The Dow Chemical Company
P.O. Box 8361
South Charleston, WV 25303-8361
USA

July 17, 2013

Ms. Gail A. Dieter
New York State Department of Environmental Conservation
Division of Environmental Remediation
Bureau E, Section B
625 Broadway, 12th Floor
Albany, NY 12233-7017

Subject: Resource Conservation and Recovery Act Facility Investigation
Groundwater Monitoring Results Report, April and October 2012 Monitoring Events, and NYSDEC's Comments Letters, dated May 30, 2013
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Dear Ms. Dieter:

Hampshire Chemical Corp. (HCC) is pleased to submit one hard copy and one electronic copy of the *Groundwater Monitoring Results Report, April and October 2012 Monitoring Events* for the former HCC facility in Waterloo, New York. All historical data are available in the *Groundwater Monitoring Results Report, April and October 2011 Monitoring Events.*

The groundwater monitoring activities are being conducted in general accordance with the *Groundwater Monitoring Work Plan,* dated October 2008. Resource Conservation and Recovery Act facility investigation activities are being conducted pursuant to a Second Amended Order on Consent executed between HCC and New York State Department of Environmental Conservation (NYSDEC) under Index Number 8-20000218-3281, August 12, 2011.

Attached is a response to the NYSDEC comments letters dated May 30, 2013, on the below-referenced reports for the former HCC facility in Waterloo, New York, Site ID No. 850001A:

- *Groundwater Monitoring Work Plan,* dated October 2008
- *Groundwater Monitoring Results Report, October 2008, April 2009 and October 2009 Sampling Events,* dated March 2010
- *Groundwater Monitoring Results Report, April 2010 and November 2010 Monitoring Events,* dated May 2011

The comments will be incorporated in future reports upon NYSDEC's approval of the groundwater sampling proposed in the revised sitewide groundwater work plan (winter 2013 submittal). The revised work plan will be developed in accordance with the remedies proposed for Solid Waste Management Unit (SWMU) 1, Gorham Street, Area of Concern (AOC) B, and AOC D. Currently, corrective measures have been approved for some AOCs and SWMUs, and other measures, either interim measures or final measures, are being evaluated. The sampling frequency for each well will

be dependent on the proposed corrective measures for each AOC/SWMU and will be presented in the revised work plan.

If you have any comments or questions regarding this report, please contact me at 304-747-7788, or Brian Carling at 610-384-0747.

Sincerely,

Jerome E. Cibrik, P.G.
Remediation Leader

cc: Pete Hoffmire, NYSDEC Region 8 (CD)
Scott Rodabaugh, NYSDEC Region 8 (CD)
Steve Brusso, Evans Chemetics (Hard copy)
CH2M HILL Project File (Hard copy and CD)

Attachment

Hampshire Chemical Corp. (HCC) received the New York State Department of Environmental Conservation (NYSDEC) letters dated May 30, 2013, that presents review comments on the below-referenced reports for the former HCC facility in Waterloo, New York, Site No. 850001A:

- *Groundwater Monitoring Work Plan*, dated October 2008
- *Groundwater Monitoring Results Report, October 2008, April 2009 and October 2009 Sampling Events*, dated March 2010
- *Groundwater Monitoring Results Report, April 2010 and November 2010 Monitoring Events*, dated May 2011

This attachment is to respond and address NYSDEC comments. NYSDEC's initial comments are bolded; HCC responses to NYSDEC comments are provided in italicized text.

Groundwater Monitoring Work Plan, dated October 2008

NYSDEC Comment 1 – Thallium is a rodenticide and is not necessary to sample for sitewide – okay to drop.

Acknowledged. A revised sitewide groundwater monitoring work plan that does not include thallium in the analyte list will be submitted to NYSDEC in 2013 for review and approval, and the plan will not be initiated until Agency approval of that plan.

