Final	15:47	6.52	300	--	7.60	2.09	4.4	1.49	14.40	-71	clear / some odor

Remarks: Pump Intake Depth: 25 | Control Box Setting: | Refill: 10 | Discharge: 5 | PSI: 23

Ferrous iron = 0/32 mg/L

some chemical odor

SAMPLING

Depth to Water Before Sampling: 6.52

Sample Methodology: Low Flow

Sample ID: MW11I-111214 QC Sample: None

Sample Date/Time: 11/12/2014 15:30

Sampler / Signature: Taylor Salsburg

Sample Observations: clear

Parameters: VOCs, PAH, metals, MNA parameters

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: MW-11S					**Site:** Former Hampshire Corporation (Waterloo, NY)					
Field Crew: T. Salsburg					**Date: 11/12/2014**			**Project #: 495104.01.WA**		
Well Depth (ft.): NR		Purge Methodology:			Diameter	Gal. Per Foot		Diameter	Gal. Per Foot	
DTW (ft.): 1.60		Low Flow using a bladder			2"	.163		5"	1.020	
Water Column (ft.): NR		pump, with HDPE, Teflon-			3"	.367		6"	1.469	
Well Diameter (in.): NR		Lined tubing			4"	.653		8"	2.611	
Gal. per ft.: NR										
Well Volume (gal.): NR										
Depth of Screen (ft.): NR										

Field Parameters

	Time	DTW (tic)	Flow Rate (ml/min)	Total Volume (gal)	pH (Std. Units)	Cond. (mS/cm)	Turbidity (NTU)	D.O. [Surface] (mg/l)	Temp (C)	ORP (mV)	Color/Odor
	Stabilization	< 0.3'	300 - 500		+/- 0.1	+/- 3 %	+/- 10%	+/- 10 %		+/- 10 mV	
Initial	10:58	2.30	200	--	7.16	3.47	32.4	3.04	14.61	-31	clear / chemical odor
	11:03	2.60	200	0.2	8.64	4.23	28.0	1.46	13.02	-94	clear / chemical odor
	11:08	3.75	200	0.4	8.81	4.04	40.9	1.09	15.35	-107	clear / chemical odor
	11:13	4.60	200	0.6	8.92	3.31	47.8	1.49	15.64	-106	clear / chemical odor
	11:18	4.32	150	0.8	8.91	2.78	47.3	2.26	14.98	-90	clear / chemical odor
	11:23	4.30	150	1.0	8.88	2.58	41.5	2.80	14.85	-83	clear / chemical odor
	11:28	3.75	130	1.2	8.86	2.54	31.7	2.70	14.76	-74	clear / chemical odor
	11:33	3.68	130	1.3	8.86	2.64	24.5	2.61	14.55	-76	clear / chemical odor
	11:38	3.64	140	1.5	8.89	2.77	20.9	2.20	14.77	-78	clear / chemical odor
	11:43	3.61	140	1.7	8.93	2.97	15.9	1.97	15.08	-85	clear / chemical odor
	11:48	4.00	160	1.9	8.95	3.16	10.7	1.67	15.58	-91	clear / chemical odor
	11:53	4.08	160	2.1	8.97	3.30	8.2	1.45	15.52	-99	clear / chemical odor
	11:58	4.30	160	2.4	9.01	3.42	6.1	1.14	15.61	-104	clear / chemical odor
	12:03	4.41	160	2.6	9.02	3.48	5.5	1.09	15.48	-107	clear / chemical odor
	12:08	4.37	150	2.8	9.02	3.52	5.2	0.97	15.38	-111	clear / chemical odor
	12:13	4.45	150	3.0	9.04	3.56	4.0	0.90	15.40	-114	clear / chemical odor
	12:15	Collect Sample									
Final	13:02	NR	NR	NR	8.95	3.81	5.1	4.54	15.43	-53	clear / odor

Remarks: Pump Intake Depth: 10 | Control Box Setting: | Refill: 10 | Discharge: 5 | PSI: 12

Ferrous iron = 0.21 mg/L

Chemical odor

SAMPLING

Depth to Water Before Sampling: 4.45

Sample Methodology: Low Flow

Sample ID: MW11S-111214 QC Sample: None

Sample Date/Time: 11/12/2014 12:15

Sampler / Signature: Taylor Salsburg

Sample Observations: clear

Parameters: VOCs, PAH, metals, MNA parameters

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: MW-16I | **Site:** Former Hampshire Corporation (Waterloo, NY)

Field Crew: D. Holmes/A. Watson | **Date: 11/11/2014** | **Project #: 495104.01.WA**

Well Depth (ft.): 31.00
DTW (ft.): 22.90
Water Column (ft.): 8.20
Well Diameter (in.): 2
Gal. per ft.: 0.163
Well Volume (gal.): NR
Depth of Screen (ft.): 26-31

Purge Methodology: Low Flow using a bladder pump, with HDPE, Teflon-Lined tubing

Diameter	Gal. Per Foot	Diameter	Gal. Per Foot
2"	.163	5"	1.020
3"	.367	6"	1.469
4"	.653	8"	2.611

Field Parameters

	Time	DTW (tic)	Flow Rate (ml/min)	Total Volume (gal)	pH (Std. Units)	Cond. (mS/cm)	Turbidity (NTU)	D.O. [Surface] (mg/l)	Temp (C)	ORP (mV)	Color/Odor
	Stabilization	< 0.3'	300 - 500		+/- 0.1	+/- 3 %	+/- 10%	+/- 10 %		+/- 10 mV	
Initial	8:42	22.95	300	--	5.99	1.42	48.0	3.66	13.79	38	slightly turbid / slight organic odor
	8:47	22.98	300	0.4	6.60	1.44	36.6	1.48	14.67	-78	slightly turbid / slight organic odor
	8:52	22.98	300	0.8	6.69	1.34	21.8	1.25	14.97	-100	slightly turbid / slight organic odor
	8:57	22.98	300	1.2	6.75	1.26	7.4	1.11	15.14	-107	slightly turbid / slight organic odor
	9:02	22.98	NR	NR	NR	NR	NR	NR	NR	NR	
	9:07	Switch out to Horiba U52									
	9:12										
	9:17	22.98	300	2.0	6.77	2.93	3.7	3.01	14.45	3	slightly turbid / slight organic odor
	9:22	22.98	300	2.4	6.90	2.88	2.3	2.34	14.65	-28	slightly turbid / slight organic odor
	9:27	22.98	300	2.8	7.00	2.86	1.7	2.04	14.72	-42	slightly turbid / slight organic odor
	9:32	22.98	300	3.2	7.06	2.83	1.5	1.75	14.78	-51	slightly turbid / slight organic odor
	9:37	22.98	300	3.6	7.09	2.81	1.1	1.59	14.87	-57	slightly turbid / slight organic odor
	9:42	22.98	300	4.0	7.09	2.81	1.0	1.55	14.88	-60	slightly turbid / slight organic odor
	9:45	Collect Sample									
Final	10:35	22.98	300	6.0	7.22	2.81	1.1	1.55	15.36	-66	

Remarks: Pump Intake Depth: 29 | Control Box Setting: | Refill: 10 | Discharge: 5 | PSI: 20

SAMPLING

Depth to Water Before Sampling: 22.98

Sample Methodology: Low Flow

Sample ID: MW16I-111114 | QC Sample: MS/MSD

Sample Date/Time: 11/11/2014 09:45

Sampler / Signature: A. Watson

Sample Observations: No issues

Parameters: VOCs, PAH, metals, MNA parameters

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: MW-17 | **Site:** Former Hampshire Corporation (Waterloo, NY)

Field Crew: D. Holmes | **Date: 11/14/2014** | **Project #: 495104.01.WA**

Well Depth (ft.): 14.5
DTW (ft.): 12.04
Water Column (ft.): 2.46
Well Diameter (in.): 2
Gal. per ft.: 0.163
Well Volume (gal.): NR
Depth of Screen (ft.): 4.5-14.5

Purge Methodology: Low Flow using a bladder pump, with HDPE, Teflon-Lined tubing

Diameter	Gal. Per Foot	Diameter	Gal. Per Foot
2"	.163	5"	1.020
3"	.367	6"	1.469
4"	.653	8"	2.611

Field Parameters

	Time	DTW (tic)	Flow Rate (ml/min)	Total Volume (gal)	pH (Std. Units)	Cond. (mS/cm)	Turbidity (NTU)	D.O. [Surface] (mg/l)	Temp (C)	ORP (mV)	Color/Odor
	Stabilization	< 0.3'	300 - 500		+/- 0.1	+/- 3 %	+/- 10%	+/- 10 %		+/- 10 mV	
Initial	9:30	12.20	175	0.0	4.76	1.61	47.6	6.94	8.67	8.6	slightly turbid, brownish / no odor
	9:35	12.30	175	0.3	5.13	1.54	85.5	4.25	11.20	72	slightly turbid, brownish / no odor
	9:40	12.40	175	0.5	5.22	1.54	0.0	3.83	11.53	72	clear / no odor
	9:45	12.48	175	0.7	5.32	1.53	0.0	3.33	11.60	68	clear / no odor
	9:50	12.50	175	0.9	5.37	1.52	0.0	3.01	11.97	56	clear / no odor
	9:55	12.50	175	1.2	5.40	1.53	0.0	2.82	11.99	41	clear / no odor
	10:00	12.50	175	1.5	5.42	1.53	0.0	2.60	12.04	27	clear / no odor
	10:05	12.52	175	1.9	5.45	1.53	0.0	2.39	12.09	14	clear / no odor
	10:10	12.54	175	2.2	5.46	1.54	0.0	2.21	12.15	6	clear / no odor
	10:15	12.54	175	2.6	5.47	1.54	0.0	2.07	12.25	-2	clear / no odor
	10:20	12.55	175	3.0	5.48	1.54	0.0	1.97	12.22	-9	clear / no odor
	10:25	Collect Sample									
Final	11:00	12.60	175	NR	5.76	1.85	0.0	1.75	11.86	-28	

Remarks: Pump Intake Depth: 13.5 | Control Box Setting: | Refill: 10 | Discharge: 5 | PSI: 10

SAMPLING

Depth to Water Before Sampling: 12.55

Sample Methodology: Low Flow

Sample ID: MW17-111414 QC Sample: None

Sample Date/Time: 11/14/2014 10:25

Sampler / Signature: Dan Holmes

Sample Observations: No issues

Parameters: VOCs, SVOCs, metals, MNA parameters

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: MW-18		**Site:** Former Hampshire Corporation (Waterloo, NY)	
Field Crew:		**Date: 11/14/2014**	**Project #: 495104.01.WA**
Well Depth (ft.): 12.80	Purge Methodology:	Diameter / Gal. Per Foot	Diameter / Gal. Per Foot
DTW (ft.): 12.10	Low Flow using a bladder	2" .163	5" 1.020
Water Column (ft.):	pump, with HDPE, Teflon-	3" .367	6" 1.469
Well Diameter (in.):	Lined tubing	4" .653	8" 2.611
Gal. per ft.:			
Well Volume (gal.):			
Depth of Screen (ft.):			

Field Parameters

	Time	DTW (tic)	Flow Rate (ml/min)	Total Volume (gal)	pH (Std. Units)	Cond. (mS/cm)	Turbidity (NTU)	D.O. [Surface] (mg/l)	Temp (C)	ORP (mV)	Color/Odor
	Stabilization	< 0.3'	300 - 500		+/- 0.1	+/- 3 %	+/- 10%	+/- 10 %		+/- 10 mV	
Initial											
Final											

Remarks: Pump Intake Depth: Control Box Setting: Refill: Discharge: PSI:

Insufficient water in well. Unable to collect a sample at present time.

Need 71 feet of water at minimum to collect a sample with pump setup.

SAMPLING

Depth to Water Before Sampling:
Sample Methodology: Low Flow
Sample ID: QC Sample:
Sample Date/Time:
Sampler / Signature:
Sample Observations:
Parameters: VOCs, PAH, metals, MNA parameters

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: MW-19 | **Site:** Former Hampshire Corporation (Waterloo, NY)

Field Crew: T. Salsburg | **Date: 11/18/2014** | **Project #: 495104.01.WA**

Well Depth (ft.): 18
DTW (ft.): 13.24
Water Column (ft.): 4.76
Well Diameter (in.): 2"
Gal. per ft.: 0.163
Well Volume (gal.): 0.77
Depth of Screen (ft.): 8-18

Purge Methodology: Low Flow using a bladder pump, with HDPE, Teflon-Lined tubing

Diameter	Gal. Per Foot	Diameter	Gal. Per Foot
2"	.163	5"	1.020
3"	.367	6"	1.469
4"	.653	8"	2.611

Field Parameters

	Time	DTW (tic)	Flow Rate (ml/min)	Total Volume (gal)	pH (Std. Units)	Cond. (mS/cm)	Turbidity (NTU)	D.O. [Surface] (mg/l)	Temp (C)	ORP (mV)	Color/Odor
	Stabilization	< 0.3'	300 - 500		+/- 0.1	+/- 3 %	+/- 10%	+/- 10 %		+/- 10 mV	
Initial	9:15	13.30	300	--	6.40	1.20	98.7	1.46	15.70	-86	clear / odor
	9:20	13.80	350	0.4	6.43	1.19	81.9	0.36	15.64	-92	clear / odor
	9:25	14.30	350	0.8	6.41	1.18	82.9	0.22	16.12	-104	clear / odor
	9:30	14.75	275	1.0	6.47	1.17	57.3	0.04	16.02	-112	clear / odor
	9:35	15.04	200	1.2	6.49	1.19	35.1	0.00	14.82	-112	clear / odor
	9:40	15.20	175	1.4	6.49	1.19	13.0	0.00	13.20	-108	clear / odor
	9:45	15.37	100	1.5	6.49	1.19	10.4	0.00	13.04	-107	clear / odor
	10:00	15.30	100	1.5	6.49	1.19	6.8	0.00	11.31	-98	clear / odor
	10:05	15.31	75	1.5	6.49	1.19	6.0	0.00	11.39	-106	clear / odor
	10:10	15.34	75	1.6	6.49	1.20	6.9	0.00	11.18	-107	clear / odor
	10:15	15.38	75	1.6	6.49	1.20	5.4	0.00	11.09	-107	clear / odor
	10:30	Collect Sample									

Remarks: Pump Intake Depth: 15.5' | Control Box Setting: | Refill: | Discharge: | PSI:

MP50 keeps freezing, have to bring in car to warm.

Fe = 2.14 mg/L

SAMPLING

Depth to Water Before Sampling: 15.40

Sample Methodology: Low Flow

Sample ID: MW19-111814 QC Sample: None

Sample Date/Time: 11/18/2014 10:30

Sampler / Signature: Taylor Salsburg

Sample Observations: Clear

Parameters: VOCs, PAH, metals, MNA parameters

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: MW-20 | **Site:** Former Hampshire Corporation (Waterloo, NY)

Field Crew: T. Salsburg | **Date: 11/11/2014** | **Project #: 495104.01.WA**

Well Depth (ft.): 16
DTW (ft.): 9.29
Water Column (ft.): 6.71
Well Diameter (in.): 2
Gal. per ft.: 0.163
Well Volume (gal.): NR
Depth of Screen (ft.): 6-16

Purge Methodology: Low Flow using a bladder pump, with HDPE, Teflon-Lined tubing

Diameter	Gal. Per Foot	Diameter	Gal. Per Foot
2"	.163	5"	1.020
3"	.367	6"	1.469
4"	.653	8"	2.611

Field Parameters

	Time	DTW (tic)	Flow Rate (ml/min)	Total Volume (gal)	pH (Std. Units)	Cond. (mS/cm)	Turbidity (NTU)	D.O. [Surface] (mg/l)	Temp (C)	ORP (mV)	Color/Odor
	Stabilization	< 0.3'	300 - 500		+/- 0.1	+/- 3 %	+/- 10%	+/- 10 %		+/- 10 mV	
Initial	12:11	9.67	240	--	6.89	0.990	5.6	2.05	15.30	87	clear
	12:16	9.85	220	0.2	6.89	0.989	6.3	1.83	14.71	94	clear
	12:21	10.11	220	0.4	6.87	0.981	2.4	1.40	14.59	42	clear
	12:26	10.30	200	0.6	6.86	0.986	0.0	1.28	14.63	-19	clear
	12:31	10.40	200	0.8	6.87	0.988	0.0	1.17	14.71	-31	clear
	12:36	10.45	180	1.0	6.87	0.990	0.0	1.13	17.75	-36	clear
	12:41	10.52	175	1.2	6.87	0.992	0.0	1.07	14.70	-38	clear
	12:45	Collect Sample									
Final	13:53	11.85	150	--	7.00	0.919	0.0	2.03	17.30	76	clear

Remarks: Pump Intake Depth: 13.5 | Control Box Setting: | Refill: 10 | Discharge: 5 | PSI: 17

SAMPLING

Depth to Water Before Sampling: 10.52

Sample Methodology: Low Flow

Sample ID: MW20-111114 QC Sample: None

Sample Date/Time: 11/11/2014 12:45

Sampler / Signature: Taylor Salsburg

Sample Observations: clear

Parameters: VOCs, PAH, metals, MNA parameters

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: MW-21 | **Site:** Former Hampshire Corporation (Waterloo, NY)

Field Crew: T. Salsburg | **Date: 11/13/2014** | **Project #: 495104.01.WA**

Well Depth (ft.): 14
DTW (ft.): 3.20
Water Column (ft.): 10.80
Well Diameter (in.): 2
Gal. per ft.: 0.163
Well Volume (gal.): NR
Depth of Screen (ft.): NR

Purge Methodology: Low Flow using a bladder pump, with HDPE, Teflon-Lined tubing

Diameter	Gal. Per Foot	Diameter	Gal. Per Foot
2"	.163	5"	1.020
3"	.367	6"	1.469
4"	.653	8"	2.611

Field Parameters

	Time	DTW (tic)	Flow Rate (ml/min)	Total Volume (gal)	pH (Std. Units)	Cond. (mS/cm)	Turbidity (NTU)	D.O. [Surface] (mg/l)	Temp (C)	ORP (mV)	Color/Odor
	Stabilization	< 0.3'	300 - 500		+/- 0.1	+/- 3 %	+/- 10%	+/- 10 %		+/- 10 mV	
Initial	9:24	4.30	150	--	6.77	24.50	112.0	3.04	11.23	-186	brown / chemical odor
	9:29	4.80	120	0.1	7.92	23.50	133.0	2.26	13.32	-260	brown / chemical odor
	9:34	5.20	120	0.2	8.34	23.00	75.6	1.75	13.87	-308	brown / chemical odor
	9:39	5.22	120	0.3	8.44	22.00	64.1	1.45	14.15	-339	brown / chemical odor
	9:44	5.25	120	0.4	8.45	21.50	49.7	1.33	14.25	-354	brown / chemical odor
	9:49	5.41	120	0.5	8.45	21.00	26.2	1.21	14.30	-372	brown / chemical odor
	9:56	5.61	120	0.6	8.45	20.60	4.3	1.08	14.27	-390	brown / chemical odor
	10:01	5.85	120	0.7	8.43	19.70	2.8	1.02	14.32	-400	brown / chemical odor
	10:06	6.10	120	0.8	8.46	19.70	0.8	1.13	14.44	-408	brown / chemical odor
	10:11	6.35	120	0.9	8.46	19.70	0.0	1.19	14.49	-414	brown / chemical odor
	10:15	Collect Sample									
Final	10:57	8.30	120	NR	8.46	22.5	0.0	1.56	13.43	-413	brown / odor

Remarks: Pump Intake Depth: 10 | Control Box Setting: | Refill: 10 | Discharge: 5 | PSI: 12

Ferrous iron = 0.00 mg/L

chemical odor

SAMPLING

Depth to Water Before Sampling: 6.45

Sample Methodology: Low Flow

Sample ID: MW21-111314 QC Sample: None

Sample Date/Time: 11/13/2014 10:15

Sampler / Signature: Taylor Salsburg

Sample Observations: brown

Parameters: No PAH or SVOC

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: MW-23 | **Site:** Former Hampshire Corporation (Waterloo, NY)

Field Crew: A. Watson | **Date: 11/12/2014** | **Project #: 495104.01.WA**

Well Depth (ft.): 13
DTW (ft.): 5.75
Water Column (ft.): 3
Well Diameter (in.): 2
Gal. per ft.: 0.163
Well Volume (gal.): NR
Depth of Screen (ft.): 3-13

Purge Methodology: Low Flow using a bladder pump, with HDPE, Teflon-Lined tubing

Diameter	Gal. Per Foot	Diameter	Gal. Per Foot
2"	.163	5"	1.020
3"	.367	6"	1.469
4"	.653	8"	2.611

Field Parameters

	Time	DTW (tic)	Flow Rate (ml/min)	Total Volume (gal)	pH (Std. Units)	Cond. (mS/cm)	Turbidity (NTU)	D.O. [Surface] (mg/l)	Temp (C)	ORP (mV)	Color/Odor
	Stabilization	< 0.3'	300 - 500		+/- 0.1	+/- 3 %	+/- 10%	+/- 10 %		+/- 10 mV	
Initial	10:53	3.98	500	0.2	9.37	18.40	30.6	3.27	15.40	-375	reddish brown / sulfur odor
	10:58	3.80	500	1.0	9.30	17.60	98.4	2.61	15.89	-405	reddish brown / sulfur odor
	11:03	3.85	500	1.8	8.77	9.55	10.4	2.70	15.86	-412	strong sulfur odor
	11:08	3.90	500	2.5	8.62	8.63	0.0	2.67	15.87	-410	strong sulfur odor
	11:13	3.90	500	3.0	8.61	8.41	0.0	2.54	15.92	-411	strong sulfur odor
	11:18	3.90	500	3.5	8.60	8.32	0.0	2.42	15.94	-411	strong sulfur odor
	11:23	3.90	500	4.1	8.59	8.27	0.0	2.36	15.91	-410	strong sulfur odor
	11:28	3.90	500	5.5	8.57	8.20	0.0	2.22	15.94	-412	strong sulfur odor
	11:30	Collect Sample									
Final	11:50	3.9	500	8.0	8.52	7.89	0.0	1.46	15.91	-382	reddish brown * / strong sulfur odor

Remarks: Pump Intake Depth: 8 | Control Box Setting: Refill: 10 | Discharge: 5 | PSI: 20

Ferrous iron = 0.07 mg/L

* even filtered metals

SAMPLING

Depth to Water Before Sampling:

Sample Methodology: Low Flow

Sample ID: MW23-111214 QC Sample: FD DUP-GW-111214

Sample Date/Time: 11/12/2014 11:30

Sampler / Signature: A. Watson

Sample Observations: Filtered metals still had brown/red color

Parameters: VOCs, PAH, metals, MNA parameters

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: MW-24 | **Site:** Former Hampshire Corporation (Waterloo, NY)

Field Crew: D. Holmes | **Date: 11/12/2014** | **Project #: 495104.01.WA**

Well Depth (ft.): 14
DTW (ft.): 4.4
Water Column (ft.): 9.6
Well Diameter (in.): 2
Gal. per ft.: 0.163
Well Volume (gal.): NR
Depth of Screen (ft.): 4-14

Purge Methodology: Low Flow using a bladder pump, with HDPE, Teflon-Lined tubing

Diameter	Gal. Per Foot	Diameter	Gal. Per Foot
2"	.163	5"	1.020
3"	.367	6"	1.469
4"	.653	8"	2.611

Field Parameters

	Time	DTW (tic)	Flow Rate (ml/min)	Total Volume (gal)	pH (Std. Units)	Cond. (mS/cm)	Turbidity (NTU)	D.O. [Surface] (mg/l)	Temp (C)	ORP (mV)	Color/Odor
	Stabilization	< 0.3'	300 - 500		+/- 0.1	+/- 3 %	+/- 10%	+/- 10 %		+/- 10 mV	
Initial	15:10	6.20	500	0.0	8.15	4.75	71.6	0.38	15.98	-170	slightly turbid / cloudy
	15:15	7.35	300	0.5	8.14	4.73	45.6	0.09	16.16	-178	
	15:20	8.50	300	0.9	8.15	4.54	40.9	0.00	15.86	-189	
	15:25	8.70	100	1.2	8.13	4.31	31.2	0.00	15.28	-194	
	15:30	8.88	100	1.4	8.14	4.19	24.6	0.00	15.09	-192	
	15:35	9.20	100	1.6	8.18	4.18	14.8	0.16	14.98	-180	
	15:40	9.32	100	1.9	8.18	4.16	11.6	0.23	14.62	-176	
	15:45	9.40	100	2.2	8.20	4.20	11.8	0.20	14.08	-168	
	15:50	9.67	100	2.4	8.21	4.30	9.0	0.18	14.24	-164	
	15:55	10.05	100	2.5	8.21	4.36	7.0	0.20	14.19	-158	
	16:00	10.20	100	2.6	8.22	4.44	5.6	0.19	13.97	-152	
	16:05	Collect Sample									
Final	NR	NR	NR	NR	8.30	4.9	50.0	2.51	14.39	-51	

Remarks: Pump Intake Depth: 12.5 | Control Box Setting: | Refill: 10 | Discharge: 5 | PSI: 10

Ferrous iron = 3.30 mg/L

SAMPLING

Depth to Water Before Sampling: 10.20

Sample Methodology: Low Flow

Sample ID: MW24-111214 QC Sample: None

Sample Date/Time: 11/12/2014 16:05

Sampler / Signature: Dan Holmes

Sample Observations: NR

Parameters: VOCs, PAH, metals, MNA parameters

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: MW-26 | **Site:** Former Hampshire Corporation (Waterloo, NY)

Field Crew: D. Holmes/A. Watson | **Date: 11/11/2014** | **Project #: 495104.01.WA**

Well Depth (ft.): NR
DTW (ft.): 11.03
Water Column (ft.): NR
Well Diameter (in.): 2
Gal. per ft.: 0.163
Well Volume (gal.): NR
Depth of Screen (ft.): NR

Purge Methodology: Low Flow using a bladder pump, with HDPE, Teflon-Lined tubing

Diameter	Gal. Per Foot	Diameter	Gal. Per Foot
2"	.163	5"	1.020
3"	.367	6"	1.469
4"	.653	8"	2.611

Field Parameters

	Time	DTW (tic)	Flow Rate (ml/min)	Total Volume (gal)	pH (Std. Units)	Cond. (mS/cm)	Turbidity (NTU)	D.O. [Surface] (mg/l)	Temp (C)	ORP (mV)	Color/Odor
	Stabilization	< 0.3'	300 - 500		+/- 0.1	+/- 3 %	+/- 10%	+/- 10 %		+/- 10 mV	
Initial	11:32	11.05	400	0.0	7.31	2.42	29.9	4.08	17.91	-32	slightly turbid / slight organic odor
	11:37	11.05	400	0.5	7.26	2.35	10.8	2.23	18.20	-44	slightly turbid / slight organic odor
	11:42	11.05	400	1.0	7.19	2.32	4.0	1.73	18.28	-43	clear / slight organic odor
	11:47	11.05	400	1.5	7.22	2.31	3.5	1.48	18.27	-42	clear / slight organic odor
	11:52	11.05	400	2.0	7.21	2.31	3.4	1.27	18.26	-45	clear / slight organic odor
	11:57	11.05	400	2.5	7.20	2.31	2.2	1.19	18.23	-43	clear / slight organic odor
	12:02	11.05	400	3.0	7.19	2.32	2.1	1.10	18.21	-44	clear / slight organic odor
	12:05	Collect Sample									
Final	12:26	11.05	400	5.0	7.2	2.32	1.7	1.11	18.40	-29	clear / slight organic odor

Remarks: Pump Intake Depth: 14.55 | Control Box Setting: | Refill: 10 | Discharge: 5 | PSI: 20

SAMPLING

Depth to Water Before Sampling: 11.05

Sample Methodology: Low Flow

Sample ID: MW26-111114 QC Sample: Field Dup

Sample Date/Time: 11/11/2014 12:05

Sampler / Signature: A. Watson

Sample Observations: No issues

Parameters: VOCs, PAH, metals, MNA parameters

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: MW-29 | **Site:** Former Hampshire Corporation (Waterloo, NY)

Field Crew: D. Holmes | **Date: 11/13/2014** | **Project #: 495104.01.WA**

Well Depth (ft.): 14
DTW (ft.): 4.8
Water Column (ft.): 9.2
Well Diameter (in.): 2
Gal. per ft.: 0.163
Well Volume (gal.): NR
Depth of Screen (ft.): 4-14

Purge Methodology: Low Flow using a bladder pump, with HDPE, Teflon-Lined tubing

Diameter	Gal. Per Foot	Diameter	Gal. Per Foot
2"	.163	5"	1.020
3"	.367	6"	1.469
4"	.653	8"	2.611

Field Parameters

	Time	DTW (tic)	Flow Rate (ml/min)	Total Volume (gal)	pH (Std. Units)	Cond. (mS/cm)	Turbidity (NTU)	D.O. [Surface] (mg/l)	Temp (C)	ORP (mV)	Color/Odor
	Stabilization	< 0.3'	300 - 500		+/- 0.1	+/- 3 %	+/- 10%	+/- 10 %		+/- 10 mV	
Initial	9:40	5.10	400	0.0	6.82	4.35	153.0	1.47	15.09	-194	cloudy / black particles
	9:45	5.20	300	0.5	6.93	4.21	99.5	1.00	15.79	-210	cloudy/black particles/slight sulfur odor
	9:50	5.28	300	1.0	6.93	4.13	16.1	1.01	16.10	-223	cloudy/black particles/slight sulfur odor
	9:55	5.30	300	1.5	6.93	4.07	14.0	1.02	16.21	-230	slightly turbid / slight sulfur-like odor
	10:00	5.30	300	2.0	6.93	4.02	14.7	0.98	16.37	-236	slightly turbid / slight sulfur-like odor
	10:05	5.30	300	2.5	6.93	3.97	19.1	0.98	16.47	-241	slightly turbid / slight sulfur-like odor
	10:10	5.30	300	3.0	6.93	3.95	15.1	0.95	16.48	-242	slightly turbid / slight sulfur-like odor
	10:15	5.30	300	3.8	6.93	3.94	9.4	0.93	16.58	-245	slightly turbid / slight sulfur-like odor
	10:20	5.30	300	4.5	6.93	3.93	5.4	0.93	16.60	-247	slightly turbid / slight sulfur-like odor
	10:25	5.30	300	5.0	6.93	3.92	2.7	0.91	16.65	-248	slightly turbid / slight sulfur-like odor
	10:30	5.30	300	5.6	6.93	3.90	0.0	0.87	16.66	-250	slightly turbid / slight sulfur-like odor
	10:35	Collect Sample									
Final											

Remarks: Pump Intake Depth: 10 | Control Box Setting: Refill: 10 | Discharge: 5 | PSI: 10

Ferrous iron = 0.59 mg/L

SAMPLING

Depth to Water Before Sampling: 5.30

Sample Methodology: Low Flow

Sample ID: MW29-111314 QC Sample: MS/MSD

Sample Date/Time: 11/13/2014 10:35

Sampler / Signature: Dan Holmes

Sample Observations: NR

Parameters: VOCs, PAH, metals, MNA parameters

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: MW-30 | **Site:** Former Hampshire Corporation (Waterloo, NY)

Field Crew: T. Salsburg | **Date: 11/12/2014** | **Project #: 495104.01.WA**

Well Depth (ft.): 14
DTW (ft.): 4.71
Water Column (ft.): NR
Well Diameter (in.): 2
Gal. per ft.: 0.163
Well Volume (gal.): NR
Depth of Screen (ft.):

Purge Methodology: Low Flow using a bladder pump, with HDPE, Teflon-Lined tubing

Diameter	Gal. Per Foot	Diameter	Gal. Per Foot
2"	.163	5"	1.020
3"	.367	6"	1.469
4"	.653	8"	2.611

Field Parameters

	Time	DTW (tic)	Flow Rate (ml/min)	Total Volume (gal)	pH (Std. Units)	Cond. (mS/cm)	Turbidity (NTU)	D.O. [Surface] (mg/l)	Temp (C)	ORP (mV)	Color/Odor
	Stabilization	< 0.3'	300 - 500		+/- 0.1	+/- 3 %	+/- 10%	+/- 10 %		+/- 10 mV	
Initial	13:19	4.80	150	--	9.41	5.55	17.4	1.30	15.29	-227	brown / chemical odor
	13:24	4.78	200	0.3	9.28	4.63	0.0	0.20	16.55	-321	brown / chemical odor
	13:29	4.80	225	0.6	9.03	3.39	0.0	0.00	16.59	-309	brown / chemical odor
	13:34	4.80	250	1.0	8.92	2.98	0.0	0.00	16.57	-300	brown / chemical odor
	13:39	4.80	250	1.4	8.98	2.83	0.0	0.00	16.60	-300	brown / chemical odor
	13:44	4.79	250	1.8	9.00	2.75	0.0	0.00	16.57	-297	brown / chemical odor
	13:49	4.80	250	2.3	9.04	2.72	0.0	0.00	16.60	-298	brown / chemical odor
	13:50	Collect Sample									
Final	14:20	4.81	250	--	8.84	2.66	0.0	2.50	16.46	-272	light brown / odor

Remarks: Pump Intake Depth: 10 | Control Box Setting: | Refill: 10 | Discharge: 5 | PSI: 15

Ferrous iron = 0.61 mg/L

chemical odor

SAMPLING

Depth to Water Before Sampling: 4.80

Sample Methodology: Low Flow

Sample ID: MW30-111214 QC Sample: None

Sample Date/Time: 11/12/2014 13:50

Sampler / Signature: Taylor Salsburg

Sample Observations: light brown

Parameters: VOCs, PAH, metals, MNA parameters

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: MW-31 | **Site:** Former Hampshire Corporation (Waterloo, NY)

Field Crew: A. Watson | **Date: 11/12/2014** | **Project #: 495104.01.WA**

Well Depth (ft.): 17
DTW (ft.): 4.20
Water Column (ft.): NR
Well Diameter (in.): 2
Gal. per ft.: 0.163
Well Volume (gal.): NR
Depth of Screen (ft.): 7-17

Purge Methodology: Low Flow using a bladder pump, with HDPE, Teflon-Lined tubing

Diameter	Gal. Per Foot	Diameter	Gal. Per Foot
2"	.163	5"	1.020
3"	.367	6"	1.469
4"	.653	8"	2.611

Field Parameters

	Time	DTW (tic)	Flow Rate (ml/min)	Total Volume (gal)	pH (Std. Units)	Cond. (mS/cm)	Turbidity (NTU)	D.O. [Surface] (mg/l)	Temp (C)	ORP (mV)	Color/Odor
	Stabilization	< 0.3'	300 - 500		+/- 0.1	+/- 3 %	+/- 10%	+/- 10 %		+/- 10 mV	
Initial	12:37	4.85	500	0.2	9.11	9.32	114.0	1.50	12.89	-351	dark brown / no odor
	12:42	7.30	100*	1.0	9.08	9.29	82.5	1.31	16.05	-373	dark brown / no odor
	12:47	7.37	50	1.5	9.08	9.33	48.6	1.26	15.42	-388	dark brown / no odor
	12:52	7.50	50	1.7	9.08	9.25	26.2	1.26	14.89	-395	dark brown
	12:57	7.55	50	1.9	9.09	9.17	29.6	1.26	14.82	-397	dark brown
	13:02	7.75	50	2.0	9.10	9.10	20.5	1.26	14.82	-399	dark brown
	13:07	0.78	50	2.2	9.11	9.06	12.1	1.25	14.99	-401	dark brown
	13:12	7.96	50	0.2	9.13	9.05	11.2	1.27	15.09	-404	dark brown
	13:17	8.07	50	2.4	9.15	9.07	8.7	1.28	15.13	-408	dark brown
	13:22	8.16	50	2.5	9.17	9.08	6.2	1.29	15.14	-409	dark brown
	13:27	8.25	50	2.5	9.18	9.07	0.9	1.30	15.30	-412	dark brown
	13:35	Collect Sample									
Final	14:55	10.60	50	3.5	9.38	9.63	7.7	1.64	13.91	-378	dark brown

Remarks: Pump Intake Depth: 12 | Control Box Setting: Refill: 10 | Discharge: 5 | PSI: 15

Ferrous iron = 0.10 mg/L

SAMPLING

Depth to Water Before Sampling: 8.40

Sample Methodology: Low Flow

Sample ID: MW31-111214 | QC Sample: None

Sample Date/Time: 11/12/2014 13:35

Sampler / Signature: Andy Watson

Sample Observations: NR

Parameters: VOCs, PAH, metals, MNA parameters

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: MW-33 | **Site:** Former Hampshire Corporation (Waterloo, NY)

Field Crew: T. Salsburg | **Date: 11/17/2014** | **Project #: 495104.01.WA**

Well Depth (ft.): 13
DTW (ft.): 1.20
Water Column (ft.): 11.80
Well Diameter (in.): 2
Gal. per ft.: 0.163
Well Volume (gal.): 1.92
Depth of Screen (ft.): 3-13

Purge Methodology: Low Flow using a bladder pump, with HDPE, Teflon-Lined tubing

Diameter	Gal. Per Foot	Diameter	Gal. Per Foot
2"	.163	5"	1.020
3"	.367	6"	1.469
4"	.653	8"	2.611

Field Parameters

	Time	DTW (tic)	Flow Rate (ml/min)	Total Volume (gal)	pH (Std. Units)	Cond. (mS/cm)	Turbidity (NTU)	D.O. [Surface] (mg/l)	Temp (C)	ORP (mV)	Color/Odor
	Stabilization	< 0.3'	300 - 500		+/- 0.1	+/- 3 %	+/- 10%	+/- 10 %		+/- 10 mV	
Initial	12:25	1.30	300	--	6.92	3.09	11.5	0.87	19.18	-355	grey / strong odor
	12:30	1.34	400	0.4	6.93	3.06	12.9	0.00	19.10	-361	clear / strong odor
	12:35	3.85	400	0.8	6.92	3.06	15.7	0.00	19.40	-361	clear / strong odor
	12:40	4.40	300	1.2	6.92	3.12	11.9	0.00	19.48	-364	clear / strong odor
	12:45	4.80	300	1.6	6.80	3.57	11.6	0.00	18.41	-362	clear / strong odor
	12:50	5.05	250	2.0	6.80	3.56	10.3	0.00	18.96	-367	clear / strong odor
	12:55	5.25	250	2.3	6.78	3.39	8.7	0.00	19.17	-361	clear / strong odor
	13:00	5.30	200	2.6	6.77	3.44	8.4	0.00	19.20	-360	clear / strong odor
	13:00	Collect Sample									
Post	13:50	5	200	NR	6.85	3.34	7.9	0.75	19.39	-353	clear / strong odor

Remarks:

Pump Intake Depth:	Control Box Setting:	Refill:	Discharge:	PSI:
8		10	5	NR

Ferrous Iron = 0.03 mg/L

Purge color seems clear, but when it accumulates in bucket, very dark with strong chemical odor

SAMPLING

Depth to Water Before Sampling: Nor Recorded

Sample Methodology: Low Flow

Sample ID: MW33-111714 QC Sample: None

Sample Date/Time: 11/17/2014 13:00

Sampler / Signature: T. Salsburg

Sample Observations:

Parameters: VOCs, PAH, metals, MNA parameters

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: MW-34 | **Site:** Former Hampshire Corporation (Waterloo, NY)

Field Crew: A. Watson | **Date: 11/13/2014** | **Project #: 495104.01.WA**

Well Depth (ft.): 15
DTW (ft.): 2.10
Water Column (ft.): 12.90
Well Diameter (in.): 2
Gal. per ft.: 0.163
Well Volume (gal.): 2.10
Depth of Screen (ft.): 5-15

Purge Methodology: Low Flow using a bladder pump, with HDPE, Teflon-Lined tubing

Diameter	Gal. Per Foot	Diameter	Gal. Per Foot
2"	.163	5"	1.020
3"	.367	6"	1.469
4"	.653	8"	2.611

Field Parameters

	Time	DTW (tic)	Flow Rate (ml/min)	Total Volume (gal)	pH (Std. Units)	Cond. (mS/cm)	Turbidity (NTU)	D.O. [Surface] (mg/l)	Temp (C)	ORP (mV)	Color/Odor
	Stabilization	< 0.3'	300 - 500		+/- 0.1	+/- 3 %	+/- 10%	+/- 10 %		+/- 10 mV	
Initial	12:25	2.48	300	--	7.31	1.69	120.0	3.34	16.71	-183	off grey to clear / no odor
	12:30	3.30	300	0.5	7.22	1.34	71.4	1.31	17.91	-231	off grey to clear / no odor
	12:35	3.79	300	1.0	7.19	1.28	43.0	1.11	18.14	-232	off grey to clear / no odor
	12:40	4.10	300	1.5	7.16	1.21	37.7	0.89	18.27	-228	off grey to clear / no odor
	12:45	4.30	300	2.0	7.16	1.18	29.4	0.82	18.35	-229	off grey to clear / no odor
	12:50	4.50	300	2.5	7.17	1.17	19.4	0.77	18.44	-232	off grey to clear / no odor
	12:55	4.55	300	3.0	7.18	1.16	13.2	0.73	18.49	-234	off grey to clear / no odor
	13:00	4.75	300	4.0	7.18	1.16	6.3	0.71	18.47	-235	off grey to clear / no odor
	13:05	4.75	300	4.5	7.18	1.15	1.6	0.67	18.49	-235	off grey to clear / no odor
	13:10	4.75	300	5.0	7.18	1.15	1.1	0.66	18.50	-234	off grey to clear / no odor
	13:12	Collect Sample									
Post	13:35	4.75	300	7.0	7.21	1.15	1.7	0.62	18.48	-207	off grey / slight sulfur odor

Remarks: Pump Intake Depth: 10 | Control Box Setting: Refill: 10 | Discharge: 5 | PSI: 22

Ferrous Iron = 1.15 mg/L

SAMPLING

Depth to Water Before Sampling: Not Recorded

Sample Methodology: Low Flow

Sample ID: MW-34-111414 | QC Sample: DUP-GW-111314

Sample Date/Time: 11/13/2014 13:12

Sampler / Signature: A. Watson

Sample Observations: slight sulfur odor

Parameters: VOCs, PAH, metals, MNA parameters

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: PZ-01 | **Site:** Former Hampshire Corporation (Waterloo, NY)

Field Crew: Dan Holmes | **Date: 11/17/2014** | **Project #: 495104.01.WA**

Well Depth (ft.): 9.5
DTW (ft.): 2.40
Water Column (ft.): 7.10
Well Diameter (in.): 1
Gal. per ft.: 0.041
Well Volume (gal.): 0.29
Depth of Screen (ft.): 4-14

Purge Methodology: Low Flow using a bladder pump, with HDPE, Teflon-Lined tubing

Diameter	Gal. Per Foot	Diameter	Gal. Per Foot
2"	.163	5"	1.020
3"	.367	6"	1.469
4"	.653	8"	2.611

Field Parameters

	Time	DTW (tic)	Flow Rate (ml/min)	Total Volume (gal)	pH (Std. Units)	Cond. (mS/cm)	Turbidity (NTU)	D.O. [Surface] (mg/l)	Temp (C)	ORP (mV)	Color/Odor
	Stabilization	< 0.3'	300 - 500		+/- 0.1	+/- 3 %	+/- 10%	+/- 10 %		+/- 10 mV	
Initial	10:23	2.42	<50	0.00	6.88	1.92	17.3	2.42	17.73	-75	slight brown
	10:28	2.42	<50	0.01	6.88	1.92	17.5	2.24	17.74	-73	slight brown
	10:33	2.42	<50	0.02	6.89	1.92	19.7	2.09	17.74	-72	slight brown
	10:38	2.43	<50	0.03	6.89	1.92	20.1	2.00	17.75	-72	slight brown
	10:43	2.44	<50	0.04	6.90	1.91	18.9	1.88	17.84	-73	slight brown
	10:48	2.44	<50	0.05	6.90	1.91	17.3	1.84	17.85	-73	slight brown
	10:53	2.44	<50	0.06	6.90	1.90	15.3	1.77	17.98	-74	slight brown
	10:58	2.42	<50	0.07	6.90	1.89	15.0	1.73	18.07	-75	slight brown
	11:08	2.42	<50	0.08	6.91	1.88	12.8	1.64	18.23	-77	slight brown
	11:18	2.42	<50	0.09	6.90	1.86	14.2	1.54	18.30	-78	slight brown
	11:28	2.42	<50	0.10	6.90	1.85	13.1	1.46	18.36	-79	slight brown
	11:38	2.42	<50	0.11	6.91	1.84	13.3	1.42	18.46	-79	slight brown
	11:45	Collect Sample									

Remarks:

Pump Intake Depth:	Control Box Setting:	Refill:	Discharge:	PSI:
7		10	5	25

Issues in getting sufficient flow

Extremely low flow rate, switch to 10 min. intervals at 10:58

No post purge readings taken due to insufficient flow, finished sampling at 15:30

Ferrous Iron = 0.48 mg/L

SAMPLING

Depth to Water Before Sampling: 2.40

Sample Methodology: Low Flow

Sample ID: PZ-01-111714 QC Sample: None

Sample Date/Time: 11/17/2014 11:45

Sampler / Signature: Dan Holmes

Sample Observations:

Parameters: VOCs, PAH, metals, MNA parameters

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: PZ-03 | **Site:** Former Hampshire Corporation (Waterloo, NY)

Field Crew: T. Salsburg | **Date: 11/17/2014** | **Project #: 495104.01.WA**

Well Depth (ft.): 11
DTW (ft.): 3.60
Water Column (ft.): 7.40
Well Diameter (in.): 1
Gal. per ft.: 0.041
Well Volume (gal.): 0.30
Depth of Screen (ft.): 4-12

Purge Methodology: Low Flow using a bladder pump, with HDPE, Teflon-Lined tubing

Diameter	Gal. Per Foot	Diameter	Gal. Per Foot
2"	.163	5"	1.020
3"	.367	6"	1.469
4"	.653	8"	2.611

Field Parameters

	Time	DTW (tic)	Flow Rate (ml/min)	Total Volume (gal)	pH (Std. Units)	Cond. (mS/cm)	Turbidity (NTU)	D.O. [Surface] (mg/l)	Temp (C)	ORP (mV)	Color/Odor
	Stabilization	< 0.3'	300 - 500		+/- 0.1	+/- 3 %	+/- 10%	+/- 10 %		+/- 10 mV	
Initial	10:00	3.65	50	--	6.92	4.51	117.0	5.08	18.87	-84	grey / odor
	10:05	3.63	50	0.1	6.97	4.53	97.2	1.45	19.20	-92	grey / odor
	10:10	3.60	50	0.2	7.01	4.61	39.8	0.97	19.73	-104	clearing up
	10:15	3.61	50	0.2	7.04	4.67	20.2	0.71	19.94	-111	clearing up
	10:20	3.70	50	0.3	7.05	4.71	14.5	0.50	20.03	-115	clearing up
	10:25	3.71	50	0.4	7.06	4.74	11.9	0.52	20.10	-117	clear / odor
	10:30	3.72	50	0.5	7.07	4.78	10.9	0.43	20.15	-119	clear / odor
	10:35	3.73	50	0.6	7.07	4.78	8.7	0.34	20.17	-120	clear / odor
	10:40	3.73	50	0.7	7.08	4.78	8.1	0.29	20.20	-121	clear / odor
	10:45	3.74	50	0.8	7.09	4.71	7.5	0.27	20.24	-123	clear / odor
	10:50	Collect Sample									
Post	12:15	3.94	50	NR	7.04	4.52	11.6	2.80	20.99	-100	clear / odor

Remarks:

Pump Intake Depth:	Control Box Setting:	Refill:	Discharge:	PSI:
8		10	5	22

Ferrous Iron = 2.55 mg/L

Water in well upon opening. chemical odor, not as strong as some others

SAMPLING

Depth to Water Before Sampling: Not Recorded

Sample Methodology: Low Flow

Sample ID: PZ03-111714 QC Sample: None

Sample Date/Time: 11/17/2014 10:50

Sampler / Signature: T. Salsburg

Sample Observations: clear

Parameters: VOCs, PAH, metals, MNA parameters

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: PZ-04 | **Site:** Former Hampshire Corporation (Waterloo, NY)

Field Crew: T. Salsburg | **Date: 11/13/2014** | **Project #: 495104.01.WA**

Well Depth (ft.): 10.5
DTW (ft.): 3.40
Water Column (ft.): 7.10
Well Diameter (in.): 1
Gal. per ft.: NR
Well Volume (gal.): NR
Depth of Screen (ft.): 5.5-10.5

Purge Methodology: Low Flow using a bladder pump, with HDPE, Teflon-Lined tubing

Diameter	Gal. Per Foot	Diameter	Gal. Per Foot
2"	.163	5"	1.020
3"	.367	6"	1.469
4"	.653	8"	2.611

Field Parameters

	Time	DTW (tic)	Flow Rate (ml/min)	Total Volume (gal)	pH (Std. Units)	Cond. (mS/cm)	Turbidity (NTU)	D.O. [Surface] (mg/l)	Temp (C)	ORP (mV)	Color/Odor
	Stabilization	< 0.3'	300 - 500		+/- 0.1	+/- 3 %	+/- 10%	+/- 10 %		+/- 10 mV	
Initial	11:31	3.50	<50	--	7.85	11.50	245.0	0.11	8.11	-406	greenish grey / odor
	11:36	3.51	<50	0.1	7.47	10.30	143.0	0.28	9.24	-397	greenish grey / odor
	11:41	3.52	<50	0.2	7.25	9.96	130.0	0.00	8.36	-392	greenish grey / odor
	11:46	3.52	<50	0.2	7.12	9.64	79.3	0.00	8.56	-392	greenish grey / odor
	11:51	3.52	<50	0.3	7.03	9.43	40.6	0.00	8.40	-394	greenish grey / odor
	11:56	3.52	<50	0.3	7.00	9.35	31.6	0.00	9.12	-397	greenish grey / odor
	12:01	3.52	<50	0.3	6.95	9.25	21.9	0.00	9.48	-397	greenish grey / odor
	12:06	3.52	<50	0.4	6.93	9.21	18.0	0.00	9.70	-399	greenish grey / odor
	12:11	3.53	<50	0.4	6.91	8.85	13.6	0.00	11.08	-399	greenish grey / odor
	12:16	3.53	<50	0.4	6.90	8.82	11.9	0.00	11.17	-399	greenish grey / odor
	12:21	3.53	50	0.4	6.90	8.78	10.5	0.00	11.05	-398	greenish grey / odor
	12:25	Collect Sample									
Final	13:40	NR	NR	NR	6.91	9.11	55.7	0.40	7.40	-377	

Remarks: Pump Intake Depth: | Control Box Setting: | Refill: 10 | Discharge: 5 | PSI: 28

Ferrous iron = 0.00 mg/L

strong chemical odor

Filtered metals were collected; filter size 0.45

SAMPLING

Depth to Water Before Sampling: 3.53

Sample Methodology: Low Flow

Sample ID: PZ04-111314 QC Sample: None

Sample Date/Time: 11/13/2014 12:25

Sampler / Signature: Taylor Salsburg

Sample Observations:

Parameters: VOCs, PAH, metals, MNA parameters

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: PZ-05 | **Site:** Former Hampshire Corporation (Waterloo, NY)

Field Crew: A. Watson | **Date: 11/13/2014** | **Project #: 495104.01.WA**

Well Depth (ft.): 10.0
DTW (ft.): 4.03
Water Column (ft.): NR
Well Diameter (in.): 1
Gal. per ft.: NR
Well Volume (gal.): NR
Depth of Screen (ft.): 5-10

Purge Methodology: Low Flow using a bladder pump, with HDPE, Teflon-Lined tubing

Diameter	Gal. Per Foot	Diameter	Gal. Per Foot
2"	.163	5"	1.020
3"	.367	6"	1.469
4"	.653	8"	2.611

Field Parameters

	Time	DTW (tic)	Flow Rate (ml/min)	Total Volume (gal)	pH (Std. Units)	Cond. (mS/cm)	Turbidity (NTU)	D.O. [Surface] (mg/l)	Temp (C)	ORP (mV)	Color/Odor
	Stabilization	< 0.3'	300 - 500		+/- 0.1	+/- 3 %	+/- 10%	+/- 10 %		+/- 10 mV	
Initial	11:50	4.30	60	0.0	7.46	6.80	44.7	2.01	12.08	-349	brownish / strong sulfur-like odor
	11:55	4.30	60	0.1	6.27	6.42	19.3	1.55	12.63	-356	
	12:00	4.30	60	0.2	5.83	6.31	10.4	1.42	13.01	-359	
	12:05	4.30	60	0.3	5.64	6.28	5.9	1.28	13.13	-362	
	12:10	4.30	60	0.4	5.53	6.31	3.5	1.16	13.14	-365	
	12:!5	4.30	60	0.5	5.46	6.32	2.6	1.09	13.12	-366	
	12:20	4.30	60	0.6	5.41	6.37	2.0	1.06	13.14	-368	
	12:25	4.30	60	0.7	5.38	6.40	1.7	1.02	13.11	-369	
	12:30	4.30	60	0.8	5.35	6.44	0.8	1.00	13.17	-371	
	12:35	Collect Sample									
Final	14:10	4.30	60	2.0	5.63	7.12	3.2	1.61	9.57	-369	

Remarks: Pump Intake Depth: 8.5 Control Box Setting: Refill: Discharge: PSI:

Ferrous iron = 0.05 mg/L

SAMPLING

Depth to Water Before Sampling: NR

Sample Methodology: Low Flow

Sample ID: PZ05-111314 QC Sample: None

Sample Date/Time: 11/13/2014 12:35

Sampler / Signature: A. Watson

Sample Observations:

Parameters: VOCs, PAH, metals, MNA parameters

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: PZ-07 | **Site:** Former Hampshire Corporation (Waterloo, NY)

Field Crew: A. Watson | **Date: 11/12/2014** | **Project #: 495104.01.WA**

Well Depth (ft.): 10
DTW (ft.): 4.55
Water Column (ft.): NR
Well Diameter (in.): 1
Gal. per ft.: NR
Well Volume (gal.): NR
Depth of Screen (ft.): NR

Purge Methodology: Low Flow using a bladder pump, with HDPE, Teflon-Lined tubing

Diameter	Gal. Per Foot	Diameter	Gal. Per Foot
2"	.163	5"	1.020
3"	.367	6"	1.469
4"	.653	8"	2.611

Field Parameters

	Time	DTW (tic)	Flow Rate (ml/min)	Total Volume (gal)	pH (Std. Units)	Cond. (mS/cm)	Turbidity (NTU)	D.O. [Surface] (mg/l)	Temp (C)	ORP (mV)	Color/Odor
	Stabilization	< 0.3'	300 - 500		+/- 0.1	+/- 3 %	+/- 10%	+/- 10 %		+/- 10 mV	
Initial	9:30	NR	~30	--	8.45	0.844	183.0	3.63	11.99	-98	dark black particles
	9:40	NR	~30	0.25	8.68	0.820	71.7	1.73	12.78	-79	dark grey / no odor
	9:50	NR	~30	0.40	8.64	0.817	56.4	1.47	12.88	-77	
	10:00	NR	30	0.60	8.57	0.808	28.3	0.98	13.04	-77	
	10:10	NR	30	0.90	8.60	0.798	18.8	0.73	13.11	-83	
	10:20	NR	30	1.20	8.63	0.798	7.3	0.48	13.10	-90	
	10:30	NR	30	1.40	8.60	0.794	3.8	0.40	13.14	-92	
	10:40	NR	30	1.80	8.53	0.791	0.0	0.33	13.14	-95	
	10:50	Collect Sample									
Final	12:10	NR	30	2.5	8.58	0.794	0.0	0.40	12.94	-92	NR

Remarks: Pump Intake Depth: 8.5 | Control Box Setting: | Refill: NR | Discharge: NR | PSI: NR

Ferrous iron = 2.33 mg/L

SAMPLING

Depth to Water Before Sampling: NR

Sample Methodology: Low Flow

Sample ID: PZ07-111214 | QC Sample: None

Sample Date/Time: 11/12/2014 10:50

Sampler / Signature: A. Watson

Sample Observations: NR

Parameters: VOCs, PAH, metals, MNA parameters

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: TW-01 | **Site:** Former Hampshire Corporation (Waterloo, NY)

Field Crew: T. Salsburg | **Date: 11/11/2014** | **Project #: 495104.01.WA**

Well Depth (ft.): 20
DTW (ft.): 16.42
Water Column (ft.): 3.58
Well Diameter (in.): 2
Gal. per ft.: 0.163
Well Volume (gal.): NR
Depth of Screen (ft.): NR

Purge Methodology: Low Flow using a bladder pump, with HDPE, Teflon-Lined tubing

Diameter	Gal. Per Foot	Diameter	Gal. Per Foot
2"	.163	5"	1.020
3"	.367	6"	1.469
4"	.653	8"	2.611