NYSDEC Comment 2 – The discussion of SWMU 1 [Solid Waste Management Unit 1] **gives a disjointed picture of the contamination found, making it sound like acetone is the only contaminant found. Mercury was above standards.**

The revised groundwater monitoring work plan will include a discussion of the exceedances of mercury at SWMU 1. Mercury was detected above the groundwater standard of 0.2 microgram per liter (µg/L) at MW-15 (0.8 µg/L) and MW-17 (1.3 µg/L) in 2002 only. Acetone was detected its above standard of 50 µg/L at MW-17 (75 J µg/L) in 2002. No mercury or acetone exceedances of the groundwater standard has been reported at SWMU 1 monitoring wells for more than the past 10 years.

NYSDEC Comment 3 – The plan needs to have a deadline for submitting sampling results – submit summary report with evaluation results – submit just the data after each sampling round.

The revised groundwater monitoring work plan will include a data report and a summary report with evaluation results submission schedule.

NYSDEC Comment 4 – Tabular groundwater data is difficult to use when deciding on feasible corrective action solutions; prefer 3D figure, isometric maps by contaminant type in different zones; would then be able to tell if the groundwater is transitory or not and how it flows under and around and through buried raceways.

Each individual ICM work plan will provide detail to allow us to evaluate corrective action solutions. The revised groundwater monitoring work plan will include an outline of how the groundwater data will be depicted and will serve as the basis for future summary reports with evaluation results. The interpretation of the data will be based on the area of concern (AOC) or SWMU, constituents of concern, parameters that are monitored, sampling frequency, and duration of the sampling program

at the AOC or SWMU. The revised groundwater monitoring work plan also will support the sitewide corrective measures study, which will be implemented after the interim corrective measures (ICMs) and corrective measures study (CMS) have been completed at the site.

NYSDEC Comment 5 – Section 1.3.2 SWMU 7 – Hazardous Waste Container Storage Area describes an excavation that took place in which six post-excavation soil samples revealed exceedances for polynuclear aromatic hydrocarbons (PAHs). Was this excavation extended to remove the residual PAH contamination? Due to the potential presence of PAH contamination remaining in soils in this area, PAHs should be added to the target compound list of semi-volatile organic compounds to be sampled for in this groundwater monitoring program.

The 1999 Radian report does not clarify if the excavation was extended to remove the residual PAHs in soil. Samples are collected at each monitoring well for semivolatile organic compounds (SVOCs), including PAHs in the list of analytes. PAHs sampling results are reported in groundwater monitoring results reports and will be continued during future events as part of the revised program.

NYSDEC Comment 6 – Section 3.2 Parameters – explains that a New York State-certified laboratory will analyze samples. Analytical services must be provided by a qualified New York State Department of Health [NYSDOH] **Environmental Laboratory Approval Program (ELAP) laboratory. Please indicate in the report that an ELAP-approved lab will be used for analytical services.**

All Resource Conservation and Recovery Act (RCRA) facility investigation (RFI) samples have been analyzed by an ELAP-approved laboratory, and the revised groundwater monitoring work plan and future reports will indicate use of an ELAP-approved laboratory. Groundwater and soil samples will be analyzed by Microbac Laboratories, Inc. of Marietta, Ohio, which is an ELAP-approved laboratory in New York State under Laboratory Identification No. 10861. Attached is a copy of Microbac's NYSDOH ELAP's certification.

NYSDEC Comment 7 – Section 5 Schedule – the work plan proposes that the "sampling frequency for this groundwater-monitoring program will be conducted on a semi-annual basis and is anticipated that after five years of study, reducing the frequency will be appropriate." Please be advised that revisions to any monitoring schedule and/or program will be decided upon with State Agency review and approval.

Acknowledged. An updated schedule will be proposed in the revised groundwater monitoring work plan, and the plan will not be initiated until Agency approval of that plan.

Groundwater Monitoring Results Report, October 2008, April 2009 and October 2009 Sampling Events, dated March 2010

NYSDEC Comment 1 – Section 2.3 – Groundwater Sampling

- **Second paragraph – Target Analyte List (TAL) metals via SW601B**
  - **SW601B should be SW6010B?**

Acknowledged.