Field Parameters

	Time	DTW (tic)	Flow Rate (ml/min)	Total Volume (gal)	pH (Std. Units)	Cond. (mS/cm)	Turbidity (NTU)	D.O. [Surface] (mg/l)	Temp (C)	ORP (mV)	Color/Odor
	Stabilization	< 0.3'	300 - 500		+/- 0.1	+/- 3 %	+/- 10%	+/- 10 %		+/- 10 mV	
Initial	14:50	16.70	300	--	6.93	1.72	80.4	1.43	15.15	-112	grey
	14:55	16.58	250	0.2	6.96	1.75	26.5	0.58	14.12	-123	clearing up
	15:00	16.58	250	0.4	6.95	1.75	16.1	0.57	13.99	-124	clear
	15:05	16.60	275	0.7	6.95	1.78	8.7	0.62	13.70	-125	clear
	15:10	16.60	275	1.0	6.94	1.79	5.1	0.91	13.63	-124	clear
	15:15	16.60	275	1.3	6.94	1.80	2.1	0.45	13.63	-124	clear
	15:20	16.60	275	1.6	6.95	1.81	0.8	0.96	13.65	-125	clear
	15:25	Collect Sample									
Final	16:08	16.61	275	--	6.97	1.82	0.0	2.14	16.41	-128	clear

Remarks: Pump Intake Depth: 18 | Control Box Setting: | Refill: 10 | Discharge: 5 | PSI: 18

SAMPLING

Depth to Water Before Sampling: NR

Sample Methodology: Low Flow

Sample ID: TW01-111114 | QC Sample: None

Sample Date/Time: 11/11/2014 15:25

Sampler / Signature: Taylor Salsburg

Sample Observations: NR

Parameters: VOCs, PAH, metals, MNA parameters

Appendix C
Laboratory NYSDOH ELAP Certifications

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

Expires 12:01 AM April 01, 2016
Issued April 01, 2015
Revised May 20, 2015

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MR. DUANE LUCKENBILL
EUROFINS LANCASTER LABORATORIES
ENVIRONMENTAL LLC
2425 NEW HOLLAND PIKE
LANCASTER, PA 17601-5994

NY Lab Id No: 10670

is hereby APPROVED as an Environmental Laboratory in conformance with the National Environmental Laboratory Accreditation Conference Standards (2003) for the category ENVIRONMENTAL ANALYSES POTABLE WATER
All approved analytes are listed below:

Bacteriology	
Coliform, Total / E. coli (Qualitative)	SM 18-22 9223B (-97) (Colilert)
Chlorinated Acids	
2,4,5-TP (Silvex)	EPA 515.1
2,4-D	EPA 515.1
Dalapon	EPA 515.1
Dicamba	EPA 515.1
Dinoseb	EPA 515.1
Pentachlorophenol	EPA 515.1
Picloram	EPA 515.1
Fuel Additives	
Methyl tert-butyl ether	EPA 524.2
Naphthalene	EPA 524.2
Metals I	
Arsenic, Total	EPA 200.8 Rev. 5.4
Barium, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4
Cadmium, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4
Chromium, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4
Copper, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4
Iron, Total	EPA 200.7 Rev. 4.4
Lead, Total	EPA 200.8 Rev. 5.4
Metals I	
Manganese, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4
Mercury, Total	EPA 245.1 Rev. 3.0
Selenium, Total	EPA 200.8 Rev. 5.4
Silver, Total	EPA 200.7 Rev. 4.4
Zinc, Total	EPA 200.7 Rev. 4.4
Metals II	
Aluminum, Total	EPA 200.7 Rev. 4.4
Antimony, Total	EPA 200.8 Rev. 5.4
Beryllium, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4
Nickel, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4
Thallium, Total	EPA 200.8 Rev. 5.4
Metals III	
Calcium, Total	EPA 200.7 Rev. 4.4
Potassium, Total	EPA 200.7 Rev. 4.4
Sodium, Total	EPA 200.7 Rev. 4.4
Methylcarbamate Pesticides	
3-Hydroxy Carbofuran	EPA 531.1
Aldicarb	EPA 531.1
Aldicarb Sulfone	EPA 531.1
Aldicarb Sulfoxide	EPA 531.1
Carbaryl	EPA 531.1

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All approved analytes are listed below:

Methylcarbamate Pesticides	
Carbofuran	EPA 531.1
Methomyl	EPA 531.1
Oxamyl	EPA 531.1
Microextractibles	
1,2-Dibromo-3-chloropropane	EPA 504.1
1,2-Dibromoethane	EPA 504.1
Miscellaneous	
2,3,7,8-Tetrachlorodibenzo-p-dioxin	EPA 1613B
Benzo(a)pyrene	EPA 525.2
Bis(2-ethylhexyl) phthalate	EPA 525.2
Di (2-ethylhexyl) adipate	EPA 525.2
Hexachlorobenzene	EPA 508
	EPA 525.2
Hexachlorocyclopentadiene	EPA 508
	EPA 525.2
Non-Metals	
Alkalinity	SM 18-22 2320B (-97)
Calcium Hardness	SM 18-22 2340C (-97)
	SM 18-22 2340B (-97)
Chloride	EPA 300.0 Rev. 2.1
Color	SM 18-22 2120B (-01)
Cyanide	EPA 335.4 Rev. 1.0
Fluoride, Total	EPA 300.0 Rev. 2.1
	SM 18-22 4500-F C (-97)

Non-Metals	
Nitrate (as N)	EPA 353.2 Rev. 2.0
	EPA 300.0 Rev. 2.1
Nitrite (as N)	EPA 353.2 Rev. 2.0
	EPA 300.0 Rev. 2.1
Silica, Dissolved	SM 20-22 4500-SiO2 C (-97)
Solids, Total Dissolved	SM 18-22 2540C (-97)
Specific Conductance	SM 18-22 2510B (-97)
Sulfate (as SO4)	EPA 300.0 Rev. 2.1
Organohalide Pesticides	
Alachlor	EPA 507
	EPA 525.2
Aldrin	EPA 508
Atrazine	EPA 507
	EPA 525.2
Butachlor	EPA 525.2
Chlordane Total	EPA 508
Dieldrin	EPA 508
	EPA 525.2
Endrin	EPA 508
	EPA 525.2
Heptachlor	EPA 508
	EPA 525.2
Heptachlor epoxide	EPA 508
	EPA 525.2
Lindane	EPA 508

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All approved analytes are listed below:

Organohalide Pesticides	
Lindane	EPA 525.2
Methoxychlor	EPA 508
	EPA 525.2
Metolachlor	EPA 525.2
Metribuzin	EPA 525.2
Propachlor	EPA 525.2
Simazine	EPA 507
	EPA 525.2
Toxaphene	EPA 508
Trihalomethanes	
Bromodichloromethane	EPA 524.2
Bromoform	EPA 524.2
Chloroform	EPA 524.2
Dibromochloromethane	EPA 524.2
Total Trihalomethanes	EPA 524.2
Volatile Aromatics	
1,2,3-Trichlorobenzene	EPA 524.2
1,2,4-Trichlorobenzene	EPA 524.2
1,2,4-Trimethylbenzene	EPA 524.2
1,2-Dichlorobenzene	EPA 524.2
1,3,5-Trimethylbenzene	EPA 524.2
1,3-Dichlorobenzene	EPA 524.2
1,4-Dichlorobenzene	EPA 524.2
2-Chlorotoluene	EPA 524.2
4-Chlorotoluene	EPA 524.2

Volatile Aromatics	
Benzene	EPA 524.2
Bromobenzene	EPA 524.2
Chlorobenzene	EPA 524.2
Ethyl benzene	EPA 524.2
Hexachlorobutadiene	EPA 524.2
Isopropylbenzene	EPA 524.2
n-Butylbenzene	EPA 524.2
n-Propylbenzene	EPA 524.2
p-Isopropyltoluene (P-Cymene)	EPA 524.2
sec-Butylbenzene	EPA 524.2
Styrene	EPA 524.2
tert-Butylbenzene	EPA 524.2
Toluene	EPA 524.2
Total Xylenes	EPA 524.2
Volatile Halocarbons	
1,1,1,2-Tetrachloroethane	EPA 524.2
1,1,1-Trichloroethane	EPA 524.2
1,1,2,2-Tetrachloroethane	EPA 524.2
1,1,2-Trichloroethane	EPA 524.2
1,1-Dichloroethane	EPA 524.2
1,1-Dichloroethene	EPA 524.2
1,1-Dichloropropene	EPA 524.2
1,2,3-Trichloropropane	EPA 524.2
1,2-Dichloroethane	EPA 524.2
1,2-Dichloropropane	EPA 524.2

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All approved analytes are listed below:

Volatile Halocarbons

1,3-Dichloropropane	EPA 524.2
2,2-Dichloropropane	EPA 524.2
Bromochloromethane	EPA 524.2
Bromomethane	EPA 524.2
Carbon tetrachloride	EPA 524.2
Chloroethane	EPA 524.2
Chloromethane	EPA 524.2
cis-1,2-Dichloroethene	EPA 524.2
cis-1,3-Dichloropropene	EPA 524.2
Dibromomethane	EPA 524.2
Dichlorodifluoromethane	EPA 524.2
Methylene chloride	EPA 524.2
Tetrachloroethene	EPA 524.2
trans-1,2-Dichloroethene	EPA 524.2
trans-1,3-Dichloropropene	EPA 524.2
Trichloroethene	EPA 524.2
Trichlorofluoromethane	EPA 524.2
Vinyl chloride	EPA 524.2

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NEW YORK STATE DEPARTMENT OF HEALTH
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LANCASTER, PA 17601-5994

NY Lab Id No: 10670

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All approved analytes are listed below:

Acrylates	
Acrolein (Propenal)	EPA 8260C
	EPA 624
Acrylonitrile	EPA 8260C
	EPA 624
Amines	
1,2-Diphenylhydrazine	EPA 8270D
1,4-Phenylenediamine	EPA 8270D
1-Naphthylamine	EPA 8270D
2-Naphthylamine	EPA 8270D
2-Nitroaniline	EPA 8270D
3-Nitroaniline	EPA 8270D
4-Chloroaniline	EPA 8270D
4-Nitroaniline	EPA 8270D
5-Nitro-o-toluidine	EPA 8270D
a,a-Dimethylphenethylamine	EPA 8270D
Aniline	EPA 8270D
Carbazole	EPA 8270D
Diphenylamine	EPA 8270D
Methapyrilene	EPA 8270D
Pronamide	EPA 8270D
Propionitrile	EPA 8260C
Pyridine	EPA 8270D
Benzidines	
3,3'-Dichlorobenzidine	EPA 625
	EPA 8270D
Benzidines	
3,3'-Dimethylbenzidine	EPA 8270D
Benzidine	EPA 625
	EPA 8270D
Chlorinated Hydrocarbon Pesticides	
4,4'-DDD	EPA 8081B
	EPA 608
4,4'-DDE	EPA 8081B
	EPA 608
4,4'-DDT	EPA 8081B
	EPA 608
Aldrin	EPA 8081B
	EPA 608
alpha-BHC	EPA 8081B
	EPA 608
alpha-Chlordane	EPA 8081B
beta-BHC	EPA 8081B
	EPA 608
Chlordane Total	EPA 8081B
	EPA 608
delta-BHC	EPA 8081B
	EPA 608
Dieldrin	EPA 8081B
	EPA 608
Endosulfan I	EPA 8081B
	EPA 608

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CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MR. DUANE LUCKENBILL
EUROFINS LANCASTER LABORATORIES
ENVIRONMENTAL LLC
2425 NEW HOLLAND PIKE
LANCASTER, PA 17601-5994

NY Lab Id No: 10670

is hereby APPROVED as an Environmental Laboratory in conformance with the National Environmental Laboratory Accreditation Conference Standards (2003) for the category ENVIRONMENTAL ANALYSES NON POTABLE WATER
All approved analytes are listed below:

Chlorinated Hydrocarbon Pesticides	
Endosulfan II	EPA 8081B
	EPA 608
Endosulfan sulfate	EPA 8081B
	EPA 608
Endrin	EPA 8081B
	EPA 608
Endrin aldehyde	EPA 8081B
	EPA 608
Endrin Ketone	EPA 8081B
gamma-Chlordane	EPA 8081B
Heptachlor	EPA 8081B
	EPA 608
Heptachlor epoxide	EPA 8081B
	EPA 608
Kepone	EPA 8081B
Lindane	EPA 8081B
	EPA 608
Methoxychlor	EPA 8081B
Mirex	EPA 8081B
Toxaphene	EPA 8081B
	EPA 608
Chlorinated Hydrocarbons	
1,2,3-Trichlorobenzene	EPA 8260C
1,2,4,5-Tetrachlorobenzene	EPA 8270D
1,2,4-Trichlorobenzene	EPA 625

Chlorinated Hydrocarbons	
1,2,4-Trichlorobenzene	EPA 8270D
1-Chloronaphthalene	EPA 8270D
2-Chloronaphthalene	EPA 625
	EPA 8270D
Hexachlorobenzene	EPA 625
	EPA 8270D
Hexachlorobutadiene	EPA 625
	EPA 8270D
Hexachlorocyclopentadiene	EPA 625
	EPA 8270D
Hexachloroethane	EPA 625
	EPA 8270D
Hexachloropropene	EPA 8270D
Pentachlorobenzene	EPA 8270D
Chlorophenoxy Acid Pesticides	
2,4,5-T	EPA 8151A
2,4,5-TP (Silvex)	EPA 8151A
2,4-D	EPA 8151A
2,4-DB	EPA 8151A
Dalapon	EPA 8151A
Dicamba	EPA 8151A
Dichloroprop	EPA 8151A
Dinoseb	EPA 8151A
Demand	
Biochemical Oxygen Demand	SM 5210B-01,-11

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Demand	
Carbonaceous BOD	SM 5210B-01,-11
Chemical Oxygen Demand	EPA 410.4 Rev. 2.0
Dioxins and Furans	
1,2,3,4,6,7,8,9-Octachlorodibenzofuran	EPA 8290A
	EPA 1613B
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-diox	EPA 8290A
	EPA 1613B
1,2,3,4,6,7,8-Heptachlorodibenzofuran	EPA 8290A
	EPA 1613B
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxi	EPA 8290A
	EPA 1613B
1,2,3,4,7,8,9-Heptachlorodibenzofuran	EPA 8290A
	EPA 1613B
1,2,3,4,7,8-Hexachlorodibenzofuran	EPA 8290A
	EPA 1613B
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	EPA 8290A
	EPA 1613B
1,2,3,6,7,8-Hexachlorodibenzofuran	EPA 8290A
	EPA 1613B
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	EPA 8290A
	EPA 1613B
1,2,3,7,8,9-Hexachlorodibenzofuran	EPA 8290A
	EPA 1613B
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	EPA 8290A
	EPA 1613B
Dioxins and Furans	
1,2,3,7,8-Pentachlorodibenzofuran	EPA 8290A
	EPA 1613B
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	EPA 8290A
	EPA 1613B
2,3,4,6,7,8-Hexachlorodibenzofuran	EPA 8290A
	EPA 1613B
2,3,4,7,8-Pentachlorodibenzofuran	EPA 8290A
	EPA 1613B
2,3,7,8-Tetrachlorodibenzofuran	EPA 8290A
	EPA 1613B
2,3,7,8-Tetrachlorodibenzo-p-dioxin	EPA 8290A
	EPA 1613B
Dissolved Gases	
Ethane	RSK-175
Ethene (Ethylene)	RSK-175
Methane	RSK-175
Fuel Oxygenates	
Di-isopropyl ether	EPA 8260C
Ethanol	EPA 8260C
Methyl tert-butyl ether	EPA 8260C
	EPA 8021B
tert-amyl alcohol	EPA 8260C
tert-amyl methyl ether (TAME)	EPA 8260C
tert-butyl alcohol	EPA 8260C
tert-butyl ethyl ether (ETBE)	EPA 8260C

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Haloethers	
2,2'-Oxybis(1-chloropropane)	EPA 625
	EPA 8270D
4-Bromophenylphenyl ether	EPA 625
	EPA 8270D
4-Chlorophenylphenyl ether	EPA 625
	EPA 8270D
Bis(2-chloroethoxy)methane	EPA 625
	EPA 8270D
Bis(2-chloroethyl)ether	EPA 625
	EPA 8270D
Low Level Polynuclear Aromatics	
Acenaphthene Low Level	EPA 8270D SIM
Acenaphthylene Low Level	EPA 8270D SIM
Anthracene Low Level	EPA 8270D SIM
Benzo(a)anthracene Low Level	EPA 8270D SIM
Benzo(a)pyrene Low Level	EPA 8270D SIM
Benzo(b)fluoranthene Low Level	EPA 8270D SIM
Benzo(g,h,i)perylene Low Level	EPA 8270D SIM
Benzo(k)fluoranthene Low Level	EPA 8270D SIM
Chrysene Low Level	EPA 8270D SIM
Dibenzo(a,h)anthracene Low Level	EPA 8270D SIM
Fluoranthene Low Level	EPA 8270D SIM
Fluorene Low Level	EPA 8270D SIM
Indeno(1,2,3-cd)pyrene Low Level	EPA 8270D SIM
Naphthalene Low Level	EPA 8270D SIM
Low Level Polynuclear Aromatics	
Phenanthrene Low Level	EPA 8270D SIM
Pyrene Low Level	EPA 8270D SIM
Metals I	
Barium, Total	EPA 200.7 Rev. 4.4
	EPA 6010C
	EPA 6020A
	EPA 200.8 Rev. 5.4
Cadmium, Total	EPA 200.7 Rev. 4.4
	EPA 6010C
	EPA 6020A
	EPA 200.8 Rev. 5.4
Calcium, Total	EPA 200.7 Rev. 4.4
	EPA 6010C
	EPA 6020A
	EPA 200.8 Rev. 5.4
Chromium, Total	EPA 200.7 Rev. 4.4
	EPA 6010C
	EPA 6020A
	EPA 200.8 Rev. 5.4
Copper, Total	EPA 200.7 Rev. 4.4
	EPA 6010C
	EPA 6020A
	EPA 200.8 Rev. 5.4
Iron, Total	EPA 200.7 Rev. 4.4
	EPA 6010C

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Metals I	
Iron, Total	EPA 6020A
	EPA 200.8 Rev. 5.4
Lead, Total	EPA 200.7 Rev. 4.4
	EPA 6010C
	EPA 6020A
	EPA 200.8 Rev. 5.4
Magnesium, Total	EPA 200.7 Rev. 4.4
	EPA 6010C
	EPA 6020A
	EPA 200.8 Rev. 5.4
Manganese, Total	EPA 200.7 Rev. 4.4
	EPA 6010C
	EPA 200.8 Rev. 5.4
Nickel, Total	EPA 200.7 Rev. 4.4
	EPA 6010C
	EPA 6020A
	EPA 200.8 Rev. 5.4
Potassium, Total	EPA 200.7 Rev. 4.4
	EPA 6010C
	EPA 6020A
	EPA 200.8 Rev. 5.4
Silver, Total	EPA 200.7 Rev. 4.4
	EPA 6010C
	EPA 6020A
	EPA 200.8 Rev. 5.4
Sodium, Total	EPA 200.7 Rev. 4.4

Metals I	
Sodium, Total	EPA 6010C
	EPA 6020A
	EPA 200.8 Rev. 5.4
Strontium, Total	EPA 6010C
	EPA 6020A
	EPA 200.8 Rev. 5.4
Metals II	
Aluminum, Total	EPA 200.7 Rev. 4.4
	EPA 6010C
	EPA 6020A
	EPA 200.8 Rev. 5.4
Antimony, Total	EPA 200.7 Rev. 4.4
	EPA 6010C
	EPA 6020A
	EPA 200.8 Rev. 5.4
Arsenic, Total	EPA 200.7 Rev. 4.4
	EPA 6010C
	EPA 6020A
	EPA 200.8 Rev. 5.4
Beryllium, Total	EPA 200.7 Rev. 4.4
	EPA 6010C
	EPA 6020A
	EPA 200.8 Rev. 5.4
Chromium VI	EPA 218.6 Rev. 3.3
	EPA 7196A

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Metals II

Chromium VI	EPA 7199
	SM 3500-Cr B-09,-11
Mercury, Low Level	EPA 1631E
Mercury, Total	EPA 245.1 Rev. 3.0
	EPA 7470A
Selenium, Total	EPA 200.7 Rev. 4.4
	EPA 6010C
	EPA 6020A
	EPA 200.8 Rev. 5.4
Vanadium, Total	EPA 200.7 Rev. 4.4
	EPA 6010C
	EPA 6020A
	EPA 200.8 Rev. 5.4
Zinc, Total	EPA 200.7 Rev. 4.4
	EPA 6010C
	EPA 6020A
	EPA 200.8 Rev. 5.4

Metals III

Cobalt, Total	EPA 200.7 Rev. 4.4
	EPA 6010C
	EPA 6020A
	EPA 200.8 Rev. 5.4
Molybdenum, Total	EPA 200.7 Rev. 4.4
	EPA 6010C
	EPA 6020A

Metals III

Molybdenum, Total	EPA 200.8 Rev. 5.4
Thallium, Total	EPA 200.7 Rev. 4.4
	EPA 6010C
	EPA 6020A
	EPA 200.8 Rev. 5.4
Tin, Total	EPA 200.7 Rev. 4.4
	EPA 6010C
	EPA 6020A
Titanium, Total	EPA 200.7 Rev. 4.4
	EPA 6010C
	EPA 6020A

Mineral

Acidity	SM 2310B-97,-11
Alkalinity	SM 2320B-97,-11
Chloride	EPA 300.0 Rev. 2.1
	SM 4500-Cl- C-97,-11
	EPA 9056A
Fluoride, Total	EPA 300.0 Rev. 2.1
	SM 4500-F C-97,-11
	EPA 9056A
Hardness, Total	SM 2340C-97,-11
	SM 2340B-97,-11
Sulfate (as SO4)	EPA 300.0 Rev. 2.1
	EPA 9056A

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Miscellaneous	
Boron, Total	EPA 200.7 Rev. 4.4
	EPA 6010C
	EPA 6020A
	EPA 200.8 Rev. 5.4
Bromide	EPA 300.0 Rev. 2.1
Color	SM 2120B-01,-11
Cyanide, Available	OIA-1677
Cyanide, Total	EPA 335.4 Rev. 1.0
	EPA 9012B
Formaldehyde	EPA 8315A
Oil and Grease Total Recoverable (HEM)	EPA 1664A
Organic Carbon, Total	SM 5310B-00,-11
	SM 5310C-00,-11
	EPA 9060A
Perchlorate	EPA 6850
Phenols	EPA 420.4 Rev. 1.0
	EPA 9066
Silica, Dissolved	SM 4500-SiO2 C-97,-11
Specific Conductance	SM 2510B-97,-11
Sulfide (as S)	SM 4500-S2- F-00,-11
	SM 4500-S2- D-00,-11
Surfactant (MBAS)	SM 5540C-00,-11
Turbidity	EPA 180.1 Rev. 2.0
Nitroaromatics and Isophorone	
1,3,5-Trinitrobenzene	EPA 8270D

Nitroaromatics and Isophorone	
1,3,5-Trinitrobenzene	EPA 8330A
1,3-Dinitrobenzene	EPA 8270D
	EPA 8330A
1,4-Naphthoquinone	EPA 8270D
2,4,6-Trinitrotoluene	EPA 8330A
2,4-Dinitrotoluene	EPA 625
	EPA 8270D
	EPA 8330A
2,6-Dinitrotoluene	EPA 625
	EPA 8270D
	EPA 8330A
2-Amino-4,6-dinitrotoluene	EPA 8330A
2-Nitrotoluene	EPA 8330A
3-Nitrotoluene	EPA 8330A
4-Amino-2,6-dinitrotoluene	EPA 8330A
4-Nitrotoluene	EPA 8330A
Hexahydro-1,3,5-trinitro-1,3,5-triazine	EPA 8330A
Isophorone	EPA 625
	EPA 8270D
Methyl-2,4,6-trinitrophenylnitramine	EPA 8330A
Nitrobenzene	EPA 625
	EPA 8270D
	EPA 8330A
Nitroquinoline-1-oxide	EPA 8270D
Octahydro-tetranitro-tetrazocine	EPA 8330A

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Nitrosoamines	
N-Nitrosodiethylamine	EPA 8270D
N-Nitrosodimethylamine	EPA 625
	EPA 8270D
N-Nitrosodi-n-butylamine	EPA 8270D
N-Nitrosodi-n-propylamine	EPA 625
	EPA 8270D
N-Nitrosodiphenylamine	EPA 625
	EPA 8270D
N-nitrosomethylethylamine	EPA 8270D
N-nitrosomorpholine	EPA 8270D
N-nitrosopiperidine	EPA 8270D
N-Nitrosopyrrolidine	EPA 8270D
Nutrient	
Ammonia (as N)	SM 4500-NH3 C-97,-11
	EPA 350.1 Rev. 2.0
	SM 4500-NH3 D or E-97,-11
Kjeldahl Nitrogen, Total	EPA 351.2 Rev. 2.0
Nitrate (as N)	EPA 353.2 Rev. 2.0
	EPA 300.0 Rev. 2.1
	EPA 9056A
Nitrite (as N)	EPA 353.2 Rev. 2.0
	EPA 300.0 Rev. 2.1
	EPA 9056A
Orthophosphate (as P)	EPA 365.3 Rev. 1978
	SM 4500-P E-99,-11
Nutrient	
Phosphorus, Total	EPA 365.1 Rev. 2.0
	SM 4500-P F-99,-11
Organophosphate Pesticides	
Atrazine	EPA 8141B
	EPA 8270D
Azinphos methyl	EPA 8141B
Chlorpyriphos	EPA 8141B
Demeton-O	EPA 8141B
Demeton-S	EPA 8141B
Diazinon	EPA 8141B
Disulfoton	EPA 8141B
Famphur	EPA 8141B
Malathion	EPA 8141B
Parathion ethyl	EPA 8141B
Parathion methyl	EPA 8141B
Phorate	EPA 8141B
Simazine	EPA 8141B
Petroleum Hydrocarbons	
Diesel Range Organics	EPA 8015D
	EPA 8015C
Gasoline Range Organics	EPA 8015D
	EPA 8015C
Phthalate Esters	
Benzyl butyl phthalate	EPA 625

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Phthalate Esters	
Benzyl butyl phthalate	EPA 8270D
Bis(2-ethylhexyl) phthalate	EPA 625
	EPA 8270D
Diethyl phthalate	EPA 625
	EPA 8270D
Dimethyl phthalate	EPA 625
	EPA 8270D
Di-n-butyl phthalate	EPA 625
	EPA 8270D
Di-n-octyl phthalate	EPA 625
	EPA 8270D
Polychlorinated Biphenyls	
PCB 1	EPA 1668 A
PCB 10	EPA 1668 A
PCB 100	EPA 1668 A
PCB 101	EPA 1668 A
PCB 102	EPA 1668 A
PCB 103	EPA 1668 A
PCB 104	EPA 1668 A
PCB 105	EPA 1668 A
PCB 106	EPA 1668 A
PCB 107	EPA 1668 A
PCB 108	EPA 1668 A
PCB 109	EPA 1668 A
PCB 11	EPA 1668 A

Polychlorinated Biphenyls	
PCB 110	EPA 1668 A
PCB 111	EPA 1668 A
PCB 112	EPA 1668 A
PCB 113	EPA 1668 A
PCB 114	EPA 1668 A
PCB 115	EPA 1668 A
PCB 116	EPA 1668 A
PCB 117	EPA 1668 A
PCB 118	EPA 1668 A
PCB 119	EPA 1668 A
PCB 12	EPA 1668 A
PCB 120	EPA 1668 A
PCB 121	EPA 1668 A
PCB 122	EPA 1668 A
PCB 123	EPA 1668 A
PCB 124	EPA 1668 A
PCB 125	EPA 1668 A
PCB 126	EPA 1668 A
PCB 127	EPA 1668 A
PCB 128	EPA 1668 A
PCB 129	EPA 1668 A
PCB 13	EPA 1668 A
PCB 130	EPA 1668 A
PCB 131	EPA 1668 A
PCB 132	EPA 1668 A
PCB 133	EPA 1668 A

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Polychlorinated Biphenyls		Polychlorinated Biphenyls	
PCB 134	EPA 1668 A	PCB 158	EPA 1668 A
PCB 135	EPA 1668 A	PCB 159	EPA 1668 A
PCB 136	EPA 1668 A	PCB 16	EPA 1668 A
PCB 137	EPA 1668 A	PCB 160	EPA 1668 A
PCB 138	EPA 1668 A	PCB 161	EPA 1668 A
PCB 139	EPA 1668 A	PCB 162	EPA 1668 A
PCB 14	EPA 1668 A	PCB 163	EPA 1668 A
PCB 140	EPA 1668 A	PCB 164	EPA 1668 A
PCB 141	EPA 1668 A	PCB 165	EPA 1668 A
PCB 142	EPA 1668 A	PCB 166	EPA 1668 A
PCB 143	EPA 1668 A	PCB 167	EPA 1668 A
PCB 144	EPA 1668 A	PCB 168	EPA 1668 A
PCB 145	EPA 1668 A	PCB 169	EPA 1668 A
PCB 146	EPA 1668 A	PCB 17	EPA 1668 A
PCB 147	EPA 1668 A	PCB 170	EPA 1668 A
PCB 148	EPA 1668 A	PCB 171	EPA 1668 A
PCB 149	EPA 1668 A	PCB 172	EPA 1668 A
PCB 15	EPA 1668 A	PCB 173	EPA 1668 A
PCB 150	EPA 1668 A	PCB 174	EPA 1668 A
PCB 151	EPA 1668 A	PCB 175	EPA 1668 A
PCB 152	EPA 1668 A	PCB 176	EPA 1668 A
PCB 153	EPA 1668 A	PCB 177	EPA 1668 A
PCB 154	EPA 1668 A	PCB 178	EPA 1668 A
PCB 155	EPA 1668 A	PCB 179	EPA 1668 A
PCB 156	EPA 1668 A	PCB 18	EPA 1668 A
PCB 157	EPA 1668 A	PCB 180	EPA 1668 A

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Polychlorinated Biphenyls		Polychlorinated Biphenyls	
PCB 181	EPA 1668 A	PCB 204	EPA 1668 A
PCB 182	EPA 1668 A	PCB 205	EPA 1668 A
PCB 183	EPA 1668 A	PCB 206	EPA 1668 A
PCB 184	EPA 1668 A	PCB 207	EPA 1668 A
PCB 185	EPA 1668 A	PCB 208	EPA 1668 A
PCB 186	EPA 1668 A	PCB 209	EPA 1668 A
PCB 187	EPA 1668 A	PCB 21	EPA 1668 A
PCB 188	EPA 1668 A	PCB 22	EPA 1668 A
PCB 189	EPA 1668 A	PCB 23	EPA 1668 A
PCB 19	EPA 1668 A	PCB 24	EPA 1668 A
PCB 190	EPA 1668 A	PCB 25	EPA 1668 A
PCB 191	EPA 1668 A	PCB 26	EPA 1668 A
PCB 192	EPA 1668 A	PCB 27	EPA 1668 A
PCB 193	EPA 1668 A	PCB 28	EPA 1668 A
PCB 194	EPA 1668 A	PCB 29	EPA 1668 A
PCB 195	EPA 1668 A	PCB 3	EPA 1668 A
PCB 196	EPA 1668 A	PCB 30	EPA 1668 A
PCB 197	EPA 1668 A	PCB 31	EPA 1668 A
PCB 198	EPA 1668 A	PCB 32	EPA 1668 A
PCB 199	EPA 1668 A	PCB 33	EPA 1668 A
PCB 2	EPA 1668 A	PCB 34	EPA 1668 A
PCB 20	EPA 1668 A	PCB 35	EPA 1668 A
PCB 200	EPA 1668 A	PCB 36	EPA 1668 A
PCB 201	EPA 1668 A	PCB 37	EPA 1668 A
PCB 202	EPA 1668 A	PCB 38	EPA 1668 A
PCB 203	EPA 1668 A	PCB 39	EPA 1668 A

Serial No.: 53025

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CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MR. DUANE LUCKENBILL
EUROFINS LANCASTER LABORATORIES
ENVIRONMENTAL LLC
2425 NEW HOLLAND PIKE
LANCASTER, PA 17601-5994

NY Lab Id No: 10670

is hereby APPROVED as an Environmental Laboratory in conformance with the National Environmental Laboratory Accreditation Conference Standards (2003) for the category ENVIRONMENTAL ANALYSES NON POTABLE WATER
All approved analytes are listed below:

Polychlorinated Biphenyls		Polychlorinated Biphenyls	
PCB 4	EPA 1668 A	PCB 63	EPA 1668 A
PCB 40	EPA 1668 A	PCB 64	EPA 1668 A
PCB 41	EPA 1668 A	PCB 65	EPA 1668 A
PCB 42	EPA 1668 A	PCB 66	EPA 1668 A
PCB 43	EPA 1668 A	PCB 67	EPA 1668 A
PCB 44	EPA 1668 A	PCB 68	EPA 1668 A
PCB 45	EPA 1668 A	PCB 69	EPA 1668 A
PCB 46	EPA 1668 A	PCB 7	EPA 1668 A
PCB 47	EPA 1668 A	PCB 70	EPA 1668 A
PCB 48	EPA 1668 A	PCB 71	EPA 1668 A
PCB 49	EPA 1668 A	PCB 72	EPA 1668 A
PCB 5	EPA 1668 A	PCB 73	EPA 1668 A
PCB 50	EPA 1668 A	PCB 74	EPA 1668 A
PCB 51	EPA 1668 A	PCB 75	EPA 1668 A
PCB 52	EPA 1668 A	PCB 76	EPA 1668 A
PCB 53	EPA 1668 A	PCB 77	EPA 1668 A
PCB 54	EPA 1668 A	PCB 78	EPA 1668 A
PCB 55	EPA 1668 A	PCB 79	EPA 1668 A
PCB 56	EPA 1668 A	PCB 8	EPA 1668 A
PCB 57	EPA 1668 A	PCB 80	EPA 1668 A
PCB 58	EPA 1668 A	PCB 81	EPA 1668 A
PCB 59	EPA 1668 A	PCB 82	EPA 1668 A
PCB 6	EPA 1668 A	PCB 83	EPA 1668 A
PCB 60	EPA 1668 A	PCB 84	EPA 1668 A
PCB 61	EPA 1668 A	PCB 85	EPA 1668 A
PCB 62	EPA 1668 A	PCB 86	EPA 1668 A

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Polychlorinated Biphenyls	
PCB 87	EPA 1668 A
PCB 88	EPA 1668 A
PCB 89	EPA 1668 A
PCB 9	EPA 1668 A
PCB 90	EPA 1668 A
PCB 91	EPA 1668 A
PCB 92	EPA 1668 A
PCB 93	EPA 1668 A
PCB 94	EPA 1668 A
PCB 95	EPA 1668 A
PCB 96	EPA 1668 A
PCB 97	EPA 1668 A
PCB 98	EPA 1668 A
PCB 99	EPA 1668 A
PCB-1016	EPA 8082A
	EPA 608
PCB-1221	EPA 8082A
	EPA 608
PCB-1232	EPA 8082A
	EPA 608
PCB-1242	EPA 8082A
	EPA 608
PCB-1248	EPA 8082A
	EPA 608
PCB-1254	EPA 8082A
	EPA 608
Polychlorinated Biphenyls	
PCB-1260	EPA 8082A
	EPA 608
PCB-1262	EPA 8082A
PCB-1268	EPA 8082A
Polynuclear Aromatics	
2-Acetylaminofluorene	EPA 8270D
3-Methylcholanthrene	EPA 8270D
7,12-Dimethylbenzyl (a) anthracene	EPA 8270D
Acenaphthene	EPA 625
	EPA 8270D
Acenaphthylene	EPA 625
	EPA 8270D
Anthracene	EPA 625
	EPA 8270D
Benzo(a)anthracene	EPA 625
	EPA 8270D
Benzo(a)pyrene	EPA 625
	EPA 8270D
Benzo(b)fluoranthene	EPA 625
	EPA 8270D
Benzo(ghi)perylene	EPA 625
	EPA 8270D
Benzo(k)fluoranthene	EPA 625
	EPA 8270D
Chrysene	EPA 625

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Polynuclear Aromatics	
Chrysene	EPA 8270D
Dibenzo(a,h)anthracene	EPA 625
	EPA 8270D
Fluoranthene	EPA 625
	EPA 8270D
Fluorene	EPA 625
	EPA 8270D
Indeno(1,2,3-cd)pyrene	EPA 625
	EPA 8270D
Naphthalene	EPA 625
	EPA 8270D
Phenanthrene	EPA 625
	EPA 8270D
Pyrene	EPA 625
	EPA 8270D
Priority Pollutant Phenols	
2,3,4,6 Tetrachlorophenol	EPA 8270D
2,4,5-Trichlorophenol	EPA 8270D
2,4,6-Trichlorophenol	EPA 625
	EPA 8270D
2,4-Dichlorophenol	EPA 625
	EPA 8270D
2,4-Dimethylphenol	EPA 625
	EPA 8270D
2,4-Dinitrophenol	EPA 625

Priority Pollutant Phenols	
2,4-Dinitrophenol	EPA 8270D
2,6-Dichlorophenol	EPA 8270D
2-Chlorophenol	EPA 625
	EPA 8270D
2-Methyl-4,6-dinitrophenol	EPA 625
	EPA 8270D
2-Methylphenol	EPA 8270D
2-Nitrophenol	EPA 625
	EPA 8270D
3-Methylphenol	EPA 8270D
4-Chloro-3-methylphenol	EPA 625
	EPA 8270D
4-Methylphenol	EPA 8270D
4-Nitrophenol	EPA 625
	EPA 8270D
Pentachlorophenol	EPA 8151A
	EPA 625
	EPA 8270D
Phenol	EPA 625
	EPA 8270D
Residue	
Solids, Total	SM 2540 B-97,-11
Solids, Total Dissolved	SM 2540 C-97,-11
Solids, Total Suspended	SM 2540 D-97,-11

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Semi-Volatile Organics	
1,1'-Biphenyl	EPA 8270D
1,2-Dichlorobenzene, Semi-volatile	EPA 8270D
1,3-Dichlorobenzene, Semi-volatile	EPA 8270D
1,4-Dichlorobenzene, Semi-volatile	EPA 8270D
2-Methylnaphthalene	EPA 8270D
2-Picoline	EPA 8270D
4-Amino biphenyl	EPA 8270D
Acetophenone	EPA 8270D
Aramite	EPA 8270D
Benzaldehyde	EPA 8270D
	EPA 8315A
Benzoic Acid	EPA 8270D
Benzyl alcohol	EPA 8270D
Caprolactam	EPA 8270D
Dibenzofuran	EPA 8270D
Ethyl methanesulfonate	EPA 8270D
Isosafrole	EPA 8270D
Methyl methanesulfonate	EPA 8270D
O,O,O-Triethyl phosphorothioate	EPA 8270D
p-Dimethylaminoazobenzene	EPA 8270D
Phenacetin	EPA 8270D
Safrole	EPA 8270D
Volatile Aromatics	
1,2,4-Trichlorobenzene, Volatile	EPA 8260C
1,2,4-Trimethylbenzene	EPA 8260C

Volatile Aromatics	
1,2-Dichlorobenzene	EPA 8260C
	EPA 624
1,3,5-Trimethylbenzene	EPA 8260C
1,3-Dichlorobenzene	EPA 8260C
	EPA 624
1,4-Dichlorobenzene	EPA 8260C
	EPA 624
2-Chlorotoluene	EPA 8260C
4-Chlorotoluene	EPA 8260C
Benzene	EPA 8260C
	EPA 8021B
	EPA 624
	EPA 602
Bromobenzene	EPA 8260C
Chlorobenzene	EPA 8260C
	EPA 624
Ethyl benzene	EPA 8260C
	EPA 8021B
	EPA 624
	EPA 602
Isopropylbenzene	EPA 8260C
m/p-Xylenes	EPA 8260C
Naphthalene, Volatile	EPA 8260C
n-Butylbenzene	EPA 8260C
n-Propylbenzene	EPA 8260C
o-Xylene	EPA 8260C

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Volatile Aromatics	
p-Isopropyltoluene (P-Cymene)	EPA 8260C
sec-Butylbenzene	EPA 8260C
Styrene	EPA 8260C
tert-Butylbenzene	EPA 8260C
Toluene	EPA 8260C
	EPA 8021B
	EPA 624
	EPA 602
Total Xylenes	EPA 8260C
	EPA 8021B
	EPA 624
	EPA 602
Volatile Chlorinated Organics	
Benzyl chloride	EPA 8260C
Volatile Halocarbons	
1,1,1,2-Tetrachloroethane	EPA 8260C
1,1,1-Trichloroethane	EPA 8260C
	EPA 624
1,1,2,2-Tetrachloroethane	EPA 8260C
	EPA 624
1,1,2-Trichloro-1,2,2-Trifluoroethane	EPA 8260C
1,1,2-Trichloroethane	EPA 8260C
	EPA 624
1,1-Dichloroethane	EPA 8260C
	EPA 624

Volatile Halocarbons	
1,1-Dichloroethene	EPA 8260C
	EPA 624
1,1-Dichloropropene	EPA 8260C
1,2,3-Trichloropropane	EPA 8260C
1,2-Dibromo-3-chloropropane	EPA 8260C
	EPA 8011
1,2-Dibromoethane	EPA 8260C
	EPA 8011
1,2-Dichloro-1,1,2-Trifluoroethane	EPA 8260C
1,2-Dichloroethane	EPA 8260C
	EPA 624
1,2-Dichloropropane	EPA 8260C
	EPA 624
1,3-Dichloropropane	EPA 8260C
2,2-Dichloropropane	EPA 8260C
2-Chloro-1,3-butadiene (Chloroprene)	EPA 8260C
2-Chloroethylvinyl ether	EPA 8260C
	EPA 624
3-Chloropropene (Allyl chloride)	EPA 8260C
Bromochloromethane	EPA 8260C
Bromodichloromethane	EPA 8260C
	EPA 624
Bromoform	EPA 8260C
	EPA 624
Bromomethane	EPA 8260C
	EPA 624

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Volatile Halocarbons	
Carbon tetrachloride	EPA 8260C
	EPA 624
Chloroethane	EPA 8260C
	EPA 624
Chloroform	EPA 8260C
	EPA 624
Chloromethane	EPA 8260C
	EPA 624
cis-1,2-Dichloroethene	EPA 8260C
	EPA 624
cis-1,3-Dichloropropene	EPA 8260C
	EPA 624
Dibromochloromethane	EPA 8260C
	EPA 624
Dibromomethane	EPA 8260C
Dichlorodifluoromethane	EPA 8260C
	EPA 624
Hexachlorobutadiene, Volatile	EPA 8260C
Methyl iodide	EPA 8260C
Methylene chloride	EPA 8260C
	EPA 624
Tetrachloroethene	EPA 8260C
	EPA 624
trans-1,2-Dichloroethene	EPA 8260C
	EPA 624
trans-1,3-Dichloropropene	EPA 8260C

Volatile Halocarbons	
trans-1,3-Dichloropropene	EPA 624
trans-1,4-Dichloro-2-butene	EPA 8260C
Trichloroethene	EPA 8260C
	EPA 624
Trichlorofluoromethane	EPA 8260C
	EPA 624
Vinyl chloride	EPA 8260C
	EPA 624
Volatiles Organics	
1,4-Dioxane	EPA 8260C
2-Butanone (Methylethyl ketone)	EPA 8260C
2-Hexanone	EPA 8260C
2-Nitropropane	EPA 8260C
4-Methyl-2-Pentanone	EPA 8260C
Acetone	EPA 8260C
Acetonitrile	EPA 8260C
Carbon Disulfide	EPA 8260C
Cyclohexane	EPA 8260C
Di-ethyl ether	EPA 8260C
Ethyl Acetate	EPA 1666
	EPA 8260C
Isobutyl alcohol	EPA 8260C
Isobutyraldehyde	EPA 1666
Isopropyl Acetate	EPA 1666
Methyl acetate	EPA 8260C

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All approved analytes are listed below:

Volatiles Organics

Methyl cyclohexane	EPA 8260C
Methyl formate	EPA 1666
n-Amyl Acetate	EPA 1666
n-Amyl alcohol	EPA 1666
n-Butanol	EPA 8260C
n-Butyl Acetate	EPA 1666
o-Toluidine	EPA 8270D
Tetrahydrofuran	EPA 1666
Vinyl acetate	EPA 8260C

Sample Preparation Methods

SM 4500-P B(5)-99,-11
EPA 5030C
EPA 4.1.3
EPA 200.2
EPA 3010A
EPA 3005A
EPA 3510C
EPA 3520C
EPA 3020A
SM 4500-NH3 B-97,-11
SM 4500-CN G-99,-11
SM 4500-F B-97,-11

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All approved analytes are listed below:

Acrylates	
Acrolein (Propenal)	EPA 8260C
Acrylonitrile	EPA 8260C
Ethyl methacrylate	EPA 8260C
Methyl methacrylate	EPA 8260C
Amines	
1,2-Diphenylhydrazine	EPA 8270D
1,4-Phenylenediamine	EPA 8270D
1-Naphthylamine	EPA 8270D
2-Naphthylamine	EPA 8270D
2-Nitroaniline	EPA 8270D
3-Nitroaniline	EPA 8270D
4-Chloroaniline	EPA 8270D
4-Nitroaniline	EPA 8270D
5-Nitro-o-toluidine	EPA 8270D
Aniline	EPA 8270D
Carbazole	EPA 8270D
Methapyrilene	EPA 8270D
Pronamide	EPA 8270D
Benzidines	
3,3'-Dichlorobenzidine	EPA 8270D
3,3'-Dimethylbenzidine	EPA 8270D
Carbamate Pesticides	
Aldicarb	EPA 8318A
Aldicarb Sulfone	EPA 8318A
Carbamate Pesticides	
Carbofuran	EPA 8318A
Characteristic Testing	
Corrosivity	EPA 9045D
Ignitability	EPA 1010A
Synthetic Precipitation Leaching Proc.	EPA 1312
TCLP	EPA 1311
Chlorinated Hydrocarbon Pesticides	
4,4'-DDD	EPA 8081B
4,4'-DDE	EPA 8081B
4,4'-DDT	EPA 8081B
Aldrin	EPA 8081B
alpha-BHC	EPA 8081B
alpha-Chlordane	EPA 8081B
Atrazine	EPA 8270D
beta-BHC	EPA 8081B
Chlordane Total	EPA 8081B
Chlorobenzilate	EPA 8270D
delta-BHC	EPA 8081B
Diallate	EPA 8270D
Dieldrin	EPA 8081B
Endosulfan I	EPA 8081B
Endosulfan II	EPA 8081B
Endosulfan sulfate	EPA 8081B
Endrin	EPA 8081B
Endrin aldehyde	EPA 8081B

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Chlorinated Hydrocarbon Pesticides

Endrin Ketone	EPA 8081B
gamma-Chlordane	EPA 8081B
Heptachlor	EPA 8081B
Heptachlor epoxide	EPA 8081B
Kepone	EPA 8081B
	EPA 8270D
Lindane	EPA 8081B
Methoxychlor	EPA 8081B
Pentachloronitrobenzene	EPA 8270D
Simazine	EPA 8141B
Toxaphene	EPA 8081B

Chlorinated Hydrocarbons

1,2,3-Trichlorobenzene	EPA 8260C
1,2,4,5-Tetrachlorobenzene	EPA 8270D
1-Chloronaphthalene	EPA 8270D
2-Chloronaphthalene	EPA 8270D
Hexachlorobenzene	EPA 8270D
Hexachlorobutadiene	EPA 8270D
Hexachlorocyclopentadiene	EPA 8270D
Hexachloroethane	EPA 8270D
Hexachloropropene	EPA 8270D
Pentachlorobenzene	EPA 8270D

Chlorophenoxy Acid Pesticides

2,4,5-T	EPA 8151A
2,4,5-TP (Silvex)	EPA 8151A

Chlorophenoxy Acid Pesticides

2,4-D	EPA 8151A
2,4-DB	EPA 8151A
Dalapon	EPA 8151A
Dicamba	EPA 8151A
Dichloroprop	EPA 8151A
Dinoseb	EPA 8151A
MCPA	EPA 8151A
MCPP	EPA 8151A
Pentachlorophenol	EPA 8151A

Dioxins and Furans

1,2,3,4,6,7,8,9-Octachlorodibenzofuran	EPA 8290A
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-diox	EPA 8290A
1,2,3,4,6,7,8-Heptachlorodibenzofuran	EPA 8290A
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxi	EPA 8290A
1,2,3,4,7,8,9-Heptachlorodibenzofuran	EPA 8290A
1,2,3,4,7,8-Hexachlorodibenzofuran	EPA 8290A
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	EPA 8290A
1,2,3,6,7,8-Hexachlorodibenzofuran	EPA 8290A
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	EPA 8290A
1,2,3,7,8,9-Hexachlorodibenzofuran	EPA 8290A
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	EPA 8290A
1,2,3,7,8-Pentachlorodibenzofuran	EPA 8290A
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	EPA 8290A
2,3,4,6,7,8-Hexachlorodibenzofuran	EPA 8290A
2,3,4,7,8-Pentachlorodibenzofuran	EPA 8290A

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Dioxins and Furans	
2,3,7,8-Tetrachlorodibenzofuran	EPA 8290A
2,3,7,8-Tetrachlorodibenzo-p-dioxin	EPA 8290A
Haloethers	
2,2'-Oxybis(1-chloropropane)	EPA 8270D
4-Bromophenylphenyl ether	EPA 8270D
4-Chlorophenylphenyl ether	EPA 8270D
Bis(2-chloroethoxy)methane	EPA 8270D
Bis(2-chloroethyl)ether	EPA 8270D
Low Level Polynuclear Aromatic Hydrocarbons	
Acenaphthene Low Level	EPA 8270D SIM
Acenaphthylene Low Level	EPA 8270D SIM
Anthracene Low Level	EPA 8270D SIM
Benzo(a)anthracene Low Level	EPA 8270D SIM
Benzo(a)pyrene Low Level	EPA 8270D SIM
Benzo(b)fluoranthene Low Level	EPA 8270D SIM
Benzo(g,h,i)perylene Low Level	EPA 8270D SIM
Benzo(k)fluoranthene Low Level	EPA 8270D SIM
Chrysene Low Level	EPA 8270D SIM
Dibenzo(a,h)anthracene Low Level	EPA 8270D SIM
Fluoranthene Low Level	EPA 8270D SIM
Fluorene Low Level	EPA 8270D SIM
Indeno(1,2,3-cd)pyrene Low Level	EPA 8270D SIM
Naphthalene Low Level	EPA 8270D SIM
Phenanthrene Low Level	EPA 8270D SIM
Pyrene Low Level	EPA 8270D SIM

Metals I	
Barium, Total	EPA 6010C
	EPA 6020A
Cadmium, Total	EPA 6010C
	EPA 6020A
Calcium, Total	EPA 6010C
	EPA 6020A
Chromium, Total	EPA 6010C
	EPA 6020A
Copper, Total	EPA 6010C
	EPA 6020A
Iron, Total	EPA 6010C
	EPA 6020A
Lead, Total	EPA 6010C
	EPA 6020A
Magnesium, Total	EPA 6010C
	EPA 6020A
Manganese, Total	EPA 6010C
	EPA 6020A
Nickel, Total	EPA 6010C
	EPA 6020A
Potassium, Total	EPA 6010C
	EPA 6020A
Silver, Total	EPA 6010C
	EPA 6020A
Sodium, Total	EPA 6010C
	EPA 6020A

Serial No.: 53026

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MR. DUANE LUCKENBILL
EUROFINS LANCASTER LABORATORIES
ENVIRONMENTAL LLC
2425 NEW HOLLAND PIKE
LANCASTER, PA 17601-5994

NY Lab Id No: 10670

is hereby APPROVED as an Environmental Laboratory in conformance with the National Environmental Laboratory Accreditation Conference Standards (2003) for the category ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE
All approved analytes are listed below:

Metals I	
Strontium, Total	EPA 6010C
	EPA 6020A
Metals II	
Aluminum, Total	EPA 6010C
	EPA 6020A
Antimony, Total	EPA 6010C
	EPA 6020A
Arsenic, Total	EPA 6010C
	EPA 6020A
Beryllium, Total	EPA 6010C
	EPA 6020A
Chromium VI	EPA 7196A
	EPA 7199
Mercury, Total	EPA 7471B
Selenium, Total	EPA 6010C
	EPA 6020A
Vanadium, Total	EPA 6010C
	EPA 6020A
Zinc, Total	EPA 6010C
	EPA 6020A
Metals III	
Cobalt, Total	EPA 6010C
	EPA 6020A
Molybdenum, Total	EPA 6010C
	EPA 6020A
Metals III	
Thallium, Total	EPA 6010C
	EPA 6020A
Tin, Total	EPA 6010C
	EPA 6020A
Titanium, Total	EPA 6010C
	EPA 6020A
Miscellaneous	
Boron, Total	EPA 6010C
Cyanide, Total	EPA 9012B
Organic Carbon, Total	Lloyd Kahn Method
	EPA 9060A
Phenols	EPA 9066
Nitroaromatics and Isophorone	
1,2-Dinitrobenzene	EPA 8270D
1,3,5-Trinitrobenzene	EPA 8270D
	EPA 8330A
1,3-Dinitrobenzene	EPA 8270D
	EPA 8330A
1,4-Dinitrobenzene	EPA 8270D
1,4-Naphthoquinone	EPA 8270D
2,4-Dinitrotoluene	EPA 8270D
2,6-Dinitrotoluene	EPA 8270D
2-Amino-4,6-dinitrotoluene	EPA 8330A
2-Nitrotoluene	EPA 8330A
3-Nitrotoluene	EPA 8330A

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Nitroaromatics and Isophorone	
4-Amino-2,6-dinitrotoluene	EPA 8330A
4-Dimethylaminoazobenzene	EPA 8270D
4-Nitrotoluene	EPA 8330A
Hexahydro-1,3,5-trinitro-1,3,5-triazine	EPA 8330A
Isophorone	EPA 8270D
Methyl-2,4,6-trinitrophenylnitramine	EPA 8330A
Nitrobenzene	EPA 8270D
	EPA 8330A
Nitroquinoline-1-oxide	EPA 8270D
Octahydro-tetranitro-tetrazocine	EPA 8330A
Pyridine	EPA 8270D
Nitrosoamines	
N-Nitrosodiethylamine	EPA 8270D
N-Nitrosodimethylamine	EPA 8270D
N-Nitrosodi-n-butylamine	EPA 8270D
N-Nitrosodi-n-propylamine	EPA 8270D
N-Nitrosodiphenylamine	EPA 8270D
N-nitrosomethylethylamine	EPA 8270D
N-nitrosomorpholine	EPA 8270D
N-nitrosopiperidine	EPA 8270D
N-Nitrosopyrrolidine	EPA 8270D
Organophosphate Pesticides	
Azinphos methyl	EPA 8141B
Bolstar	EPA 8141B
Chlorpyriphos	EPA 8141B
Organophosphate Pesticides	
Coumaphos	EPA 8141B
Demeton-O	EPA 8141B
Demeton-S	EPA 8141B
Diazinon	EPA 8141B
Dichlorvos	EPA 8141B
Disulfoton	EPA 8141B
EPN	EPA 8141B
Ethion	EPA 8141B
Ethoprop	EPA 8141B
Famphur	EPA 8141B
Fensulfothion	EPA 8141B
Fenthion	EPA 8141B
Malathion	EPA 8141B
Mevinphos	EPA 8141B
NALED	EPA 8141B
Parathion ethyl	EPA 8141B
Parathion methyl	EPA 8141B
Phorate	EPA 8141B
Ronnel	EPA 8141B
Tokuthion	EPA 8141B
Trichloronate	EPA 8141B
Petroleum Hydrocarbons	
Diesel Range Organics	EPA 8015D
	EPA 8015C
Gasoline Range Organics	EPA 8015D

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Petroleum Hydrocarbons	
Gasoline Range Organics	EPA 8015C
Oil and Grease Total Recoverable (HEM)	EPA 9071B (Solvent:Hexane)
Phthalate Esters	
Benzyl butyl phthalate	EPA 8270D
Bis(2-ethylhexyl) phthalate	EPA 8270D
Diethyl phthalate	EPA 8270D
Dimethyl phthalate	EPA 8270D
Di-n-butyl phthalate	EPA 8270D
Di-n-octyl phthalate	EPA 8270D
Polychlorinated Biphenyls	
PCB 1	EPA 1668 A
PCB 10	EPA 1668 A
PCB 100	EPA 1668 A
PCB 101	EPA 1668 A
PCB 102	EPA 1668 A
PCB 103	EPA 1668 A
PCB 104	EPA 1668 A
PCB 105	EPA 1668 A
PCB 106	EPA 1668 A
PCB 107	EPA 1668 A
PCB 108	EPA 1668 A
PCB 109	EPA 1668 A
PCB 11	EPA 1668 A
PCB 110	EPA 1668 A
PCB 111	EPA 1668 A
Polychlorinated Biphenyls	
PCB 112	EPA 1668 A
PCB 113	EPA 1668 A
PCB 114	EPA 1668 A
PCB 115	EPA 1668 A
PCB 116	EPA 1668 A
PCB 117	EPA 1668 A
PCB 118	EPA 1668 A
PCB 119	EPA 1668 A
PCB 12	EPA 1668 A
PCB 120	EPA 1668 A
PCB 121	EPA 1668 A
PCB 122	EPA 1668 A
PCB 123	EPA 1668 A
PCB 124	EPA 1668 A
PCB 125	EPA 1668 A
PCB 126	EPA 1668 A
PCB 127	EPA 1668 A
PCB 128	EPA 1668 A
PCB 129	EPA 1668 A
PCB 13	EPA 1668 A
PCB 130	EPA 1668 A
PCB 131	EPA 1668 A
PCB 132	EPA 1668 A
PCB 133	EPA 1668 A
PCB 134	EPA 1668 A
PCB 135	EPA 1668 A