NYSDEC Comment 2 – Section 3.3 – Groundwater Sampling Results

- **In table – Monitoring Wells per Area Groupings – monitoring well MW-19 not accounted for – Should be in Sitewide?**

Yes.

NYSDEC Comments 3 through 8 - Editorial comments on the report text and/or tables.

Acknowledged.

Groundwater Monitoring Results Report, April 2010 and November 2010 Monitoring Events, dated May 2011

NYSDEC Comments 1 and 2 - Editorial comments on the report text and/or tables.

Acknowledged.

NYSDEC Comment 3 – Have the well installation and sampling results been presented in a separate report? If so, under what title?

Well installation and construction details for monitoring wells MW-26, MW-27, MW-28, TW-01, and TW-02 were presented in the RCRA Facility Investigation, Additional Investigation Results Report dated February 8, 2012. These monitoring wells have been incorporated into subsequent sitewide groundwater sampling events.

NYSDEC Comment 4 – Section 3.3.2 – Groundwater Results – SWMU 7

- **Is there any results prior to 2008 so as to monitor for trends in contaminants of concern?**

Prior to 2008, no monitoring well was present at the SWMU 7 area, and no groundwater results were presented in the available historical reports. The existing monitoring well, MW-25, was installed and first sampled in October 2008, and is located downgradient of SWMU 7.

NYSDEC Comment 5 – Section 3.3.3 – Groundwater Results – AOC B

- **Pg. 3-5-bullet 1 – states an investigation/sampling will be presented in a separate report. Has this report been sent? If so, under what title?**
- **Has CH2M HILL ever tested for PCBs** [polychlorinated biphenyls] **in the pit groundwater or elsewhere?**
- **There is no discussion of what new contaminants of concern showed up in 2010 sample results versus previous years; if certain chemicals were ever used for production inside Building 4; their projected rate of degradation; the possibility of another source besides the pit.**

Yes, groundwater results for AOC B were submitted in the RCRA Facility Investigation, Additional Investigation Results Report dated February 8, 2012, and in the AOC B Technical Memorandum dated April 2012. The AOC B Technical Memorandum provides an evaluation of groundwater sampling results observed at AOC B since 2010.

CH2M HILL did not test for PCBs in the pit water or at the AOC B monitoring wells.

The revised groundwater monitoring work plan will include a summary of all CH2M HILL groundwater sample results to date, and a response to the third part of this comment. The third part of the comment also was addressed in the AOC B ICM work plans, which were submitted in June 2013.

NYSDEC Comment 6 – Section 3.3.4 – Groundwater Results – AOC C

- **Is 2010 the first time arsenic (83 µg/L vs 25 µg/L) was ever detected in well MW-07 in the employee parking lot? If so, is this an indication that groundwater contamination could be migrating offsite towards the canal?**

Yes, it was the first time that dissolved arsenic exceeded the Technical and Operational Guidance Series (TOGS) Class GA standards for total arsenic at MW-07 in 2009 and 2010. The total concentrations of arsenic were detected in 2009 and 2010, but did not exceed the TOGS Class GA standard. There is no TOGS Class GA standard for dissolved arsenic, so the total arsenic standard was used as a guide. No exceedances were reported in the subsequent groundwater sample events (2011, 2012, and 2013). A discussion of arsenic concentrations in groundwater over time up to 2013 will be presented in the revised groundwater monitoring work plan.

NYSDEC Comment 7 – Section 3.3.5 – Groundwater Results – AOC D

- **It appears that dissolved arsenic is migrating in a plume towards well MW-24 from well MW-21 – could arsenic be discharging into the canal?**

Extensive studies of arsenic and pH in soil and groundwater were completed in the area in 2011, and the results were presented in the Results of the AOC D Investigation, which was submitted on April 20, 2012. Additional studies were completed in 2012, and the results have been summarized in the AOC D Interim Corrective Measures Work Plan, which will be submitted in summer 2013. Based on these investigations, arsenic does not appear to be discharging into the Cayuga-Seneca Canal.