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Polychlorinated Biphenyls		Polychlorinated Biphenyls	
PCB 136	EPA 1668 A	PCB 160	EPA 1668 A
PCB 138	EPA 1668 A	PCB 161	EPA 1668 A
PCB 139	EPA 1668 A	PCB 162	EPA 1668 A
PCB 14	EPA 1668 A	PCB 163	EPA 1668 A
PCB 140	EPA 1668 A	PCB 164	EPA 1668 A
PCB 141	EPA 1668 A	PCB 165	EPA 1668 A
PCB 142	EPA 1668 A	PCB 166	EPA 1668 A
PCB 143	EPA 1668 A	PCB 167	EPA 1668 A
PCB 144	EPA 1668 A	PCB 168	EPA 1668 A
PCB 145	EPA 1668 A	PCB 169	EPA 1668 A
PCB 146	EPA 1668 A	PCB 17	EPA 1668 A
PCB 147	EPA 1668 A	PCB 170	EPA 1668 A
PCB 148	EPA 1668 A	PCB 171	EPA 1668 A
PCB 149	EPA 1668 A	PCB 172	EPA 1668 A
PCB 15	EPA 1668 A	PCB 173	EPA 1668 A
PCB 150	EPA 1668 A	PCB 174	EPA 1668 A
PCB 151	EPA 1668 A	PCB 175	EPA 1668 A
PCB 152	EPA 1668 A	PCB 176	EPA 1668 A
PCB 153	EPA 1668 A	PCB 177	EPA 1668 A
PCB 154	EPA 1668 A	PCB 178	EPA 1668 A
PCB 155	EPA 1668 A	PCB 179	EPA 1668 A
PCB 156	EPA 1668 A	PCB 18	EPA 1668 A
PCB 157	EPA 1668 A	PCB 180	EPA 1668 A
PCB 158	EPA 1668 A	PCB 181	EPA 1668 A
PCB 159	EPA 1668 A	PCB 182	EPA 1668 A
PCB 16	EPA 1668 A	PCB 183	EPA 1668 A

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Polychlorinated Biphenyls		Polychlorinated Biphenyls	
PCB 184	EPA 1668 A	PCB 207	EPA 1668 A
PCB 185	EPA 1668 A	PCB 208	EPA 1668 A
PCB 186	EPA 1668 A	PCB 209	EPA 1668 A
PCB 187	EPA 1668 A	PCB 21	EPA 1668 A
PCB 188	EPA 1668 A	PCB 22	EPA 1668 A
PCB 189	EPA 1668 A	PCB 23	EPA 1668 A
PCB 19	EPA 1668 A	PCB 24	EPA 1668 A
PCB 190	EPA 1668 A	PCB 25	EPA 1668 A
PCB 191	EPA 1668 A	PCB 26	EPA 1668 A
PCB 192	EPA 1668 A	PCB 27	EPA 1668 A
PCB 193	EPA 1668 A	PCB 28	EPA 1668 A
PCB 194	EPA 1668 A	PCB 29	EPA 1668 A
PCB 195	EPA 1668 A	PCB 3	EPA 1668 A
PCB 196	EPA 1668 A	PCB 30	EPA 1668 A
PCB 197	EPA 1668 A	PCB 31	EPA 1668 A
PCB 198	EPA 1668 A	PCB 32	EPA 1668 A
PCB 199	EPA 1668 A	PCB 33	EPA 1668 A
PCB 2	EPA 1668 A	PCB 34	EPA 1668 A
PCB 20	EPA 1668 A	PCB 35	EPA 1668 A
PCB 200	EPA 1668 A	PCB 36	EPA 1668 A
PCB 201	EPA 1668 A	PCB 37	EPA 1668 A
PCB 202	EPA 1668 A	PCB 38	EPA 1668 A
PCB 203	EPA 1668 A	PCB 39	EPA 1668 A
PCB 204	EPA 1668 A	PCB 4	EPA 1668 A
PCB 205	EPA 1668 A	PCB 40	EPA 1668 A
PCB 206	EPA 1668 A	PCB 41	EPA 1668 A

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Polychlorinated Biphenyls		Polychlorinated Biphenyls	
PCB 42	EPA 1668 A	PCB 66	EPA 1668 A
PCB 43	EPA 1668 A	PCB 67	EPA 1668 A
PCB 44	EPA 1668 A	PCB 68	EPA 1668 A
PCB 45	EPA 1668 A	PCB 69	EPA 1668 A
PCB 46	EPA 1668 A	PCB 7	EPA 1668 A
PCB 47	EPA 1668 A	PCB 70	EPA 1668 A
PCB 48	EPA 1668 A	PCB 71	EPA 1668 A
PCB 49	EPA 1668 A	PCB 72	EPA 1668 A
PCB 5	EPA 1668 A	PCB 73	EPA 1668 A
PCB 50	EPA 1668 A	PCB 74	EPA 1668 A
PCB 51	EPA 1668 A	PCB 75	EPA 1668 A
PCB 52	EPA 1668 A	PCB 76	EPA 1668 A
PCB 53	EPA 1668 A	PCB 77	EPA 1668 A
PCB 54	EPA 1668 A	PCB 78	EPA 1668 A
PCB 55	EPA 1668 A	PCB 79	EPA 1668 A
PCB 56	EPA 1668 A	PCB 8	EPA 1668 A
PCB 57	EPA 1668 A	PCB 80	EPA 1668 A
PCB 58	EPA 1668 A	PCB 81	EPA 1668 A
PCB 59	EPA 1668 A	PCB 82	EPA 1668 A
PCB 6	EPA 1668 A	PCB 83	EPA 1668 A
PCB 60	EPA 1668 A	PCB 84	EPA 1668 A
PCB 61	EPA 1668 A	PCB 85	EPA 1668 A
PCB 62	EPA 1668 A	PCB 86	EPA 1668 A
PCB 63	EPA 1668 A	PCB 87	EPA 1668 A
PCB 64	EPA 1668 A	PCB 88	EPA 1668 A
PCB 65	EPA 1668 A	PCB 89	EPA 1668 A

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Polychlorinated Biphenyls	
PCB 9	EPA 1668 A
PCB 90	EPA 1668 A
PCB 91	EPA 1668 A
PCB 92	EPA 1668 A
PCB 93	EPA 1668 A
PCB 94	EPA 1668 A
PCB 95	EPA 1668 A
PCB 96	EPA 1668 A
PCB 97	EPA 1668 A
PCB 98	EPA 1668 A
PCB 99	EPA 1668 A
PCB-1016	EPA 8082A
PCB-1221	EPA 8082A
PCB-1232	EPA 8082A
PCB-1242	EPA 8082A
PCB-1248	EPA 8082A
PCB-1254	EPA 8082A
PCB-1260	EPA 8082A
PCB-1262	EPA 8082A
PCB-1268	EPA 8082A
Polynuclear Aromatic Hydrocarbons	
2-Acetylaminofluorene	EPA 8270D
3-Methylcholanthrene	EPA 8270D
7,12-Dimethylbenzyl (a) anthracene	EPA 8270D
Acenaphthene	EPA 8270D

Polynuclear Aromatic Hydrocarbons	
Acenaphthylene	EPA 8270D
Anthracene	EPA 8270D
Benzo(a)anthracene	EPA 8270D
Benzo(a)pyrene	EPA 8270D
Benzo(b)fluoranthene	EPA 8270D
Benzo(ghi)perylene	EPA 8270D
Benzo(k)fluoranthene	EPA 8270D
Chrysene	EPA 8270D
Dibenzo(a,h)anthracene	EPA 8270D
Dibenzo(a,j)acridine	EPA 8270D
Fluoranthene	EPA 8270D
Fluorene	EPA 8270D
Indeno(1,2,3-cd)pyrene	EPA 8270D
Naphthalene	EPA 8270D
Phenanthrene	EPA 8270D
Pyrene	EPA 8270D
Priority Pollutant Phenols	
2,3,4,6 Tetrachlorophenol	EPA 8270D
2,4,5-Trichlorophenol	EPA 8270D
2,4,6-Trichlorophenol	EPA 8270D
2,4-Dichlorophenol	EPA 8270D
2,4-Dimethylphenol	EPA 8270D
2,4-Dinitrophenol	EPA 8270D
2,6-Dichlorophenol	EPA 8270D
2-Chlorophenol	EPA 8270D

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Priority Pollutant Phenols	
2-Methyl-4,6-dinitrophenol	EPA 8270D
2-Methylphenol	EPA 8270D
2-Nitrophenol	EPA 8270D
3-Methylphenol	EPA 8270D
4-Chloro-3-methylphenol	EPA 8270D
4-Methylphenol	EPA 8270D
4-Nitrophenol	EPA 8270D
Pentachlorophenol	EPA 8270D
Phenol	EPA 8270D
Semi-Volatile Organics	
1,1'-Biphenyl	EPA 8270D
1,2-Dichlorobenzene, Semi-volatile	EPA 8270D
1,3-Dichlorobenzene, Semi-volatile	EPA 8270D
1,4-Dichlorobenzene, Semi-volatile	EPA 8270D
2-Methylnaphthalene	EPA 8270D
4-Amino biphenyl	EPA 8270D
Acetophenone	EPA 8270D
Aramite	EPA 8270D
Benzaldehyde	EPA 8270D
Benzoic Acid	EPA 8270D
Benzyl alcohol	EPA 8270D
Caprolactam	EPA 8270D
Dibenzofuran	EPA 8270D
Ethyl methanesulfonate	EPA 8270D
Isosafrole	EPA 8270D

Semi-Volatile Organics	
Methyl methanesulfonate	EPA 8270D
O,O,O-Triethyl phosphorothioate	EPA 8270D
Phenacetin	EPA 8270D
Safrole	EPA 8270D
Volatile Aromatics	
1,2,4-Trichlorobenzene, Volatile	EPA 8260C
1,2,4-Trimethylbenzene	EPA 8260C
1,2-Dichlorobenzene	EPA 8260C
1,3,5-Trimethylbenzene	EPA 8260C
1,3-Dichlorobenzene	EPA 8260C
1,4-Dichlorobenzene	EPA 8260C
2-Chlorotoluene	EPA 8260C
4-Chlorotoluene	EPA 8260C
Benzene	EPA 8260C
	EPA 8021B
Bromobenzene	EPA 8260C
Chlorobenzene	EPA 8260C
Ethyl benzene	EPA 8260C
	EPA 8021B
Isopropylbenzene	EPA 8260C
	EPA 8021B
m/p-Xylenes	EPA 8260C
Naphthalene, Volatile	EPA 8260C
n-Butylbenzene	EPA 8260C
n-Propylbenzene	EPA 8260C

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Volatile Aromatics	
o-Xylene	EPA 8260C
p-Isopropyltoluene (P-Cymene)	EPA 8260C
sec-Butylbenzene	EPA 8260C
Styrene	EPA 8260C
tert-Butylbenzene	EPA 8260C
Toluene	EPA 8260C
	EPA 8021B
Total Xylenes	EPA 8260C
	EPA 8021B
Volatile Chlorinated Organics	
Benzyl chloride	EPA 8260C
Volatile Halocarbons	
1,1,1,2-Tetrachloroethane	EPA 8260C
1,1,1-Trichloroethane	EPA 8260C
1,1,2,2-Tetrachloroethane	EPA 8260C
1,1,2-Trichloro-1,2,2-Trifluoroethane	EPA 8260C
1,1,2-Trichloroethane	EPA 8260C
1,1-Dichloroethane	EPA 8260C
1,1-Dichloroethene	EPA 8260C
1,1-Dichloropropene	EPA 8260C
1,2,3-Trichloropropane	EPA 8260C
1,2-Dibromo-3-chloropropane	EPA 8260C
1,2-Dibromoethane	EPA 8260C
1,2-Dichloroethane	EPA 8260C
1,2-Dichloropropane	EPA 8260C

Volatile Halocarbons	
1,3-Dichloropropane	EPA 8260C
2,2-Dichloropropane	EPA 8260C
2-Chloro-1,3-butadiene (Chloroprene)	EPA 8260C
2-Chloroethylvinyl ether	EPA 8260C
3-Chloropropene (Allyl chloride)	EPA 8260C
Bromochloromethane	EPA 8260C
Bromodichloromethane	EPA 8260C
Bromoform	EPA 8260C
Bromomethane	EPA 8260C
Carbon tetrachloride	EPA 8260C
Chloroethane	EPA 8260C
Chloroform	EPA 8260C
Chloromethane	EPA 8260C
cis-1,2-Dichloroethene	EPA 8260C
cis-1,3-Dichloropropene	EPA 8260C
Dibromochloromethane	EPA 8260C
Dibromomethane	EPA 8260C
Dichlorodifluoromethane	EPA 8260C
Hexachlorobutadiene, Volatile	EPA 8260C
Methylene chloride	EPA 8260C
Tetrachloroethene	EPA 8260C
trans-1,2-Dichloroethene	EPA 8260C
trans-1,3-Dichloropropene	EPA 8260C
trans-1,4-Dichloro-2-butene	EPA 8260C
Trichloroethene	EPA 8260C
Trichlorofluoromethane	EPA 8260C

Serial No.: 53026

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

Expires 12:01 AM April 01, 2016
Issued April 01, 2015
Revised June 16, 2015

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MR. DUANE LUCKENBILL
EUROFINS LANCASTER LABORATORIES
ENVIRONMENTAL LLC
2425 NEW HOLLAND PIKE
LANCASTER, PA 17601-5994

NY Lab Id No: 10670

is hereby APPROVED as an Environmental Laboratory in conformance with the National Environmental Laboratory Accreditation Conference Standards (2003) for the category ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE
All approved analytes are listed below:

Volatile Halocarbons	
Vinyl chloride	EPA 8260C
Volatile Organics	
1,4-Dioxane	EPA 8260C
2-Butanone (Methylethyl ketone)	EPA 8260C
2-Hexanone	EPA 8260C
4-Methyl-2-Pentanone	EPA 8260C
Acetone	EPA 8260C
Acetonitrile	EPA 8260C
Carbon Disulfide	EPA 8260C
Cyclohexane	EPA 8260C
Ethyl Acetate	EPA 8260C
Ethylene Glycol	EPA 8015C
Isobutyl alcohol	EPA 8260C
Methyl acetate	EPA 8260C
Methyl cyclohexane	EPA 8260C
Methyl tert-butyl ether	EPA 8260C
	EPA 8021B
n-Butanol	EPA 8260C
o-Toluidine	EPA 8270D
Propionitrile	EPA 8260C
tert-butyl alcohol	EPA 8260C
Vinyl acetate	EPA 8260C
Sample Preparation Methods	
	EPA 5035A-L
	EPA 5035A-H

Sample Preparation Methods
EPA 3010A
EPA 3005A
EPA 3050B
EPA 3550C
EPA 3540C
EPA 3020A
EPA 3546
EPA 5035
EPA 3060A

Serial No.: 53026

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

Expires 12:01 AM April 01, 2016
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ENVIRONMENTAL LLC
2425 NEW HOLLAND PIKE
LANCASTER, PA 17601-5994

NY Lab Id No: 10670

is hereby APPROVED as an Environmental Laboratory in conformance with the National Environmental Laboratory Accreditation Conference Standards (2003) for the category ENVIRONMENTAL ANALYSES AIR AND EMISSIONS
All approved analytes are listed below:

Acrylates	
Acetonitrile	EPA TO-15
Acrylonitrile	EPA TO-15
Ethyl acrylate	EPA TO-15
Methyl methacrylate	EPA TO-15
Chlorinated Hydrocarbons	
1,2,4-Trichlorobenzene	EPA TO-14A
	EPA TO-15
Hexachlorobutadiene	EPA TO-14A
	EPA TO-15
Polynuclear Aromatics	
Naphthalene	EPA TO-15
Purgeable Aromatics	
1,2,4-Trimethylbenzene	EPA TO-14A
	EPA TO-15
1,2-Dichlorobenzene	EPA TO-14A
	EPA TO-15
1,3,5-Trimethylbenzene	EPA TO-14A
	EPA TO-15
1,3-Dichlorobenzene	EPA TO-14A
	EPA TO-15
1,4-Dichlorobenzene	EPA TO-14A
	EPA TO-15
2-Chlorotoluene	EPA TO-15
Benzene	EPA TO-14A
	EPA TO-15
Chlorobenzene	EPA TO-14A
	EPA TO-15
Ethyl benzene	EPA TO-14A
	EPA TO-15
Isopropylbenzene	EPA TO-15
m/p-Xylenes	EPA TO-15
o-Xylene	EPA TO-15
Styrene	EPA TO-14A
	EPA TO-15
Toluene	EPA TO-14A
	EPA TO-15
Total Xylenes	EPA TO-14A
	EPA TO-15
Purgeable Halocarbons	
1,1,1-Trichloroethane	EPA TO-14A
	EPA TO-15
1,1,2,2-Tetrachloroethane	EPA TO-14A
	EPA TO-15
1,1,2-Trichloro-1,2,2-Trifluoroethane	EPA TO-14A
	EPA TO-15
1,1,2-Trichloroethane	EPA TO-14A
	EPA TO-15
1,1-Dichloroethane	EPA TO-14A
	EPA TO-15

Serial No.: 52074

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

Expires 12:01 AM April 01, 2016
Issued April 01, 2015

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MR. DUANE LUCKENBILL
EUROFINS LANCASTER LABORATORIES
ENVIRONMENTAL LLC
2425 NEW HOLLAND PIKE
LANCASTER, PA 17601-5994

NY Lab Id No: 10670

is hereby APPROVED as an Environmental Laboratory in conformance with the National Environmental Laboratory Accreditation Conference Standards (2003) for the category ENVIRONMENTAL ANALYSES AIR AND EMISSIONS
All approved analytes are listed below:

Purgeable Halocarbons	
1,1-Dichloroethene	EPA TO-14A
	EPA TO-15
1,2-Dibromoethane	EPA TO-14A
	EPA TO-15
1,2-Dichloroethane	EPA TO-14A
	EPA TO-15
1,2-Dichloropropane	EPA TO-14A
	EPA TO-15
Bromodichloromethane	EPA TO-15
Bromoform	EPA TO-15
Bromomethane	EPA TO-14A
	EPA TO-15
Carbon tetrachloride	EPA TO-14A
	EPA TO-15
Chloroethane	EPA TO-14A
	EPA TO-15
Chloroform	EPA TO-14A
	EPA TO-15
Chloromethane	EPA TO-14A
	EPA TO-15
cis-1,2-Dichloroethene	EPA TO-14A
	EPA TO-15
cis-1,3-Dichloropropene	EPA TO-14A
	EPA TO-15
Dibromochloromethane	EPA TO-15
Dichlorodifluoromethane	EPA TO-14A

Purgeable Halocarbons	
Dichlorodifluoromethane	EPA TO-15
Methylene chloride	EPA TO-15
Tetrachloroethene	EPA TO-14A
	EPA TO-15
trans-1,2-Dichloroethene	EPA TO-14A
	EPA TO-15
trans-1,3-Dichloropropene	EPA TO-14A
	EPA TO-15
Trichloroethene	EPA TO-14A
	EPA TO-15
Trichlorofluoromethane	EPA TO-14A
Vinyl bromide	EPA TO-15
Vinyl chloride	EPA TO-15
Volatile Organics	
1,3-Butadiene	EPA TO-15
1,4-Dioxane	EPA TO-15
2,2,4-Trimethylpentane	EPA TO-15
2-Butanone (Methylethyl ketone)	EPA TO-15
4-Methyl-2-Pentanone	EPA TO-15
Acetone	EPA TO-15
Carbon Disulfide	EPA TO-15
Hexane	EPA TO-15
Methyl iodide	EPA TO-15
Methyl tert-butyl ether	EPA TO-15
n-Heptane	EPA TO-15

Serial No.: 52074

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All approved analytes are listed below:

Volatile Organics

tert-butyl alcohol	EPA TO-15
Vinyl acetate	EPA TO-15

Serial No.: 52074

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

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CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. LESLIE S. BUCINA
MICROBAC LABORATORIES, INC., OHIO VALLEY DIVISION
158 STARLITE DRIVE
MARIETTA, OH 45750

NY Lab Id No: 10861

is hereby APPROVED as an Environmental Laboratory in conformance with the National Environmental Laboratory Accreditation Conference Standards (2003) for the category ENVIRONMENTAL ANALYSES POTABLE WATER
All approved analytes are listed below:

Dissolved Gases

Acetylene	RSK-175
Ethane	RSK-175
Ethene (Ethylene)	RSK-175
Methane	RSK-175
Propane	RSK-175

Serial No.: 50396

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

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MS. LESLIE S. BUCINA
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158 STARLITE DRIVE
MARIETTA, OH 45750

NY Lab Id No: 10861

is hereby APPROVED as an Environmental Laboratory in conformance with the National Environmental Laboratory Accreditation Conference Standards (2003) for the category ENVIRONMENTAL ANALYSES NON POTABLE WATER
All approved analytes are listed below:

Acrylates	
Acrolein (Propenal)	EPA 624
Acrylonitrile	EPA 624
Amines	
2-Nitroaniline	EPA 8270D
3-Nitroaniline	EPA 8270D
4-Chloroaniline	EPA 8270D
4-Nitroaniline	EPA 8270D
Aniline	EPA 8270D
Carbazole	EPA 8270D
Pyridine	EPA 8270D
Benzidines	
3,3'-Dichlorobenzidine	EPA 625
	EPA 8270D
Benzidine	EPA 625
Chlorinated Hydrocarbon Pesticides	
4,4'-DDD	EPA 8081B
	EPA 608
4,4'-DDE	EPA 8081B
	EPA 608
4,4'-DDT	EPA 8081B
	EPA 608
Aldrin	EPA 8081B
	EPA 608
alpha-BHC	EPA 8081B

Chlorinated Hydrocarbon Pesticides	
alpha-BHC	EPA 608
alpha-Chlordane	EPA 8081B
beta-BHC	EPA 8081B
	EPA 608
Chlordane Total	EPA 8081B
	EPA 608
delta-BHC	EPA 8081B
	EPA 608
Dieldrin	EPA 8081B
	EPA 608
Endosulfan I	EPA 8081B
	EPA 608
Endosulfan II	EPA 8081B
	EPA 608
Endosulfan sulfate	EPA 8081B
	EPA 608
Endrin	EPA 8081B
	EPA 608
Endrin aldehyde	EPA 8081B
	EPA 608
Endrin Ketone	EPA 8081B
gamma-Chlordane	EPA 8081B
Heptachlor	EPA 8081B
	EPA 608
Heptachlor epoxide	EPA 8081B
	EPA 608

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MARIETTA, OH 45750

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is hereby APPROVED as an Environmental Laboratory in conformance with the National Environmental Laboratory Accreditation Conference Standards (2003) for the category ENVIRONMENTAL ANALYSES NON POTABLE WATER
All approved analytes are listed below:

Chlorinated Hydrocarbon Pesticides	
Lindane	EPA 8081B
	EPA 608
Methoxychlor	EPA 8081B
Toxaphene	EPA 8081B
	EPA 608
Chlorinated Hydrocarbons	
1,2,4-Trichlorobenzene	EPA 625
	EPA 8270D
2-Chloronaphthalene	EPA 625
	EPA 8270D
Hexachlorobenzene	EPA 625
	EPA 8270D
Hexachlorobutadiene	EPA 625
	EPA 8270D
Hexachlorocyclopentadiene	EPA 625
	EPA 8270D
Hexachloroethane	EPA 625
	EPA 8270D
Chlorophenoxy Acid Pesticides	
2,4,5-T	EPA 8151A
2,4,5-TP (Silvex)	EPA 8151A
2,4-D	EPA 8151A
Dalapon	EPA 8151A
Dicamba	EPA 8151A
Dichloroprop	EPA 8151A

Chlorophenoxy Acid Pesticides	
Dinoseb	EPA 8151A
Demand	
Biochemical Oxygen Demand	SM 5210B-01,-11
Carbonaceous BOD	SM 5210B-01,-11
Chemical Oxygen Demand	HACH 8000
	EPA 410.4 Rev. 2.0
Dissolved Gases	
Ethane	RSK-175
Ethene (Ethylene)	RSK-175
Methane	RSK-175
Fuel Oxygenates	
Ethanol	EPA 8015D
Haloethers	
4-Bromophenylphenyl ether	EPA 625
	EPA 8270D
4-Chlorophenylphenyl ether	EPA 625
	EPA 8270D
Bis(2-chloroethoxy)methane	EPA 625
	EPA 8270D
Bis(2-chloroethyl)ether	EPA 625
	EPA 8270D
Bis(2-chloroisopropyl) ether	EPA 625
	EPA 8270D

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MARIETTA, OH 45750

NY Lab Id No: 10861

is hereby APPROVED as an Environmental Laboratory in conformance with the National Environmental Laboratory Accreditation Conference Standards (2003) for the category ENVIRONMENTAL ANALYSES NON POTABLE WATER
All approved analytes are listed below:

Low Level Polynuclear Aromatics	
Acenaphthene Low Level	EPA 8270D SIM
Acenaphthylene Low Level	EPA 8270D SIM
Anthracene Low Level	EPA 8270D SIM
Benzo(a)anthracene Low Level	EPA 8270D SIM
Benzo(a)pyrene Low Level	EPA 8270D SIM
Benzo(b)fluoranthene Low Level	EPA 8270D SIM
Benzo(g,h,i)perylene Low Level	EPA 8270D SIM
Benzo(k)fluoranthene Low Level	EPA 8270D SIM
Chrysene Low Level	EPA 8270D SIM
Dibenzo(a,h)anthracene Low Level	EPA 8270D SIM
Fluoranthene Low Level	EPA 8270D SIM
Fluorene Low Level	EPA 8270D SIM
Indeno(1,2,3-cd)pyrene Low Level	EPA 8270D SIM
Naphthalene Low Level	EPA 8270D SIM
Phenanthrene Low Level	EPA 8270D SIM
Pyrene Low Level	EPA 8270D SIM
Mineral	
Acidity	SM 2310B-97,-11
Alkalinity	EPA 310.2
	SM 2320B-97,-11
Chloride	EPA 300.0 Rev. 2.1
	SM 4500-Cl- E-97,-11
Fluoride, Total	EPA 300.0 Rev. 2.1
	SM 4500-F C-97,-11
Hardness, Total	SM 2340C-97,-11

Mineral	
Hardness, Total	SM 2340B-97,-11
Sulfate (as SO4)	EPA 300.0 Rev. 2.1
Nitroaromatics and Isophorone	
1,3,5-Trinitrobenzene	EPA 8330B
1,3-Dinitrobenzene	EPA 8330B
2,4,6-Trinitrotoluene	EPA 8330B
2,4-Dinitrotoluene	EPA 625
	EPA 8270D
	EPA 8330B
2,6-Dinitrotoluene	EPA 625
	EPA 8270D
	EPA 8330B
2-Amino-4,6-dinitrotoluene	EPA 8330B
2-Nitrotoluene	EPA 8330B
3-Nitrotoluene	EPA 8330B
4-Amino-2,6-dinitrotoluene	EPA 8330B
4-Nitrotoluene	EPA 8330B
Hexahydro-1,3,5-trinitro-1,3,5-triazine	EPA 8330B
Isophorone	EPA 625
	EPA 8270D
Methyl-2,4,6-trinitrophenylnitramine	EPA 8330B
Nitrobenzene	EPA 625
	EPA 8270D
	EPA 8330B
Octahydro-tetranitro-tetrazocine	EPA 8330B

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MS. LESLIE S. BUCINA
MICROBAC LABORATORIES, INC., OHIO VALLEY DIVISION
158 STARLITE DRIVE
MARIETTA, OH 45750

NY Lab Id No: 10861

Is hereby APPROVED as an Environmental Laboratory in conformance with the National Environmental Laboratory Accreditation Conference Standards (2003) for the category ENVIRONMENTAL ANALYSES NON POTABLE WATER
All approved analytes are listed below:

Nitrosoamines	
N-Nitrosodiethylamine	EPA 8270D
N-Nitrosodimethylamine	EPA 625
	EPA 8270D
N-Nitrosodi-n-propylamine	EPA 625
	EPA 8270D
N-Nitrosodiphenylamine	EPA 625
	EPA 8270D
Nutrient	
Ammonia (as N)	EPA 350.1 Rev. 2.0
Kjeldahl Nitrogen, Total	EPA 351.2 Rev. 2.0
Nitrate (as N)	EPA 353.2 Rev. 2.0
	EPA 300.0 Rev. 2.1
Nitrite (as N)	EPA 300.0 Rev. 2.1
	SM 4500-NO2 B-00,-11
Orthophosphate (as P)	SM 4500-P E-99,-11
Phosphorus, Total	EPA 365.4 Rev. 1974
Petroleum Hydrocarbons	
Diesel Range Organics	EPA 8015D
Gasoline Range Organics	EPA 8015D
Phthalate Esters	
Benzyl butyl phthalate	EPA 625
	EPA 8270D
Bis(2-ethylhexyl) phthalate	EPA 625
	EPA 8270D
Phthalate Esters	
Diethyl phthalate	EPA 625
	EPA 8270D
Dimethyl phthalate	EPA 625
	EPA 8270D
Di-n-butyl phthalate	EPA 625
	EPA 8270D
Di-n-octyl phthalate	EPA 625
	EPA 8270D
Polychlorinated Biphenyls	
PCB-1016	EPA 8082A
	EPA 608
PCB-1221	EPA 8082A
	EPA 608
PCB-1232	EPA 8082A
	EPA 608
PCB-1242	EPA 8082A
	EPA 608
PCB-1248	EPA 8082A
	EPA 608
PCB-1254	EPA 8082A
	EPA 608
PCB-1260	EPA 8082A
	EPA 608
PCB-1262	EPA 8082A
PCB-1268	EPA 8082A

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All approved analytes are listed below:

Polynuclear Aromatics	
Acenaphthene	EPA 625
	EPA 8270D
Acenaphthylene	EPA 625
	EPA 8270D
Anthracene	EPA 625
	EPA 8270D
Benzo(a)anthracene	EPA 625
	EPA 8270D
Benzo(a)pyrene	EPA 625
	EPA 8270D
Benzo(b)fluoranthene	EPA 625
	EPA 8270D
Benzo(ghi)perylene	EPA 625
	EPA 8270D
Benzo(k)fluoranthene	EPA 625
	EPA 8270D
Chrysene	EPA 625
	EPA 8270D
Dibenzo(a,h)anthracene	EPA 625
	EPA 8270D
Fluoranthene	EPA 625
	EPA 8270D
Fluorene	EPA 625
	EPA 8270D
Indeno(1,2,3-cd)pyrene	EPA 625
	EPA 8270D

Polynuclear Aromatics	
Naphthalene	EPA 625
	EPA 8270D
Phenanthrene	EPA 625
	EPA 8270D
Pyrene	EPA 625
	EPA 8270D
Priority Pollutant Phenols	
2,4,5-Trichlorophenol	EPA 8270D
2,4,6-Trichlorophenol	EPA 625
	EPA 8270D
2,4-Dichlorophenol	EPA 625
	EPA 8270D
2,4-Dimethylphenol	EPA 625
	EPA 8270D
2,4-Dinitrophenol	EPA 625
	EPA 8270D
2-Chlorophenol	EPA 625
	EPA 8270D
2-Methyl-4,6-dinitrophenol	EPA 625
	EPA 8270D
2-Methylphenol	EPA 8270D
2-Nitrophenol	EPA 625
	EPA 8270D
3-Methylphenol	EPA 8270D
4-Chloro-3-methylphenol	EPA 625

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All approved analytes are listed below:

Priority Pollutant Phenols	
4-Chloro-3-methylphenol	EPA 8270D
4-Methylphenol	EPA 8270D
4-Nitrophenol	EPA 625
	EPA 8270D
Cresols, Total	EPA 8270D
Pentachlorophenol	EPA 8151A
	EPA 625
	EPA 8270D
Phenol	EPA 625
	EPA 8270D
Residue	
Solids, Total	SM 2540 B-97,-11
Solids, Total Dissolved	SM 2540 C-97,-11
Solids, Total Suspended	SM 2540 D-97,-11
Semi-Volatile Organics	
1,2-Dichlorobenzene, Semi-volatile	EPA 8270D
1,3-Dichlorobenzene, Semi-volatile	EPA 8270D
1,4-Dichlorobenzene, Semi-volatile	EPA 8270D
2-Methylnaphthalene	EPA 8270D
Acetophenone	EPA 8270D
Benzoic Acid	EPA 8270D
Benzyl alcohol	EPA 8270D
Dibenzofuran	EPA 8270D

Volatile Aromatics	
1,2-Dichlorobenzene	EPA 624
1,3-Dichlorobenzene	EPA 624
1,4-Dichlorobenzene	EPA 624
Benzene	EPA 624
Chlorobenzene	EPA 624
Ethyl benzene	EPA 624
Toluene	EPA 624
Total Xylenes	EPA 624
Volatile Halocarbons	
1,1,1-Trichloroethane	EPA 624
1,1,2,2-Tetrachloroethane	EPA 624
1,1,2-Trichloroethane	EPA 624
1,1-Dichloroethane	EPA 624
1,1-Dichloroethene	EPA 624
1,2-Dibromo-3-chloropropane	EPA 8011
1,2-Dibromoethane	EPA 8011
1,2-Dichloroethane	EPA 624
1,2-Dichloropropane	EPA 624
2-Chloroethylvinyl ether	EPA 624
Bromodichloromethane	EPA 624
Bromoform	EPA 624
Bromomethane	EPA 624
Carbon tetrachloride	EPA 624
Chloroethane	EPA 624
Chloroform	EPA 624

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All approved analytes are listed below:

Volatile Halocarbons	
Chloromethane	EPA 624
cis-1,3-Dichloropropene	EPA 624
Dibromochloromethane	EPA 624
Methylene chloride	EPA 624
Tetrachloroethene	EPA 624
trans-1,2-Dichloroethene	EPA 624
trans-1,3-Dichloropropene	EPA 624
Trichloroethene	EPA 624
Trichlorofluoromethane	EPA 624
Vinyl chloride	EPA 624
Wastewater Metals I	
Barium, Total	EPA 200.7 Rev. 4.4
	EPA 6010C
	EPA 6020A
	EPA 200.8 Rev. 5.4
Cadmium, Total	EPA 200.7 Rev. 4.4
	EPA 6010C
	EPA 6020A
	EPA 200.8 Rev. 5.4
Calcium, Total	EPA 200.7 Rev. 4.4
	EPA 6010C
Chromium, Total	EPA 200.7 Rev. 4.4
	EPA 6010C
	EPA 6020A
	EPA 200.8 Rev. 5.4
Wastewater Metals I	
Copper, Total	EPA 200.7 Rev. 4.4
	EPA 6010C
	EPA 6020A
	EPA 200.8 Rev. 5.4
Iron, Total	EPA 200.7 Rev. 4.4
	EPA 6010C
Lead, Total	EPA 200.7 Rev. 4.4
	EPA 6010C
	EPA 6020A
	EPA 200.8 Rev. 5.4
Magnesium, Total	EPA 200.7 Rev. 4.4
	EPA 6010C
Manganese, Total	EPA 200.7 Rev. 4.4
	EPA 6010C
	EPA 6020A
	EPA 200.8 Rev. 5.4
Nickel, Total	EPA 200.7 Rev. 4.4
	EPA 6010C
	EPA 6020A
	EPA 200.8 Rev. 5.4
Potassium, Total	EPA 200.7 Rev. 4.4
	EPA 6010C
Silver, Total	EPA 200.7 Rev. 4.4
	EPA 6010C
	EPA 6020A
	EPA 200.8 Rev. 5.4

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All approved analytes are listed below:

Wastewater Metals I	
Sodium, Total	EPA 200.7 Rev. 4.4
	EPA 6010C
Strontium, Total	EPA 6010C
Wastewater Metals II	
Aluminum, Total	EPA 200.7 Rev. 4.4
	EPA 6010C
Antimony, Total	EPA 200.7 Rev. 4.4
	EPA 6010C
	EPA 6020A
	EPA 200.8 Rev. 5.4
Arsenic, Total	EPA 200.7 Rev. 4.4
	EPA 6010C
	EPA 6020A
	EPA 200.8 Rev. 5.4
Beryllium, Total	EPA 200.7 Rev. 4.4
	EPA 6010C
Chromium VI	SM 3500-Cr B-09,-11
Mercury, Total	EPA 245.1 Rev. 3.0
	EPA 7470A
Selenium, Total	EPA 200.7 Rev. 4.4
	EPA 6010C
	EPA 6020A
	EPA 200.8 Rev. 5.4
Vanadium, Total	EPA 200.7 Rev. 4.4
	EPA 6010C
Wastewater Metals II	
Vanadium, Total	EPA 6020A
	EPA 200.8 Rev. 5.4
Zinc, Total	EPA 200.7 Rev. 4.4
	EPA 6010C
	EPA 6020A
	EPA 200.8 Rev. 5.4
Wastewater Metals III	
Cobalt, Total	EPA 200.7 Rev. 4.4
	EPA 6010C
	EPA 6020A
	EPA 200.8 Rev. 5.4
Molybdenum, Total	EPA 200.7 Rev. 4.4
	EPA 6010C
Thallium, Total	EPA 200.7 Rev. 4.4
	EPA 6010C
	EPA 6020A
	EPA 200.8 Rev. 5.4
Tin, Total	EPA 200.7 Rev. 4.4
	EPA 6010C
Titanium, Total	EPA 200.7 Rev. 4.4
	EPA 6010C
Wastewater Miscellaneous	
Boron, Total	EPA 200.7 Rev. 4.4
	EPA 6010C
Bromide	EPA 300.0 Rev. 2.1

Serial No.: 50397

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Wastewater Miscellaneous

Color	SM 2120B-01,-11
Cyanide, Total	SM 4500-CN E-99,-11
Oil and Grease Total Recoverable (HEM	EPA 1664A
Organic Carbon, Total	SM 5310C-00,-11
Phenols	EPA 420.1 Rev. 1978
Silica, Dissolved	EPA 200.7 Rev. 4.4
Specific Conductance	EPA 120.1 Rev. 1982
Sulfide (as S)	SM 4500-S2- F-00,-11
Surfactant (MBAS)	SM 5540C-00,-11
Total Petroleum Hydrocarbons	EPA 1664A

Sample Preparation Methods

EPA 5030C
SM 4500-CN B or C-99,-11
EPA 3015A
EPA 3005A
EPA 3510C
EPA 3520C
EPA 3020A

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All approved analytes are listed below:

Amines	
1,2-Diphenylhydrazine	EPA 8270D
1,4-Phenylenediamine	EPA 8270D
2-Nitroaniline	EPA 8270D
3-Nitroaniline	EPA 8270D
4-Chloroaniline	EPA 8270D
4-Nitroaniline	EPA 8270D
Aniline	EPA 8270D
Carbazole	EPA 8270D
Diphenylamine	EPA 8270D
Methapyrilene	EPA 8270D
Benzidines	
3,3'-Dichlorobenzidine	EPA 8270D
Characteristic Testing	
Corrosivity	EPA 9040C
Ignitability	EPA 1010A
Synthetic Precipitation Leaching Proc.	EPA 1312
TCLP	EPA 1311
Chlorinated Hydrocarbon Pesticides	
4,4'-DDD	EPA 8081B
4,4'-DDE	EPA 8081B
4,4'-DDT	EPA 8081B
Aldrin	EPA 8081B
alpha-BHC	EPA 8081B
alpha-Chlordane	EPA 8081B

Chlorinated Hydrocarbon Pesticides	
beta-BHC	EPA 8081B
Chlordane Total	EPA 8081B
delta-BHC	EPA 8081B
Diallate	EPA 8270D
Dieldrin	EPA 8081B
Endosulfan I	EPA 8081B
Endosulfan II	EPA 8081B
Endosulfan sulfate	EPA 8081B
Endrin	EPA 8081B
Endrin aldehyde	EPA 8081B
Endrin Ketone	EPA 8081B
gamma-Chlordane	EPA 8081B
Heptachlor	EPA 8081B
Heptachlor epoxide	EPA 8081B
Lindane	EPA 8081B
Methoxychlor	EPA 8081B
Toxaphene	EPA 8081B
Chlorinated Hydrocarbons	
1,2,4,5-Tetrachlorobenzene	EPA 8270D
1,2,4-Trichlorobenzene	EPA 8270D
2-Chloronaphthalene	EPA 8270D
Hexachlorobenzene	EPA 8270D
Hexachlorobutadiene	EPA 8270D
Hexachlorocyclopentadiene	EPA 8270D
Hexachloroethane	EPA 8270D

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Chlorinated Hydrocarbons	
Hexachlorophene	EPA 8270D
Hexachloropropene	EPA 8270D
Pentachlorobenzene	EPA 8270D
Chlorophenoxy Acid Pesticides	
2,4,5-T	EPA 8151A
2,4,5-TP (Silvex)	EPA 8151A
2,4-D	EPA 8151A
2,4-DB	EPA 8151A
Dalapon	EPA 8151A
Dicamba	EPA 8151A
Dichloroprop	EPA 8151A
Dinoseb	EPA 8151A
MCPA	EPA 8151A
MCPP	EPA 8151A
Pentachlorophenol	EPA 8151A
Haloethers	
4-Bromophenylphenyl ether	EPA 8270D
4-Chlorophenylphenyl ether	EPA 8270D
Bis(2-chloroethoxy)methane	EPA 8270D
Bis(2-chloroethyl)ether	EPA 8270D
Bis(2-chloroisopropyl) ether	EPA 8270D
Low Level Polynuclear Aromatic Hydrocarbons	
Acenaphthene Low Level	EPA 8270D SIM
Acenaphthylene Low Level	EPA 8270D SIM

Low Level Polynuclear Aromatic Hydrocarbons	
Anthracene Low Level	EPA 8270D SIM
Benzo(a)anthracene Low Level	EPA 8270D SIM
Benzo(a)pyrene Low Level	EPA 8270D SIM
Benzo(b)fluoranthene Low Level	EPA 8270D SIM
Benzo(g,h,i)perylene Low Level	EPA 8270D SIM
Benzo(k)fluoranthene Low Level	EPA 8270D SIM
Chrysene Low Level	EPA 8270D SIM
Dibenzo(a,h)anthracene Low Level	EPA 8270D SIM
Fluoranthene Low Level	EPA 8270D SIM
Fluorene Low Level	EPA 8270D SIM
Indeno(1,2,3-cd)pyrene Low Level	EPA 8270D SIM
Naphthalene Low Level	EPA 8270D SIM
Phenanthrene Low Level	EPA 8270D SIM
Pyrene Low Level	EPA 8270D SIM
Metals I	
Barium, Total	EPA 6010C
	EPA 6020A
Cadmium, Total	EPA 6010C
	EPA 6020A
Calcium, Total	EPA 6010C
Chromium, Total	EPA 6010C
	EPA 6020A
Copper, Total	EPA 6010C
	EPA 6020A
Iron, Total	EPA 6010C

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Metals I	
Lead, Total	EPA 6010C
	EPA 6020A
Magnesium, Total	EPA 6010C
Manganese, Total	EPA 6010C
	EPA 6020A
Nickel, Total	EPA 6010C
	EPA 6020A
Potassium, Total	EPA 6010C
Silver, Total	EPA 6010C
	EPA 6020A
Sodium, Total	EPA 6010C
Strontium, Total	EPA 6010C
Metals II	
Aluminum, Total	EPA 6010C
Antimony, Total	EPA 6010C
	EPA 6020A
Arsenic, Total	EPA 6010C
	EPA 6020A
Beryllium, Total	EPA 6010C
Lithium, Total	EPA 6010C
Mercury, Total	EPA 7471B
Selenium, Total	EPA 6010C
	EPA 6020A
Vanadium, Total	EPA 6010C
	EPA 6020A
Metals II	
Zinc, Total	EPA 6010C
	EPA 6020A
Metals III	
Cobalt, Total	EPA 6010C
	EPA 6020A
Molybdenum, Total	EPA 6010C
Thallium, Total	EPA 6010C
	EPA 6020A
Tin, Total	EPA 6010C
Titanium, Total	EPA 6010C
Minerals	
Bromide	EPA 9056A
Chloride	EPA 9056A
Fluoride, Total	EPA 9056A
Sulfate (as SO4)	EPA 9056A
Miscellaneous	
Cyanide, Total	EPA 9014
Organic Carbon, Total	Lloyd Kahn Method
Nitroaromatics and Isophorone	
1,3,5-Trinitrobenzene	EPA 8330B
1,3-Dinitrobenzene	EPA 8330B
2,4,6-Trinitrotoluene	EPA 8330B
2,4-Dinitrotoluene	EPA 8270D
	EPA 8330B

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Nitroaromatics and Isophorone	
2,6-Dinitrotoluene	EPA 8270D
	EPA 8330B
2-Amino-4,6-dinitrotoluene	EPA 8330B
2-Nitrotoluene	EPA 8330B
3-Nitrotoluene	EPA 8330B
4-Amino-2,6-dinitrotoluene	EPA 8330B
4-Nitrotoluene	EPA 8330B
Hexahydro-1,3,5-trinitro-1,3,5-triazine	EPA 8330B
Isophorone	EPA 8270D
Methyl-2,4,6-trinitrophenylnitramine	EPA 8330B
Nitrobenzene	EPA 8270D
	EPA 8330B
Octahydro-tetranitro-tetrazocine	EPA 8330B
Pyridine	EPA 8270D
Nitrosoamines	
N-Nitrosodiethylamine	EPA 8270D
N-Nitrosodimethylamine	EPA 8270D
N-Nitrosodi-n-butylamine	EPA 8270D
N-Nitrosodi-n-propylamine	EPA 8270D
N-Nitrosodiphenylamine	EPA 8270D
N-nitrosomethylethylamine	EPA 8270D
N-nitrosomorpholine	EPA 8270D
N-nitrosopiperidine	EPA 8270D
N-Nitrosopyrrolidine	EPA 8270D

Nutrients	
Nitrate (as N)	EPA 9056A
Nitrite (as N)	EPA 9056A
Petroleum Hydrocarbons	
Diesel Range Organics	EPA 8015D
Gasoline Range Organics	EPA 8015D
Oil and Grease Total Recoverable (HEM)	EPA 9071B (Solvent:Hexane)
Phthalate Esters	
Benzyl butyl phthalate	EPA 8270D
Bis(2-ethylhexyl) phthalate	EPA 8270D
Diethyl phthalate	EPA 8270D
Dimethyl phthalate	EPA 8270D
Di-n-butyl phthalate	EPA 8270D
Di-n-octyl phthalate	EPA 8270D
Polychlorinated Biphenyls	
PCB-1016	EPA 8082A
PCB-1221	EPA 8082A
PCB-1232	EPA 8082A
PCB-1242	EPA 8082A
PCB-1248	EPA 8082A
PCB-1254	EPA 8082A
PCB-1260	EPA 8082A
PCB-1262	EPA 8082A
PCB-1268	EPA 8082A
PCBs in Oil	EPA 8082A

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Polynuclear Aromatic Hydrocarbons	
3-Methylcholanthrene	EPA 8270D
7,12-Dimethylbenzyl (a) anthracene	EPA 8270D
Acenaphthene	EPA 8270D
Acenaphthylene	EPA 8270D
Anthracene	EPA 8270D
Benzo(a)anthracene	EPA 8270D
Benzo(a)pyrene	EPA 8270D
Benzo(b)fluoranthene	EPA 8270D
Benzo(ghi)perylene	EPA 8270D
Benzo(k)fluoranthene	EPA 8270D
Chrysene	EPA 8270D
Dibenzo(a,h)anthracene	EPA 8270D
Fluoranthene	EPA 8270D
Fluorene	EPA 8270D
Indeno(1,2,3-cd)pyrene	EPA 8270D
Naphthalene	EPA 8270D
Phenanthrene	EPA 8270D
Pyrene	EPA 8270D
Priority Pollutant Phenols	
2,3,4,6 Tetrachlorophenol	EPA 8270D
2,4,5-Trichlorophenol	EPA 8270D
2,4,6-Trichlorophenol	EPA 8270D
2,4-Dichlorophenol	EPA 8270D
2,4-Dimethylphenol	EPA 8270D
2,4-Dinitrophenol	EPA 8270D

Priority Pollutant Phenols	
2,6-Dichlorophenol	EPA 8270D
2-Chlorophenol	EPA 8270D
2-Methyl-4,6-dinitrophenol	EPA 8270D
2-Methylphenol	EPA 8270D
2-Nitrophenol	EPA 8270D
3-Methylphenol	EPA 8270D
4-Chloro-3-methylphenol	EPA 8270D
4-Methylphenol	EPA 8270D
4-Nitrophenol	EPA 8270D
Pentachlorophenol	EPA 8270D
Phenol	EPA 8270D
Semi-Volatile Organics	
1,2-Dichlorobenzene, Semi-volatile	EPA 8270D
1,3-Dichlorobenzene, Semi-volatile	EPA 8270D
1,4-Dichlorobenzene, Semi-volatile	EPA 8270D
2-Methylnaphthalene	EPA 8270D
4-Amino biphenyl	EPA 8270D
Acetophenone	EPA 8270D
Aramite	EPA 8270D
Benzoic Acid	EPA 8270D
Benzyl alcohol	EPA 8270D
Dibenzofuran	EPA 8270D
Methyl methanesulfonate	EPA 8270D
O,O,O-Triethyl phosphorothioate	EPA 8270D
Phenacetin	EPA 8270D

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All approved analytes are listed below:

Semi-Volatile Organics

Safrole	EPA 8270D

Sample Preparation Methods

EPA 5035A-L
EPA 5035A-H
EPA 3580A
EPA 9030B
EPA 3005A
EPA 3550C
EPA 3546
EPA 3545A
EPA 3051A
EPA 9010C

Serial No.: 51424

Appendix D
Data Quality Evaluation

Data Quality Evaluation for Annual Groundwater Investigation, Dow Waterloo

PREPARED BY: CH2M HILL

DATE: June 2015

Introduction

The objective of this data quality evaluation (DQE) report is to assess the data quality of analytical results for groundwater samples collected from the Union Carbide Corporation (UCC) Dow Waterloo site in Waterloo, New York. CH2M HILL collected samples November 11-18, 2014. Guidance for this DQE report came from the *Quality Assurance Project Plan, RCRA Facility Investigation, Former Hampshire Chemical Corporation Facility, Waterloo, New York* (Waterloo QAPP, June 2010); the U.S. *Environmental Protection Agency (EPA) Contract Laboratory National Functional Guidelines (NFG) for Organic Data Review, August 2014;* the *USEPA Contract Laboratory NFG for Inorganic Data Review, October 2013;* and individual method requirements.

This report is intended as a general data quality assessment designed to summarize data issues.

Analytical Data

This DQE report covers 29 water samples, 3 field duplicates (FD), 3 equipment blanks (EB) and 6 trip blanks (TB). The samples were reported in 12 sample delivery groups identified in Table 1.

TABLE 1
Sample Delivery Groups
Annual Groundwater Investigation, Dow Waterloo

L14110760	MDW02
L14110799	MDW03
L14110871	MDW04
L14110979	MDW05
L14111128	MDW06
L14111144	MDW07

Samples were collected and delivered to Microbac Laboratory (MBLM) in Marietta, Ohio and Eurofins Laboratory (formerly Lancaster) (LANC) in Lancaster, Pennsylvania. The samples were analyzed by the methods listed in Table 2.

TABLE 2
Analytical Parameters
Annual Groundwater Investigation, Dow Waterloo

Parameter	Method	Laboratory
Volatile Organic Compounds (VOC)	SW8260C	LANC
Polyaromatic Hydrocarbons (PAH)	SW8270D PAHL	MBLM
TAL Metals (total/dissolved)	SW6010C/SW6020A/SW7470A	MBLM
Chloride and Sulfate	E300.0	MBLM
Alkalinity	E310.2	MBLM
Nitrate	E353.2	MBLM
Total Phosphorus	E365.4	MBLM
Orthophosphate	SM4500 P-E	MBLM
Total Organic Carbon	SM5310 C	MBLM
Total Dissolved Solids	SM2540C	MBLM
Ammonia	EPA 350.1	MBLM
Total Kjeldahl Nitrogen (TKN)	EPA 351.2	MBLM
Silica	EPA 200.7	MBLM

The sample delivery groups were assessed by reviewing the following: (1) the chain-of- custody documentation; (2) holding-time compliance; (3) initial and continuing calibration criteria; (4) method blanks and field blanks; (5) laboratory control sample/laboratory control sample duplicate (LCS/LCSD) recoveries; (6) matrix spike/matrix spike duplicate (MS/MSD) recoveries; (7) surrogate spike recoveries; (8) internal standard recoveries; (9) FD precision; and (10) the required quality control (QC) samples at the specified frequencies.

Data flags were assigned according to the Waterloo QAPP. Multiple flags are routinely applied to specific sample method/matrix/analyte combinations, but there will only be one final flag. A final flag is applied to the data and is the most conservative of the applied validation flags. The final flag also includes matrix and blank sample impacts.

The data flags are those listed in the Waterloo QAPP and are defined below:

- J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- R = The sample result was rejected due to serious deficiencies in the ability to analyze the sample and meet the QC criteria. The presence or absence of the analyte could not be verified.
- U = The analyte was analyzed for but was not detected above the reported sample quantitation limit.

- UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- UN = Tentatively Identified Compound, not detected (Epichlorohydrin only)
- N = Tentatively Identified Compound, detected.

Findings

The overall summaries of the data validation are contained in the following sections. Qualified data are presented in Table 3.

Holding Time and Preservation

The pH for seven samples exceeded the VOC criteria of pH<2, therefore, the samples are considered unpreserved. The samples were analyzed three days past the holding time for unpreserved samples, resulting in the data being qualified as estimated detected and non-detected results and flagged "J" and "UJ" respectively, in the samples.

Sample MW03-111717 was received with a pH that exceeded the criteria of pH<2 for dissolved/total metals. Additional preservative was added by the laboratory; however, the pH for dissolved metals still exceeded criteria, indicating possible matrix interference. The data were qualified as estimated detected and non-detected results and flagged "J" and "UJ", respectively, in the samples.

Calibration

Initial and continuing calibration analyses were performed as required by the methods. All acceptance criteria were met with the following exceptions:

The percent difference (%D) for 1,2,3-trichlorobenzene was less than criteria in one VOC continuing calibration verification (CCV), indicating a possible low sample bias. The data were qualified as estimated non-detected results and flagged "UJ" in the associated samples.

The %Ds for several metals were less than criteria in a few low level CCVs, indicating a possible low bias. Data were qualified as estimated and flagged "J" in the associated samples. In addition, the %D for total and dissolved selenium was greater than criteria in one low level CCV, indicating a possible high bias. The data were qualified as estimated and flagged "J" in the associated samples. Non-detected results were not qualified.

The %D for TKN was less than method criteria in one CCV, indicating a possible low bias. The data were qualified as estimated detected and non-detected results and flagged "J" and "UJ", respectively, in the associated samples.

The %D for alkalinity was greater than criteria in one CCV, indicating a possible high bias. The data were qualified as estimated detects and flagged "J" in the associated samples.

Method Blanks

Method blanks were analyzed at the required frequency and were free of contamination with the following exceptions:

Nitrate, phosphorus and TKN were detected at concentrations less than the reporting limit (RL) in several method blanks. The data were qualified as not detected at the concentration measured and flagged "U" when the associated sample concentrations were less than five times the concentrations detected in the blanks.

Field Blanks

EBs and TBs were collected, analyzed and were free of contamination with the following exceptions:

Acetone, chloroform and methylene chloride were detected at concentrations less than the RL in a few EBs and TBs associated with the VOC analysis. In addition, methylene chloride was detected at a concentration greater than the RL in a few TBs. The data were qualified as not detected at the concentration measured and flagged "U" when the sample concentrations were less than five times (10 times for acetone and methylene chloride) the concentrations detected in the blanks.

Several metals were detected at concentrations less than and/or greater than the RL in a few EBs associated with the metals analysis. The data were qualified as not detected at the concentration measured and flagged "U" when the associated sample concentrations were less than the RL.

Laboratory Control Samples

LCS/LCSDs were analyzed as required and met all accuracy and precision criteria with the following exception:

The relative percent differences (RPD) for several analytes were greater than criteria in one LCS/LCSD associated with the PAH analyses. The data were not qualified because the associated samples did not contain reportable levels of the analytes.

Matrix Spike

MS/MSDs were analyzed as required and all accuracy and precision criteria were met with the following exceptions:

Cyclohexane was recovered greater than the upper control limit in the VOC MS for sample MW-16I-111114, indicating a possible high bias. The analyte was not qualified because the parent sample did not contain a reportable level of cyclohexane.

Dissolved manganese was recovered less than the lower control limit in the MS/MSD for sample MW-29-111314, indicating a possible low bias. The result was qualified as an estimated detected result and flagged "J" in the parent sample. In addition, several dissolved metals were recovered greater than the upper control limits in the MS/MSDs for samples MW-29-111314 and MW-24-111214, indicating a possible high bias. Detected results were qualified as estimated and flagged "J" in the respective parent sample.