NYSDEC Comment 8 – Section 3.4 – Monitored Natural Attenuation [MNA] **Sampling Results**

- **Pg. 3-10 – Any timeline for an evaluation of the MNA data being provided in a future report? What would be the objectives/criteria to determine if MNA is successful?**

The MNA data collected to date have provided a baseline of conditions across the site in all AOCs or SWMUs. As details of the corrective measures for each AOC and SWMU are developed, the MNA data will be used to determine effectiveness. Details of the MNA data evaluation and the objectives/criteria for its success will be presented in the revised groundwater monitoring work plan.

NYSDEC Comment 9 – Are there groundwater results from prior consultants – O'Brien & Gere, H&A of NY, and Radian? Could they be compiled/included?

Groundwater results from O'Brien & Gere (2002) and H&A of NY (1995) were included in the RFI Addendum Report dated November 2008 and revised February 2010. No groundwater samples were collected by Radian.

NYSDEC Comment 10 – What is the planned sampling frequency of each groundwater monitoring well?

Currently, corrective measures have been approved for some AOCs/SWMUs, and other measures, either interim measures or final measures, are being evaluated. The sampling frequency for each well will be dependent on the proposed corrective measures for each AOC/SWMU and will be presented in the revised groundwater monitoring work plan.

NYSDEC Comment 11 – What are the key parameters for the evaluation of MNA?

As with frequency of sampling, details of the MNA sampling locations and parameters will be AOC/SWMU-specific and will be outlined in the revised groundwater monitoring work plan.

NYSDEC Comment 12 – Is there a reason why some wells were chosen for total metals and others just filtered results?

Sampling was performed in general accordance with the United States Environmental Protection Agency's document entitled Low-Stress (Low Flow) Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells, dated July 1996. The document recommends field filtering groundwater samples for metals if turbidity was not reduced to below 10 nephelometric turbidity units (NTUs) at the end of purging. Samples were collected for both total and dissolved (field filtered) at all monitoring well locations for the 2011 and 2012 sampling events.

Groundwater Monitoring Results Report, April 2011 and October 2011 Monitoring Events – Rev. 1, dated December 2012

NYSDEC Comment 1 - Please present all the groundwater results from the start of the RFI Process in graphic form. This will help the NYSDEC establish trends by element/compound during a natural attenuation process over time.

Based on the Agency approval of the revised groundwater monitoring work plan, future groundwater results reports will include a graphic presentation of the compounds of concern under evaluation.

NYSDEC Comment 2 - Should address the high percent levels of sodium, chloride, iron, and sulfide/sulfate that have been detected. These 'salts' may need to be evaluated in the sitewide CMS if there is reason to believe that these 'salts' are not naturally occurring.

Acknowledged.

NYSDEC Comment 3 – Section 2.2 – Groundwater Sampling

- **Pg. 2-1-third bullet – Target Analyte List (TAL) metals via SW601B, should be SW6010B.**
- **Pg.2-1-sentence '… for monitored natural attention …' should be attenuation.**

Acknowledged.

NYSDEC Comment 4 – Section 3.2.1 – Groundwater Results – SWMU 1

- **Any ideas as to what is the source of the hexachloroethane that was detected in MW-15 for the first time?**

No, hexachloroethane has not been reported as used by the facility in its production processes or analytical laboratory. It was not detected in the 2012 (current submittal) and 2013 sitewide groundwater samples (winter 2013 submittal).

NYSDEC Comment 5 – Section 3.2.3 – Groundwater Results – AOC B

- **Have concerns with what appears to be a rebound of contamination in monitoring well MW-03, particularly the presence of MIBK** [methyl isobutyl ketone]**, arsenic, and chromium; especially since the well is upgradient of the pit. Any possible reasons for the increase in contamination in MW-03?**

- **Any possible reasons why there are elevated "salt" levels in the wells surrounding AOC B, particularly sodium?**

The AOC B Interim Corrective Measures Work Plan dated June 2013provides an evaluation of MIBK, chromium, and arsenic concentrations observed at AOC B, including a explanation of levels in MW-03. The elevated salt levels in the wells surrounding AOC B will be part of a sitewide assessment and will be included in the revised groundwater monitoring work plan.