Sulfate was recovered greater than the upper control limit in the MS/MSD for sample MW-06-111114, indicating a possible high bias. The result was qualified as an estimated detected result and flagged "J" in the parent sample.

The RPD exceeded criteria for benzo(g,h,i)perylene and dibenzo(a,h)anthracene in the PAH MS/MSD for sample MW-16I-111114. The data were not qualified because the parent sample did not contain reportable levels of these analytes.

Post Digestion Spikes

Post digestion spikes were analyzed as required and all accuracy criteria were met with the following exception:

Total calcium was recovered less than the lower control limit in the post digestion spike for sample MW-10-111414. The result was qualified as estimated and flagged "J" in the sample.

Serial Dilutions

Serial dilutions were analyzed as required and all acceptance criteria were met.

Internal Standards

All acceptance criteria were met.

Surrogates

Surrogates were added to all samples for the methods requiring their use and all acceptance criteria were met with the following exception:

One surrogate was recovered less than the lower control limit in the PAH analysis of sample MW-5I-111114, indicating a possible low bias. The data were qualified as estimated detected and non-detected results and flagged "J" and "UJ", respectively, in the sample.

Field Duplicates

FDs were collected and analyzed at the required frequency and precision acceptance criteria were met with the following exception:

The RPDs for total and dissolved selenium exceeded criteria in FD pair MW-23-111214/DUP-GW-111214. The data were qualified as estimated and flagged "J" in the FD pair.

Interference Check Standards

Interference check standards were analyzed as required and all accuracy criteria were met.

Tentatively Identified Compounds

Tentatively identified compounds were reported in the VOC analysis to determine the presence/absence of epichlorohydrin. The library search did not identify this analyte in the samples.

Chain of Custody

Required procedures were followed and were free of errors.

Overall Assessment

The goal of this assessment is to demonstrate that a sufficient number of representative samples were collected and the resulting analytical data can be used to support the decision making process. The following summary highlights the PARCC findings for the above-defined events:

Precision of the data was verified through the review of the field and laboratory data quality indicators that include FD, LCS/LCSD, MS/MSD, and serial dilution RPDs. Precision was generally acceptable with the exception of total and dissolved selenium which were qualified as estimated detected results in two samples due to FD RPD issues. Data users should consider the impact to any

result that is qualified as estimated as it may contain a bias which could affect the decision making process.

Accuracy of the data was verified through the review of the calibration data, LCS/LCSD, MS/MSD, post digestion spike, interference check standard, internal standard and surrogate recoveries, as well as the evaluation of method/field/calibration blank data. Accuracy was generally acceptable with a few compounds being qualified as estimated detected and non-detected results due to calibration, MS/MSD, post digestion spike, and/or surrogate issues. Several analytes were qualified as not detected due to method and/or field blank contamination in several samples.

Representativeness of the data was verified through the sample's collection, storage and preservation procedures and the verification of holding-time compliance. MW03-111714 was received with a pH above criteria for the dissolved metals analyses, resulting in the data being qualified as estimated. In addition, several VOC samples were analyzed three days outside the hold time for unpreserved samples, resulting in the data being qualified as estimated. All other data were reported from analyses within the USEPA-recommended holding time.

Comparability of the data was ensured through the use of standard USEPA analytical procedures and standard units for reporting. Results obtained are comparable to industry standards in that the collection and analytical techniques followed approved, documented procedures.

Completeness is a measure of the number of valid measurements obtained in relation to the total number of measurements planned. Completeness is expressed as the percentage of valid or usable measurements compared to planned measurements. Valid data are defined as all data that are not rejected for project use. All data were considered valid. The completeness goal of 95 percent was met for all analyte/method combinations.

Table 3
Qualified Data
Annual Groundwater Investigation, Dow Waterloo

Sample ID	Method	Analyte	Units	Final Result	Final Flag	Reason
DUP-GW-111214	SW6020A	Selenium, Dissolved	mg/l	0.00601	J	FD>RPD
DUP-GW-111214	SW6020A	Selenium, Total	mg/l	0.00604	J	FD>RPD
DUP-GW-111214	SW8260C	1,1,1-TRICHLOROETHANE	UG/L	0.5	UJ	HT>UCL
DUP-GW-111214	SW8260C	1,1,2,2-TETRACHLOROETHANE	UG/L	0.5	UJ	HT>UCL
DUP-GW-111214	SW8260C	1,1,2-TRICHLOROETHANE	UG/L	0.5	UJ	HT>UCL
DUP-GW-111214	SW8260C	1,1-DICHLOROETHANE	UG/L	0.5	UJ	HT>UCL
DUP-GW-111214	SW8260C	1,1-DICHLOROETHENE	UG/L	0.5	UJ	HT>UCL
DUP-GW-111214	SW8260C	1,2,3-TRICHLOROBENZENE	UG/L	0.5	UJ	HT>UCL
DUP-GW-111214	SW8260C	1,2,4-TRICHLOROBENZENE	UG/L	0.5	UJ	HT>UCL
DUP-GW-111214	SW8260C	1,2-DIBROMO-3-CHLOROPROPANE	UG/L	1	UJ	HT>UCL
DUP-GW-111214	SW8260C	1,2-DIBROMOETHANE	UG/L	0.5	UJ	HT>UCL
DUP-GW-111214	SW8260C	1,2-DICHLOROBENZENE	UG/L	0.5	UJ	HT>UCL
DUP-GW-111214	SW8260C	1,2-DICHLOROETHANE	UG/L	0.5	UJ	HT>UCL
DUP-GW-111214	SW8260C	1,2-DICHLOROPROPANE	UG/L	0.5	UJ	HT>UCL
DUP-GW-111214	SW8260C	1,3-DICHLOROBENZENE	UG/L	0.5	UJ	HT>UCL
DUP-GW-111214	SW8260C	1,4-DICHLOROBENZENE	UG/L	0.5	UJ	HT>UCL
DUP-GW-111214	SW8260C	2-BUTANONE	UG/L	5	UJ	HT>UCL
DUP-GW-111214	SW8260C	2-HEXANONE	UG/L	5	UJ	HT>UCL
DUP-GW-111214	SW8260C	4-METHYL-2-PENTANONE	UG/L	5	UJ	HT>UCL
DUP-GW-111214	SW8260C	ACETONE	UG/L	15	UJ	HT>UCL
DUP-GW-111214	SW8260C	BENZENE	UG/L	0.5	UJ	HT>UCL
DUP-GW-111214	SW8260C	BROMOCHLOROMETHANE	UG/L	0.5	UJ	HT>UCL
DUP-GW-111214	SW8260C	BROMODICHLOROMETHANE	UG/L	0.5	UJ	HT>UCL
DUP-GW-111214	SW8260C	BROMOFORM	UG/L	0.5	UJ	HT>UCL
DUP-GW-111214	SW8260C	BROMOMETHANE	UG/L	0.5	UJ	HT>UCL
DUP-GW-111214	SW8260C	CARBON DISULFIDE	UG/L	7	J	HT>UCL
DUP-GW-111214	SW8260C	CARBON TETRACHLORIDE	UG/L	0.5	UJ	HT>UCL
DUP-GW-111214	SW8260C	CHLOROBENZENE	UG/L	0.5	UJ	HT>UCL
DUP-GW-111214	SW8260C	CHLOROETHANE	UG/L	0.5	UJ	HT>UCL

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Qualified Data
Annual Groundwater Investigation, Dow Waterloo

Sample ID	Method	Analyte	Units	Final Result	Final Flag	Reason
DUP-GW-111214	SW8260C	CHLOROFORM	UG/L	0.5	UJ	HT>UCL
DUP-GW-111214	SW8260C	CHLOROMETHANE	UG/L	1	UJ	HT>UCL
DUP-GW-111214	SW8260C	CIS-1,2-DICHLOROETHENE	UG/L	0.5	UJ	HT>UCL
DUP-GW-111214	SW8260C	CIS-1,3-DICHLOROPROPENE	UG/L	0.5	UJ	HT>UCL
DUP-GW-111214	SW8260C	CYCLOHEXANE	UG/L	0.5	UJ	HT>UCL
DUP-GW-111214	SW8260C	DIBROMOCHLOROMETHANE	UG/L	0.5	UJ	HT>UCL
DUP-GW-111214	SW8260C	DICHLORODIFLUOROMETHANE	UG/L	0.5	UJ	HT>UCL
DUP-GW-111214	SW8260C	ETHYLBENZENE	UG/L	0.5	UJ	HT>UCL
DUP-GW-111214	SW8260C	FREON 113	UG/L	1	UJ	HT>UCL
DUP-GW-111214	SW8260C	ISOPROPYLBENZENE	UG/L	0.5	UJ	HT>UCL
DUP-GW-111214	SW8260C	M+P-XYLENE	UG/L	0.7	J	HT>UCL
DUP-GW-111214	SW8260C	METHYL ACETATE	UG/L	1.5	UJ	HT>UCL
DUP-GW-111214	SW8260C	METHYL TERTIARY BUTYL ETHER	UG/L	0.5	UJ	HT>UCL
DUP-GW-111214	SW8260C	METHYLCYCLOHEXANE	UG/L	0.5	UJ	HT>UCL
DUP-GW-111214	SW8260C	METHYLENE CHLORIDE	UG/L	1	UJ	HT>UCL
DUP-GW-111214	SW8260C	O-XYLENE	UG/L	0.5	UJ	HT>UCL
DUP-GW-111214	SW8260C	STYRENE	UG/L	0.5	UJ	HT>UCL
DUP-GW-111214	SW8260C	TETRACHLOROETHENE	UG/L	0.5	UJ	HT>UCL
DUP-GW-111214	SW8260C	TOLUENE	UG/L	0.5	UJ	HT>UCL
DUP-GW-111214	SW8260C	TRANS-1,2-DICHLOROETHENE	UG/L	0.5	UJ	HT>UCL
DUP-GW-111214	SW8260C	TRANS-1,3-DICHLOROPROPENE	UG/L	0.5	UJ	HT>UCL
DUP-GW-111214	SW8260C	TRICHLOROETHENE	UG/L	0.5	UJ	HT>UCL
DUP-GW-111214	SW8260C	TRICHLOROFLUOROMETHANE	UG/L	0.5	UJ	HT>UCL
DUP-GW-111214	SW8260C	VINYL CHLORIDE	UG/L	0.5	UJ	HT>UCL
MW-02-111214	SW8260C	1,1,1-TRICHLOROETHANE	UG/L	0.5	UJ	HT>UCL
MW-02-111214	SW8260C	1,1,2,2-TETRACHLOROETHANE	UG/L	0.5	UJ	HT>UCL
MW-02-111214	SW8260C	1,1,2-TRICHLOROETHANE	UG/L	0.5	UJ	HT>UCL
MW-02-111214	SW8260C	1,1-DICHLOROETHANE	UG/L	0.5	UJ	HT>UCL
MW-02-111214	SW8260C	1,1-DICHLOROETHENE	UG/L	0.5	UJ	HT>UCL

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Annual Groundwater Investigation, Dow Waterloo

Sample ID	Method	Analyte	Units	Final Result	Final Flag	Reason
MW-02-111214	SW8260C	1,2,3-TRICHLOROBENZENE	UG/L	0.5	UJ	HT>UCL
MW-02-111214	SW8260C	1,2,4-TRICHLOROBENZENE	UG/L	0.5	UJ	HT>UCL
MW-02-111214	SW8260C	1,2-DIBROMO-3-CHLOROPROPANE	UG/L	1	UJ	HT>UCL
MW-02-111214	SW8260C	1,2-DIBROMOETHANE	UG/L	0.5	UJ	HT>UCL
MW-02-111214	SW8260C	1,2-DICHLOROBENZENE	UG/L	0.5	UJ	HT>UCL
MW-02-111214	SW8260C	1,2-DICHLOROETHANE	UG/L	0.5	UJ	HT>UCL
MW-02-111214	SW8260C	1,2-DICHLOROPROPANE	UG/L	0.5	UJ	HT>UCL
MW-02-111214	SW8260C	1,3-DICHLOROBENZENE	UG/L	0.5	UJ	HT>UCL
MW-02-111214	SW8260C	1,4-DICHLOROBENZENE	UG/L	0.5	UJ	HT>UCL
MW-02-111214	SW8260C	2-BUTANONE	UG/L	5	UJ	HT>UCL
MW-02-111214	SW8260C	2-HEXANONE	UG/L	5	UJ	HT>UCL
MW-02-111214	SW8260C	4-METHYL-2-PENTANONE	UG/L	500	J	HT>UCL
MW-02-111214	SW8260C	ACETONE	UG/L	15	UJ	HT>UCL
MW-02-111214	SW8260C	BENZENE	UG/L	0.5	UJ	HT>UCL
MW-02-111214	SW8260C	BROMOCHLOROMETHANE	UG/L	0.5	UJ	HT>UCL
MW-02-111214	SW8260C	BROMODICHLOROMETHANE	UG/L	0.5	UJ	HT>UCL
MW-02-111214	SW8260C	BROMOFORM	UG/L	0.5	UJ	HT>UCL
MW-02-111214	SW8260C	BROMOMETHANE	UG/L	0.5	UJ	HT>UCL
MW-02-111214	SW8260C	CARBON DISULFIDE	UG/L	110	J	HT>UCL
MW-02-111214	SW8260C	CARBON TETRACHLORIDE	UG/L	0.5	UJ	HT>UCL
MW-02-111214	SW8260C	CHLOROBENZENE	UG/L	0.5	UJ	HT>UCL
MW-02-111214	SW8260C	CHLOROETHANE	UG/L	0.5	UJ	HT>UCL
MW-02-111214	SW8260C	CHLOROFORM	UG/L	29	J	HT>UCL
MW-02-111214	SW8260C	CHLOROMETHANE	UG/L	1	UJ	HT>UCL
MW-02-111214	SW8260C	CIS-1,2-DICHLOROETHENE	UG/L	0.5	UJ	HT>UCL
MW-02-111214	SW8260C	CIS-1,3-DICHLOROPROPENE	UG/L	0.5	UJ	HT>UCL
MW-02-111214	SW8260C	CYCLOHEXANE	UG/L	0.5	UJ	HT>UCL
MW-02-111214	SW8260C	DIBROMOCHLOROMETHANE	UG/L	0.5	UJ	HT>UCL
MW-02-111214	SW8260C	DICHLORODIFLUOROMETHANE	UG/L	0.5	UJ	HT>UCL

Table 3
Qualified Data
Annual Groundwater Investigation, Dow Waterloo

Sample ID	Method	Analyte	Units	Final Result	Final Flag	Reason
MW-02-111214	SW8260C	ETHYLBENZENE	UG/L	0.5	UJ	HT>UCL
MW-02-111214	SW8260C	FREON 113	UG/L	1	UJ	HT>UCL
MW-02-111214	SW8260C	ISOPROPYLBENZENE	UG/L	0.5	UJ	HT>UCL
MW-02-111214	SW8260C	M+P-XYLENE	UG/L	3.1	J	HT>UCL
MW-02-111214	SW8260C	METHYL ACETATE	UG/L	1.5	UJ	HT>UCL
MW-02-111214	SW8260C	METHYL TERTIARY BUTYL ETHER	UG/L	0.5	UJ	HT>UCL
MW-02-111214	SW8260C	METHYLCYCLOHEXANE	UG/L	0.5	UJ	HT>UCL
MW-02-111214	SW8260C	METHYLENE CHLORIDE	UG/L	5	U	TB>RL, HT>UCL (J)
MW-02-111214	SW8260C	O-XYLENE	UG/L	0.9	J	HT>UCL
MW-02-111214	SW8260C	STYRENE	UG/L	0.5	UJ	HT>UCL
MW-02-111214	SW8260C	TETRACHLOROETHENE	UG/L	0.5	UJ	HT>UCL
MW-02-111214	SW8260C	TOLUENE	UG/L	11	J	HT>UCL
MW-02-111214	SW8260C	TRANS-1,2-DICHLOROETHENE	UG/L	0.5	UJ	HT>UCL
MW-02-111214	SW8260C	TRANS-1,3-DICHLOROPROPENE	UG/L	0.5	UJ	HT>UCL
MW-02-111214	SW8260C	TRICHLOROETHENE	UG/L	0.5	UJ	HT>UCL
MW-02-111214	SW8260C	TRICHLOROFLUOROMETHANE	UG/L	0.5	UJ	HT>UCL
MW-02-111214	SW8260C	VINYL CHLORIDE	UG/L	0.5	UJ	HT>UCL
MW03-111714	E310.2	Alkalinity, Total (as CaCO3)	mg/l	4130	J	CCV>UCL
MW03-111714	SW6010C	Aluminum, Dissolved	mg/l	0.100	UJ	Preservation
MW03-111714	SW6010C	Barium, Dissolved	mg/l	2.16	J	Preservation
MW03-111714	SW6010C	Beryllium, Dissolved	mg/l	0.00100	UJ	Preservation
MW03-111714	SW6010C	Cadmium, Dissolved	mg/l	0.00351	J	Preservation
MW03-111714	SW6010C	Calcium, Dissolved	mg/l	752	J	Preservation
MW03-111714	SW6010C	Chromium, Dissolved	mg/l	1.79	J	Preservation
MW03-111714	SW6010C	Cobalt, Dissolved	mg/l	0.0121	J	Preservation
MW03-111714	SW6010C	Copper, Dissolved	mg/l	0.0100	UJ	Preservation
MW03-111714	SW6010C	Iron, Dissolved	mg/l	0.0500	UJ	Preservation
MW03-111714	SW6010C	Magnesium, Dissolved	mg/l	197	J	Preservation
MW03-111714	SW6010C	Manganese, Dissolved	mg/l	1.88	J	Preservation

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Qualified Data
Annual Groundwater Investigation, Dow Waterloo

Sample ID	Method	Analyte	Units	Final Result	Final Flag	Reason
MW03-111714	SW6010C	Nickel, Dissolved	mg/l	0.0744	J	Preservation
MW03-111714	SW6010C	Potassium, Dissolved	mg/l	94.5	J	Preservation
MW03-111714	SW6010C	Silver, Dissolved	mg/l	0.00500	UJ	Preservation
MW03-111714	SW6010C	Sodium, Dissolved	mg/l	603	J	Preservation
MW03-111714	SW6010C	Vanadium, Dissolved	mg/l	0.0664	J	Preservation
MW03-111714	SW6010C	Zinc, Dissolved	mg/l	0.0150	J	Preservation
MW03-111714	SW6020A	Antimony, Dissolved	mg/l	0.00655	J	Preservation
MW03-111714	SW6020A	Arsenic, Dissolved	mg/l	0.236	J	Preservation
MW03-111714	SW6020A	Lead, Dissolved	mg/l	0.000500	UJ	Preservation
MW03-111714	SW6020A	Selenium, Dissolved	mg/l	0.00688	J	Preservation
MW03-111714	SW6020A	Thallium, Dissolved	mg/l	0.000100	UJ	Preservation
MW03-111714	SW7470A	Mercury, Dissolved	mg/l	0.000100	UJ	Preservation
MW03-111714	SW8260C	1,2,3-TRICHLOROBENZENE	UG/L	2	UJ	CCV<LCL
MW03-111714	SW8260C	METHYLENE CHLORIDE	UG/L	39	U	TB>RL
MW-06-111114	E300.0	Sulfate	mg/l	32.7	J	MS>UCL, SD>UCL
MW-06-111114	SW6020A	Selenium, Dissolved	mg/l	0.000962	J	LLCCV>UCL
MW-07-111414	E310.2	Alkalinity, Total (as CaCO3)	mg/l	473	J	CCV>UCL
MW-07-111414	E351.2	Nitrogen, Total Kjeldahl	mg/l	0.100	UJ	CCV<LCL
MW-07-111414	E365.4	Phosphorus, Total	mg/l	0.253	U	LB<RL
MW-07-111414	SW6010C	Aluminum, Total	mg/l	0.238	J	LLCCV<LCL
MW-07-111414	SW6010C	Iron, Total	mg/l	0.434	J	LLCCV<LCL
MW-07-111414	SW6010C	Potassium, Dissolved	mg/l	3.26	J	LLCCV<LCL
MW-07-111414	SW6010C	Potassium, Total	mg/l	3.31	J	LLCCV<LCL
MW-07-111414	SW6020A	Arsenic, Dissolved	mg/l	0.00660	U	EB>RL
MW-07-111414	SW6020A	Arsenic, Total	mg/l	0.00734	U	EB>RL
MW-10-111414	E351.2	Nitrogen, Total Kjeldahl	mg/l	0.409	J	CCV<LCL
MW-10-111414	SW6010C	Aluminum, Total	mg/l	0.123	J	LLCCV<LCL
MW-10-111414	SW6010C	Calcium, Total	mg/l	140	J	PDS<LCL
MW-10-111414	SW6010C	Iron, Dissolved	mg/l	0.294	J	LLCCV<LCL

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Annual Groundwater Investigation, Dow Waterloo

Sample ID	Method	Analyte	Units	Final Result	Final Flag	Reason
MW-10-111414	SW6010C	Iron, Total	mg/l	0.422	J	LLCCV<LCL
MW-10-111414	SW6010C	Manganese, Dissolved	mg/l	0.00628	J	LLCCV<LCL
MW-10-111414	SW6010C	Manganese, Total	mg/l	0.0135	J	LLCCV<LCL
MW-10-111414	SW6010C	Potassium, Dissolved	mg/l	0.685	J	LLCCV<LCL
MW-10-111414	SW6010C	Potassium, Total	mg/l	0.746	J	LLCCV<LCL
MW-16I-111114	E351.2	Nitrogen, Total Kjeldahl	mg/l	0.482	U	LB<RL
MW-17-111414	E351.2	Nitrogen, Total Kjeldahl	mg/l	0.408	J	CCV<LCL
MW-17-111414	SW6010C	Cadmium, Dissolved	mg/l	0.000588	J	LLCCV<LCL
MW19-111814	E350.1	Nitrogen, Ammonia	mg/l	0.221	U	LB<RL
MW19-111814	SW8260C	1,2,3-TRICHLOROBENZENE	UG/L	0.1	UJ	CCV<LCL
MW-20-111114	SW6020A	Selenium, Total	mg/l	0.000631	J	LLCCV>UCL
MW-21-111314	SW8260C	1,1,1-TRICHLOROETHANE	UG/L	1	UJ	HT>UCL
MW-21-111314	SW8260C	1,1,2,2-TETRACHLOROETHANE	UG/L	1	UJ	HT>UCL
MW-21-111314	SW8260C	1,1,2-TRICHLOROETHANE	UG/L	1	UJ	HT>UCL
MW-21-111314	SW8260C	1,1-DICHLOROETHANE	UG/L	1	UJ	HT>UCL
MW-21-111314	SW8260C	1,1-DICHLOROETHENE	UG/L	1	UJ	HT>UCL
MW-21-111314	SW8260C	1,2,3-TRICHLOROBENZENE	UG/L	1	UJ	HT>UCL
MW-21-111314	SW8260C	1,2,4-TRICHLOROBENZENE	UG/L	1	UJ	HT>UCL
MW-21-111314	SW8260C	1,2-DIBROMO-3-CHLOROPROPANE	UG/L	2	UJ	HT>UCL
MW-21-111314	SW8260C	1,2-DIBROMOETHANE	UG/L	1	UJ	HT>UCL
MW-21-111314	SW8260C	1,2-DICHLOROBENZENE	UG/L	1	UJ	HT>UCL
MW-21-111314	SW8260C	1,2-DICHLOROETHANE	UG/L	1	UJ	HT>UCL
MW-21-111314	SW8260C	1,2-DICHLOROPROPANE	UG/L	1	UJ	HT>UCL
MW-21-111314	SW8260C	1,3-DICHLOROBENZENE	UG/L	1	UJ	HT>UCL
MW-21-111314	SW8260C	1,4-DICHLOROBENZENE	UG/L	1	UJ	HT>UCL
MW-21-111314	SW8260C	2-BUTANONE	UG/L	10	UJ	HT>UCL
MW-21-111314	SW8260C	2-HEXANONE	UG/L	10	UJ	HT>UCL
MW-21-111314	SW8260C	4-METHYL-2-PENTANONE	UG/L	10	UJ	HT>UCL
MW-21-111314	SW8260C	ACETONE	UG/L	30	UJ	HT>UCL

Table 3
Qualified Data
Annual Groundwater Investigation, Dow Waterloo

Sample ID	Method	Analyte	Units	Final Result	Final Flag	Reason
MW-21-111314	SW8260C	BENZENE	UG/L	1	UJ	HT>UCL
MW-21-111314	SW8260C	BROMOCHLOROMETHANE	UG/L	1	UJ	HT>UCL
MW-21-111314	SW8260C	BROMODICHLOROMETHANE	UG/L	1	UJ	HT>UCL
MW-21-111314	SW8260C	BROMOFORM	UG/L	1	UJ	HT>UCL
MW-21-111314	SW8260C	BROMOMETHANE	UG/L	1	UJ	HT>UCL
MW-21-111314	SW8260C	CARBON DISULFIDE	UG/L	4	UJ	HT>UCL
MW-21-111314	SW8260C	CARBON TETRACHLORIDE	UG/L	1	UJ	HT>UCL
MW-21-111314	SW8260C	CHLOROBENZENE	UG/L	1	UJ	HT>UCL
MW-21-111314	SW8260C	CHLOROETHANE	UG/L	1	UJ	HT>UCL
MW-21-111314	SW8260C	CHLOROFORM	UG/L	1	UJ	HT>UCL
MW-21-111314	SW8260C	CHLOROMETHANE	UG/L	2	UJ	HT>UCL
MW-21-111314	SW8260C	CIS-1,2-DICHLOROETHENE	UG/L	1	UJ	HT>UCL
MW-21-111314	SW8260C	CIS-1,3-DICHLOROPROPENE	UG/L	1	UJ	HT>UCL
MW-21-111314	SW8260C	CYCLOHEXANE	UG/L	1	UJ	HT>UCL
MW-21-111314	SW8260C	DIBROMOCHLOROMETHANE	UG/L	1	UJ	HT>UCL
MW-21-111314	SW8260C	DICHLORODIFLUOROMETHANE	UG/L	1	UJ	HT>UCL
MW-21-111314	SW8260C	ETHYLBENZENE	UG/L	1	UJ	HT>UCL
MW-21-111314	SW8260C	FREON 113	UG/L	2	UJ	HT>UCL
MW-21-111314	SW8260C	ISOPROPYLBENZENE	UG/L	1	UJ	HT>UCL
MW-21-111314	SW8260C	M+P-XYLENE	UG/L	1	UJ	HT>UCL
MW-21-111314	SW8260C	METHYL ACETATE	UG/L	3	UJ	HT>UCL
MW-21-111314	SW8260C	METHYL TERTIARY BUTYL ETHER	UG/L	1	UJ	HT>UCL
MW-21-111314	SW8260C	METHYLCYCLOHEXANE	UG/L	1	UJ	HT>UCL
MW-21-111314	SW8260C	METHYLENE CHLORIDE	UG/L	2	UJ	HT>UCL
MW-21-111314	SW8260C	O-XYLENE	UG/L	1	UJ	HT>UCL
MW-21-111314	SW8260C	STYRENE	UG/L	1	UJ	HT>UCL
MW-21-111314	SW8260C	TETRACHLOROETHENE	UG/L	1	UJ	HT>UCL
MW-21-111314	SW8260C	TOLUENE	UG/L	1	UJ	HT>UCL
MW-21-111314	SW8260C	TRANS-1,2-DICHLOROETHENE	UG/L	1	UJ	HT>UCL

Table 3
Qualified Data
Annual Groundwater Investigation, Dow Waterloo

Sample ID	Method	Analyte	Units	Final Result	Final Flag	Reason
MW-21-111314	SW8260C	TRANS-1,3-DICHLOROPROPENE	UG/L	1	UJ	HT>UCL
MW-21-111314	SW8260C	TRICHLOROETHENE	UG/L	1	UJ	HT>UCL
MW-21-111314	SW8260C	TRICHLOROFLUOROMETHANE	UG/L	1	UJ	HT>UCL
MW-21-111314	SW8260C	VINYL CHLORIDE	UG/L	1	UJ	HT>UCL
MW-23-111214	SW6020A	Selenium, Dissolved	mg/l	0.00967	J	FD>RPD
MW-23-111214	SW6020A	Selenium, Total	mg/l	0.00759	J	FD>RPD
MW-23-111214	SW8260C	1,1,1-TRICHLOROETHANE	UG/L	0.5	UJ	HT>UCL
MW-23-111214	SW8260C	1,1,2,2-TETRACHLOROETHANE	UG/L	0.5	UJ	HT>UCL
MW-23-111214	SW8260C	1,1,2-TRICHLOROETHANE	UG/L	0.5	UJ	HT>UCL
MW-23-111214	SW8260C	1,1-DICHLOROETHANE	UG/L	0.5	UJ	HT>UCL
MW-23-111214	SW8260C	1,1-DICHLOROETHENE	UG/L	0.5	UJ	HT>UCL
MW-23-111214	SW8260C	1,2,3-TRICHLOROBENZENE	UG/L	0.5	UJ	HT>UCL
MW-23-111214	SW8260C	1,2,4-TRICHLOROBENZENE	UG/L	0.5	UJ	HT>UCL
MW-23-111214	SW8260C	1,2-DIBROMO-3-CHLOROPROPANE	UG/L	1	UJ	HT>UCL
MW-23-111214	SW8260C	1,2-DIBROMOETHANE	UG/L	0.5	UJ	HT>UCL
MW-23-111214	SW8260C	1,2-DICHLOROBENZENE	UG/L	0.5	UJ	HT>UCL
MW-23-111214	SW8260C	1,2-DICHLOROETHANE	UG/L	0.5	UJ	HT>UCL
MW-23-111214	SW8260C	1,2-DICHLOROPROPANE	UG/L	0.5	UJ	HT>UCL
MW-23-111214	SW8260C	1,3-DICHLOROBENZENE	UG/L	0.5	UJ	HT>UCL
MW-23-111214	SW8260C	1,4-DICHLOROBENZENE	UG/L	0.5	UJ	HT>UCL
MW-23-111214	SW8260C	2-BUTANONE	UG/L	5	UJ	HT>UCL
MW-23-111214	SW8260C	2-HEXANONE	UG/L	5	UJ	HT>UCL
MW-23-111214	SW8260C	4-METHYL-2-PENTANONE	UG/L	5	UJ	HT>UCL
MW-23-111214	SW8260C	ACETONE	UG/L	15	UJ	HT>UCL
MW-23-111214	SW8260C	BENZENE	UG/L	0.5	UJ	HT>UCL
MW-23-111214	SW8260C	BROMOCHLOROMETHANE	UG/L	0.5	UJ	HT>UCL
MW-23-111214	SW8260C	BROMODICHLOROMETHANE	UG/L	0.5	UJ	HT>UCL
MW-23-111214	SW8260C	BROMOFORM	UG/L	0.5	UJ	HT>UCL
MW-23-111214	SW8260C	BROMOMETHANE	UG/L	0.5	UJ	HT>UCL

Table 3
Qualified Data
Annual Groundwater Investigation, Dow Waterloo

Sample ID	Method	Analyte	Units	Final Result	Final Flag	Reason
MW-23-111214	SW8260C	CARBON DISULFIDE	UG/L	7.2	J	HT>UCL
MW-23-111214	SW8260C	CARBON TETRACHLORIDE	UG/L	0.5	UJ	HT>UCL
MW-23-111214	SW8260C	CHLOROBENZENE	UG/L	0.5	UJ	HT>UCL
MW-23-111214	SW8260C	CHLOROETHANE	UG/L	0.5	UJ	HT>UCL
MW-23-111214	SW8260C	CHLOROFORM	UG/L	0.5	UJ	HT>UCL
MW-23-111214	SW8260C	CHLOROMETHANE	UG/L	1	UJ	HT>UCL
MW-23-111214	SW8260C	CIS-1,2-DICHLOROETHENE	UG/L	0.5	UJ	HT>UCL
MW-23-111214	SW8260C	CIS-1,3-DICHLOROPROPENE	UG/L	0.5	UJ	HT>UCL
MW-23-111214	SW8260C	CYCLOHEXANE	UG/L	0.5	UJ	HT>UCL
MW-23-111214	SW8260C	DIBROMOCHLOROMETHANE	UG/L	0.5	UJ	HT>UCL
MW-23-111214	SW8260C	DICHLORODIFLUOROMETHANE	UG/L	0.5	UJ	HT>UCL
MW-23-111214	SW8260C	ETHYLBENZENE	UG/L	0.5	UJ	HT>UCL
MW-23-111214	SW8260C	FREON 113	UG/L	1	UJ	HT>UCL
MW-23-111214	SW8260C	ISOPROPYLBENZENE	UG/L	0.5	UJ	HT>UCL
MW-23-111214	SW8260C	M+P-XYLENE	UG/L	0.7	J	HT>UCL
MW-23-111214	SW8260C	METHYL ACETATE	UG/L	1.5	UJ	HT>UCL
MW-23-111214	SW8260C	METHYL TERTIARY BUTYL ETHER	UG/L	0.5	UJ	HT>UCL
MW-23-111214	SW8260C	METHYLCYCLOHEXANE	UG/L	0.5	UJ	HT>UCL
MW-23-111214	SW8260C	METHYLENE CHLORIDE	UG/L	1	UJ	HT>UCL
MW-23-111214	SW8260C	O-XYLENE	UG/L	0.5	UJ	HT>UCL
MW-23-111214	SW8260C	STYRENE	UG/L	0.5	UJ	HT>UCL
MW-23-111214	SW8260C	TETRACHLOROETHENE	UG/L	0.5	UJ	HT>UCL
MW-23-111214	SW8260C	TOLUENE	UG/L	0.5	UJ	HT>UCL
MW-23-111214	SW8260C	TRANS-1,2-DICHLOROETHENE	UG/L	0.5	UJ	HT>UCL
MW-23-111214	SW8260C	TRANS-1,3-DICHLOROPROPENE	UG/L	0.5	UJ	HT>UCL
MW-23-111214	SW8260C	TRICHLOROETHENE	UG/L	0.5	UJ	HT>UCL
MW-23-111214	SW8260C	TRICHLOROFLUOROMETHANE	UG/L	0.5	UJ	HT>UCL
MW-23-111214	SW8260C	VINYL CHLORIDE	UG/L	0.5	UJ	HT>UCL
MW-24-111214	SW6020A	Selenium, Dissolved	mg/l	0.00378	J	MS>UCL, SD>UCL

Table 3
Qualified Data
Annual Groundwater Investigation, Dow Waterloo

Sample ID	Method	Analyte	Units	Final Result	Final Flag	Reason
MW-26-111114	E351.2	Nitrogen, Total Kjeldahl	mg/l	0.102	U	LB<RL
MW-29-111314	SW6010C	Manganese, Dissolved	mg/l	0.215	J	MS<LCL, SD<LCL
MW-31-111214	SW8260C	1,1,1-TRICHLOROETHANE	UG/L	0.5	UJ	HT>UCL
MW-31-111214	SW8260C	1,1,2,2-TETRACHLOROETHANE	UG/L	0.5	UJ	HT>UCL
MW-31-111214	SW8260C	1,1,2-TRICHLOROETHANE	UG/L	0.5	UJ	HT>UCL
MW-31-111214	SW8260C	1,1-DICHLOROETHANE	UG/L	0.5	UJ	HT>UCL
MW-31-111214	SW8260C	1,1-DICHLOROETHENE	UG/L	0.5	UJ	HT>UCL
MW-31-111214	SW8260C	1,2,3-TRICHLOROBENZENE	UG/L	0.5	UJ	HT>UCL
MW-31-111214	SW8260C	1,2,4-TRICHLOROBENZENE	UG/L	0.5	UJ	HT>UCL
MW-31-111214	SW8260C	1,2-DIBROMO-3-CHLOROPROPANE	UG/L	1	UJ	HT>UCL
MW-31-111214	SW8260C	1,2-DIBROMOETHANE	UG/L	0.5	UJ	HT>UCL
MW-31-111214	SW8260C	1,2-DICHLOROBENZENE	UG/L	0.5	UJ	HT>UCL
MW-31-111214	SW8260C	1,2-DICHLOROETHANE	UG/L	0.5	UJ	HT>UCL
MW-31-111214	SW8260C	1,2-DICHLOROPROPANE	UG/L	0.5	UJ	HT>UCL
MW-31-111214	SW8260C	1,3-DICHLOROBENZENE	UG/L	0.5	UJ	HT>UCL
MW-31-111214	SW8260C	1,4-DICHLOROBENZENE	UG/L	0.5	UJ	HT>UCL
MW-31-111214	SW8260C	2-BUTANONE	UG/L	5	UJ	HT>UCL
MW-31-111214	SW8260C	2-HEXANONE	UG/L	5	UJ	HT>UCL
MW-31-111214	SW8260C	4-METHYL-2-PENTANONE	UG/L	5	UJ	HT>UCL
MW-31-111214	SW8260C	ACETONE	UG/L	18	U	EB<RL, HT>UCL (J)
MW-31-111214	SW8260C	BENZENE	UG/L	0.5	UJ	HT>UCL
MW-31-111214	SW8260C	BROMOCHLOROMETHANE	UG/L	0.5	UJ	HT>UCL
MW-31-111214	SW8260C	BROMODICHLOROMETHANE	UG/L	0.5	UJ	HT>UCL
MW-31-111214	SW8260C	BROMOFORM	UG/L	0.5	UJ	HT>UCL
MW-31-111214	SW8260C	BROMOMETHANE	UG/L	0.5	UJ	HT>UCL
MW-31-111214	SW8260C	CARBON DISULFIDE	UG/L	3.8	J	HT>UCL
MW-31-111214	SW8260C	CARBON TETRACHLORIDE	UG/L	0.5	UJ	HT>UCL
MW-31-111214	SW8260C	CHLOROBENZENE	UG/L	0.5	UJ	HT>UCL
MW-31-111214	SW8260C	CHLOROETHANE	UG/L	0.5	UJ	HT>UCL

Table 3
Qualified Data
Annual Groundwater Investigation, Dow Waterloo

Sample ID	Method	Analyte	Units	Final Result	Final Flag	Reason
MW-31-111214	SW8260C	CHLOROFORM	UG/L	0.5	UJ	HT>UCL
MW-31-111214	SW8260C	CHLOROMETHANE	UG/L	1	UJ	HT>UCL
MW-31-111214	SW8260C	CIS-1,2-DICHLOROETHENE	UG/L	0.5	UJ	HT>UCL
MW-31-111214	SW8260C	CIS-1,3-DICHLOROPROPENE	UG/L	0.5	UJ	HT>UCL
MW-31-111214	SW8260C	CYCLOHEXANE	UG/L	0.5	UJ	HT>UCL
MW-31-111214	SW8260C	DIBROMOCHLOROMETHANE	UG/L	0.5	UJ	HT>UCL
MW-31-111214	SW8260C	DICHLORODIFLUOROMETHANE	UG/L	0.5	UJ	HT>UCL
MW-31-111214	SW8260C	ETHYLBENZENE	UG/L	0.5	UJ	HT>UCL
MW-31-111214	SW8260C	FREON 113	UG/L	1	UJ	HT>UCL
MW-31-111214	SW8260C	ISOPROPYLBENZENE	UG/L	0.5	UJ	HT>UCL
MW-31-111214	SW8260C	M+P-XYLENE	UG/L	0.5	UJ	HT>UCL
MW-31-111214	SW8260C	METHYL ACETATE	UG/L	1.5	UJ	HT>UCL
MW-31-111214	SW8260C	METHYL TERTIARY BUTYL ETHER	UG/L	0.5	UJ	HT>UCL
MW-31-111214	SW8260C	METHYLCYCLOHEXANE	UG/L	0.5	UJ	HT>UCL
MW-31-111214	SW8260C	METHYLENE CHLORIDE	UG/L	1	UJ	HT>UCL
MW-31-111214	SW8260C	O-XYLENE	UG/L	0.5	UJ	HT>UCL
MW-31-111214	SW8260C	STYRENE	UG/L	0.5	UJ	HT>UCL
MW-31-111214	SW8260C	TETRACHLOROETHENE	UG/L	0.5	UJ	HT>UCL
MW-31-111214	SW8260C	TOLUENE	UG/L	0.5	UJ	HT>UCL
MW-31-111214	SW8260C	TRANS-1,2-DICHLOROETHENE	UG/L	0.5	UJ	HT>UCL
MW-31-111214	SW8260C	TRANS-1,3-DICHLOROPROPENE	UG/L	0.5	UJ	HT>UCL
MW-31-111214	SW8260C	TRICHLOROETHENE	UG/L	0.5	UJ	HT>UCL
MW-31-111214	SW8260C	TRICHLOROFLUOROMETHANE	UG/L	0.5	UJ	HT>UCL
MW-31-111214	SW8260C	VINYL CHLORIDE	UG/L	0.5	UJ	HT>UCL
MW33-111714	SW8260C	1,2,3-TRICHLOROBENZENE	UG/L	0.1	UJ	CCV<LCL
MW-5I-111114	SW6020A	Selenium, Total	mg/l	0.000841	J	LLCCV>UCL
MW-5I-111114	SW8270-PAHL	2-Methylnaphthalene	ug/l	0.0266	UJ	SUR<LCL
MW-5I-111114	SW8270-PAHL	Acenaphthene	ug/l	0.0266	UJ	SUR<LCL
MW-5I-111114	SW8270-PAHL	Acenaphthylene	ug/l	0.0266	UJ	SUR<LCL

Table 3
Qualified Data
Annual Groundwater Investigation, Dow Waterloo

Sample ID	Method	Analyte	Units	Final Result	Final Flag	Reason
MW-5I-111114	SW8270-PAHL	Anthracene	ug/l	0.0266	UJ	SUR<LCL
MW-5I-111114	SW8270-PAHL	Benzo(a)anthracene	ug/l	0.0266	UJ	SUR<LCL
MW-5I-111114	SW8270-PAHL	Benzo(a)pyrene	ug/l	0.0266	UJ	SUR<LCL
MW-5I-111114	SW8270-PAHL	Benzo(b)fluoranthene	ug/l	0.0266	UJ	SUR<LCL
MW-5I-111114	SW8270-PAHL	Benzo(g,h,i)perylene	ug/l	0.0266	UJ	SUR<LCL
MW-5I-111114	SW8270-PAHL	Benzo(k)fluoranthene	ug/l	0.0266	UJ	SUR<LCL
MW-5I-111114	SW8270-PAHL	Chrysene	ug/l	0.0266	UJ	SUR<LCL
MW-5I-111114	SW8270-PAHL	Dibenzo(a,h)anthracene	ug/l	0.0266	UJ	SUR<LCL
MW-5I-111114	SW8270-PAHL	Fluoranthene	ug/l	0.0428	J	SUR<LCL
MW-5I-111114	SW8270-PAHL	Fluorene	ug/l	0.0266	UJ	SUR<LCL
MW-5I-111114	SW8270-PAHL	Indeno(1,2,3-cd)pyrene	ug/l	0.0266	UJ	SUR<LCL
MW-5I-111114	SW8270-PAHL	Naphthalene	ug/l	0.0266	UJ	SUR<LCL
MW-5I-111114	SW8270-PAHL	Phenanthrene	ug/l	0.0266	UJ	SUR<LCL
MW-5I-111114	SW8270-PAHL	Pyrene	ug/l	0.0266	UJ	SUR<LCL
MW9R-111814	E310.2	Alkalinity, Total (as CaCO3)	mg/l	732	J	CCV>UCL
MW9R-111814	SW8260C	1,2,3-TRICHLOROBENZENE	UG/L	0.1	UJ	CCV<LCL
PZ01-111714	SW8260C	1,2,3-TRICHLOROBENZENE	UG/L	0.1	UJ	CCV<LCL
PZ03-111714	SW8260C	1,2,3-TRICHLOROBENZENE	UG/L	0.1	UJ	CCV<LCL
PZ-04-111314	SW8260C	1,1,1-TRICHLOROETHANE	UG/L	1	UJ	HT>UCL
PZ-04-111314	SW8260C	1,1,2,2-TETRACHLOROETHANE	UG/L	1	UJ	HT>UCL
PZ-04-111314	SW8260C	1,1,2-TRICHLOROETHANE	UG/L	1	UJ	HT>UCL
PZ-04-111314	SW8260C	1,1-DICHLOROETHANE	UG/L	1	UJ	HT>UCL
PZ-04-111314	SW8260C	1,1-DICHLOROETHENE	UG/L	1	UJ	HT>UCL
PZ-04-111314	SW8260C	1,2,3-TRICHLOROBENZENE	UG/L	1	UJ	HT>UCL
PZ-04-111314	SW8260C	1,2,4-TRICHLOROBENZENE	UG/L	1	UJ	HT>UCL
PZ-04-111314	SW8260C	1,2-DIBROMO-3-CHLOROPROPANE	UG/L	2	UJ	HT>UCL
PZ-04-111314	SW8260C	1,2-DIBROMOETHANE	UG/L	1	UJ	HT>UCL
PZ-04-111314	SW8260C	1,2-DICHLOROBENZENE	UG/L	1	UJ	HT>UCL
PZ-04-111314	SW8260C	1,2-DICHLOROETHANE	UG/L	1	UJ	HT>UCL

Table 3
Qualified Data
Annual Groundwater Investigation, Dow Waterloo

Sample ID	Method	Analyte	Units	Final Result	Final Flag	Reason
PZ-04-111314	SW8260C	1,2-DICHLOROPROPANE	UG/L	1	UJ	HT>UCL
PZ-04-111314	SW8260C	1,3-DICHLOROBENZENE	UG/L	1	UJ	HT>UCL
PZ-04-111314	SW8260C	1,4-DICHLOROBENZENE	UG/L	1	UJ	HT>UCL
PZ-04-111314	SW8260C	2-BUTANONE	UG/L	10	UJ	HT>UCL
PZ-04-111314	SW8260C	2-HEXANONE	UG/L	10	UJ	HT>UCL
PZ-04-111314	SW8260C	4-METHYL-2-PENTANONE	UG/L	10	UJ	HT>UCL
PZ-04-111314	SW8260C	ACETONE	UG/L	30	UJ	HT>UCL
PZ-04-111314	SW8260C	BENZENE	UG/L	1	UJ	HT>UCL
PZ-04-111314	SW8260C	BROMOCHLOROMETHANE	UG/L	1	UJ	HT>UCL
PZ-04-111314	SW8260C	BROMODICHLOROMETHANE	UG/L	1	UJ	HT>UCL
PZ-04-111314	SW8260C	BROMOFORM	UG/L	1	UJ	HT>UCL
PZ-04-111314	SW8260C	BROMOMETHANE	UG/L	1	UJ	HT>UCL
PZ-04-111314	SW8260C	CARBON DISULFIDE	UG/L	11	J	HT>UCL
PZ-04-111314	SW8260C	CARBON TETRACHLORIDE	UG/L	1	UJ	HT>UCL
PZ-04-111314	SW8260C	CHLOROBENZENE	UG/L	1	UJ	HT>UCL
PZ-04-111314	SW8260C	CHLOROETHANE	UG/L	1	UJ	HT>UCL
PZ-04-111314	SW8260C	CHLOROFORM	UG/L	16	J	HT>UCL
PZ-04-111314	SW8260C	CHLOROMETHANE	UG/L	2	UJ	HT>UCL
PZ-04-111314	SW8260C	CIS-1,2-DICHLOROETHENE	UG/L	1	UJ	HT>UCL
PZ-04-111314	SW8260C	CIS-1,3-DICHLOROPROPENE	UG/L	1	UJ	HT>UCL
PZ-04-111314	SW8260C	CYCLOHEXANE	UG/L	1	UJ	HT>UCL
PZ-04-111314	SW8260C	DIBROMOCHLOROMETHANE	UG/L	1	UJ	HT>UCL
PZ-04-111314	SW8260C	DICHLORODIFLUOROMETHANE	UG/L	1	UJ	HT>UCL
PZ-04-111314	SW8260C	ETHYLBENZENE	UG/L	1	UJ	HT>UCL
PZ-04-111314	SW8260C	FREON 113	UG/L	2	UJ	HT>UCL
PZ-04-111314	SW8260C	ISOPROPYLBENZENE	UG/L	1	UJ	HT>UCL
PZ-04-111314	SW8260C	M+P-XYLENE	UG/L	1	UJ	HT>UCL
PZ-04-111314	SW8260C	METHYL ACETATE	UG/L	3	UJ	HT>UCL
PZ-04-111314	SW8260C	METHYL TERTIARY BUTYL ETHER	UG/L	1	UJ	HT>UCL

Table 3
Qualified Data
Annual Groundwater Investigation, Dow Waterloo

Sample ID	Method	Analyte	Units	Final Result	Final Flag	Reason
PZ-04-111314	SW8260C	METHYLCYCLOHEXANE	UG/L	1	UJ	HT>UCL
PZ-04-111314	SW8260C	METHYLENE CHLORIDE	UG/L	4.3	U	TB>RL, HT>UCL (J)
PZ-04-111314	SW8260C	O-XYLENE	UG/L	1	UJ	HT>UCL
PZ-04-111314	SW8260C	STYRENE	UG/L	1	UJ	HT>UCL
PZ-04-111314	SW8260C	TETRACHLOROETHENE	UG/L	1	UJ	HT>UCL
PZ-04-111314	SW8260C	TOLUENE	UG/L	1	UJ	HT>UCL
PZ-04-111314	SW8260C	TRANS-1,2-DICHLOROETHENE	UG/L	1	UJ	HT>UCL
PZ-04-111314	SW8260C	TRANS-1,3-DICHLOROPROPENE	UG/L	1	UJ	HT>UCL
PZ-04-111314	SW8260C	TRICHLOROETHENE	UG/L	1	UJ	HT>UCL
PZ-04-111314	SW8260C	TRICHLOROFLUOROMETHANE	UG/L	1	UJ	HT>UCL
PZ-04-111314	SW8260C	VINYL CHLORIDE	UG/L	1	UJ	HT>UCL
PZ-05-111314	SW8260C	1,1,1-TRICHLOROETHANE	UG/L	1	UJ	HT>UCL
PZ-05-111314	SW8260C	1,1,2,2-TETRACHLOROETHANE	UG/L	1	UJ	HT>UCL
PZ-05-111314	SW8260C	1,1,2-TRICHLOROETHANE	UG/L	1	UJ	HT>UCL
PZ-05-111314	SW8260C	1,1-DICHLOROETHANE	UG/L	1	UJ	HT>UCL
PZ-05-111314	SW8260C	1,1-DICHLOROETHENE	UG/L	1	UJ	HT>UCL
PZ-05-111314	SW8260C	1,2,3-TRICHLOROBENZENE	UG/L	1	UJ	HT>UCL
PZ-05-111314	SW8260C	1,2,4-TRICHLOROBENZENE	UG/L	1	UJ	HT>UCL
PZ-05-111314	SW8260C	1,2-DIBROMO-3-CHLOROPROPANE	UG/L	2	UJ	HT>UCL
PZ-05-111314	SW8260C	1,2-DIBROMOETHANE	UG/L	1	UJ	HT>UCL
PZ-05-111314	SW8260C	1,2-DICHLOROBENZENE	UG/L	1	UJ	HT>UCL
PZ-05-111314	SW8260C	1,2-DICHLOROETHANE	UG/L	1	UJ	HT>UCL
PZ-05-111314	SW8260C	1,2-DICHLOROPROPANE	UG/L	1	UJ	HT>UCL
PZ-05-111314	SW8260C	1,3-DICHLOROBENZENE	UG/L	1	UJ	HT>UCL
PZ-05-111314	SW8260C	1,4-DICHLOROBENZENE	UG/L	1	UJ	HT>UCL
PZ-05-111314	SW8260C	2-BUTANONE	UG/L	10	UJ	HT>UCL
PZ-05-111314	SW8260C	2-HEXANONE	UG/L	10	UJ	HT>UCL
PZ-05-111314	SW8260C	4-METHYL-2-PENTANONE	UG/L	420	J	HT>UCL
PZ-05-111314	SW8260C	ACETONE	UG/L	30	UJ	HT>UCL

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Qualified Data
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Sample ID	Method	Analyte	Units	Final Result	Final Flag	Reason
PZ-05-111314	SW8260C	BENZENE	UG/L	1	UJ	HT>UCL
PZ-05-111314	SW8260C	BROMOCHLOROMETHANE	UG/L	1	UJ	HT>UCL
PZ-05-111314	SW8260C	BROMODICHLOROMETHANE	UG/L	1	UJ	HT>UCL
PZ-05-111314	SW8260C	BROMOFORM	UG/L	1	UJ	HT>UCL
PZ-05-111314	SW8260C	BROMOMETHANE	UG/L	1	UJ	HT>UCL
PZ-05-111314	SW8260C	CARBON DISULFIDE	UG/L	40	J	HT>UCL
PZ-05-111314	SW8260C	CARBON TETRACHLORIDE	UG/L	1	UJ	HT>UCL
PZ-05-111314	SW8260C	CHLOROBENZENE	UG/L	1	UJ	HT>UCL
PZ-05-111314	SW8260C	CHLOROETHANE	UG/L	1	UJ	HT>UCL
PZ-05-111314	SW8260C	CHLOROFORM	UG/L	20	J	HT>UCL
PZ-05-111314	SW8260C	CHLOROMETHANE	UG/L	2	UJ	HT>UCL
PZ-05-111314	SW8260C	CIS-1,2-DICHLOROETHENE	UG/L	1	UJ	HT>UCL
PZ-05-111314	SW8260C	CIS-1,3-DICHLOROPROPENE	UG/L	1	UJ	HT>UCL
PZ-05-111314	SW8260C	CYCLOHEXANE	UG/L	1	UJ	HT>UCL
PZ-05-111314	SW8260C	DIBROMOCHLOROMETHANE	UG/L	1	UJ	HT>UCL
PZ-05-111314	SW8260C	DICHLORODIFLUOROMETHANE	UG/L	1	UJ	HT>UCL
PZ-05-111314	SW8260C	ETHYLBENZENE	UG/L	1	UJ	HT>UCL
PZ-05-111314	SW8260C	FREON 113	UG/L	2	UJ	HT>UCL
PZ-05-111314	SW8260C	ISOPROPYLBENZENE	UG/L	1	UJ	HT>UCL
PZ-05-111314	SW8260C	M+P-XYLENE	UG/L	2.7	J	HT>UCL
PZ-05-111314	SW8260C	METHYL ACETATE	UG/L	3	UJ	HT>UCL
PZ-05-111314	SW8260C	METHYL TERTIARY BUTYL ETHER	UG/L	1	UJ	HT>UCL
PZ-05-111314	SW8260C	METHYLCYCLOHEXANE	UG/L	1	UJ	HT>UCL
PZ-05-111314	SW8260C	METHYLENE CHLORIDE	UG/L	5.4	U	TB>RL, HT>UCL (J)
PZ-05-111314	SW8260C	O-XYLENE	UG/L	1	UJ	HT>UCL
PZ-05-111314	SW8260C	STYRENE	UG/L	1	UJ	HT>UCL
PZ-05-111314	SW8260C	TETRACHLOROETHENE	UG/L	1	UJ	HT>UCL
PZ-05-111314	SW8260C	TOLUENE	UG/L	10	J	HT>UCL
PZ-05-111314	SW8260C	TRANS-1,2-DICHLOROETHENE	UG/L	1	UJ	HT>UCL

Table 3
Qualified Data
Annual Groundwater Investigation, Dow Waterloo

Sample ID	Method	Analyte	Units	Final Result	Final Flag	Reason
PZ-05-111314	SW8260C	TRANS-1,3-DICHLOROPROPENE	UG/L	1	UJ	HT>UCL
PZ-05-111314	SW8260C	TRICHLOROETHENE	UG/L	1	UJ	HT>UCL
PZ-05-111314	SW8260C	TRICHLOROFLUOROMETHANE	UG/L	1	UJ	HT>UCL
PZ-05-111314	SW8260C	VINYL CHLORIDE	UG/L	1	UJ	HT>UCL

Validation Reasons:

CCV<LCL	Continuing calibration verification recovered less than criteria
CCV>UCL	Continuing calibration verification recovered greater than criteria
EB<RL	The analyte was detected in the equipment blank at a concentration less than the reporting limit
EB>RL	The analyte was detected in the equipment blank at a concentration greater than the reporting limit
FD>RPD	The relative percent difference exceeded control limits in the FD pair.
HT>UCL	The analytical holding-time criterion was exceeded
LB<RL	The analyte was detected in the method blank at a concentration less than the reporting limit
LLCCV<LCL	The low level continuing calibration verification recovered less than criteria
LLCCV>UCL	The low level continuing calibration verification recovered greater than criteria
MS<LCL	The matrix spike recovered less than the lower control limit
MS>UCL	The matrix spike recovered greater than the upper control limit
PDS<LCL	The post digestion spike recovered less than the lower control limit
Preservation	The samples were improperly preserved
SD<LCL	The matrix spike duplicate recovered less than the lower control limit
SD>UCL	The matrix spike duplicate recovered greater than the upper control limit
Sur<LCL	The surrogate recovered less than the lower control limit
TB>RL	The analyte was detected in the trip blank at a concentration greater than the reporting limit