NYSDEC Comment 6 – Section 3.2.5 – Groundwater Results – AOC D

- **Pg. 3.8-last paragraph – refers to a July and October 2011 investigation to delineate extent of elevated pH and arsenic; results to be submitted as part of separate report. Has this report been submitted? If yes, what is its title and when was it submitted?**

Yes, groundwater results for AOC D were submitted in the AOC D Technical Memorandum, dated April 2012.

NYSDEC Comment 7 – Section 3.2.7 – Groundwater Results – Sitewide Monitoring Wells

- **Pg.3-10-first paragraph – refers to a Section 3.2.3 as summarizing the investigation of the source of chlorinated VOCs** [volatile organic compounds] **performed in 2010 and reported in 'Additional Investigation Report – 2012', showing that extent of chlorinated VOCs have been delineated. Is this referred to section (Section 3.2.3) in this Groundwater report? I did not see where that section in this report summarized the delineation.**

In December 2010, samples were collected from temporary sampling locations north of onsite Buildings 1 and 4 to evaluate whether a potential source of chlorinated VOCs was present north of these buildings. The results of the sampling effort were presented in the Additional Investigation Results Report, which was submitted under cover letter, dated February 8, 2012.

NYSDEC Comment 8 – Section 3.2.9 – Changes in Compound Concentrations with Depth

- **Pg. 3-11-last paragraph – refers to an investigation performed in July and October 2011 to delineate extent of pH and arsenic; results of investigation to be summarized in separate report. Has this report been submitted? Is it the 'Additional Investigation Report – 2012?**

No, it is not the Additional Investigation Report. The July and October 2011 pH and arsenic results were summarized in the RCRA Facility Investigation, Results of the AOC D Investigation, which was submitted on April 20, 2012.

NYSDEC Comment 9 – Section 3.3 – Monitored Natural Attenuation Sampling Results

- **Pg. 3-12 – refers to an evaluation of the MNA data to be provided in future report. Is there a projected time frame for when this report may be submitted?**

Yes, groundwater reports submitted after approval of the revised groundwater monitoring work plan will include an evaluation of the MNA data.

NYSDEC Comment 10 – Table 3-1(b) – Groundwater Elevation Measurements – October 17, 2011

- **Under 'Notes' – some concern about the statement that "a water level was not collected from MW-15 and MW-25 because they were covered by gravel and could not be located. Was this just a temporary site condition? From other reports, it appears that not having access to MW-15 occurs frequently.**

Site conditions usually result in MW-15 and MW-25 being covered by either site equipment or by gravel during snow removal by plowing. When possible, coordination with the onsite operator will be performed to try to access these wells during future groundwater monitoring events.

HCC believes this attachment addresses NYSDEC comments expressed in its May 30, 2013, comment letter. The revised groundwater monitoring work plan will be developed in accordance with the remedies proposed for SWMU 1, Gorham Street, AOC B, and AOC D.

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

Expires 12:01 AM April 01, 2014
Issued April 01, 2013

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.
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.: 48424

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

Expires 12:01 AM April 01, 2014
Issued April 01, 2013

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.
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
	EPA 8260B
Acrylonitrile	EPA 624
	EPA 8260B
Amines	
2-Nitroaniline	EPA 8270C
3-Nitroaniline	EPA 8270C
4-Chloroaniline	EPA 8270C
4-Nitroaniline	EPA 8270C
Aniline	EPA 8270C
Carbazole	EPA 8270C
Pyridine	EPA 8270C
Benzidines	
3,3'-Dichlorobenzidine	EPA 625
	EPA 8270C
Benzidine	EPA 625
Chlorinated Hydrocarbon Pesticides	
4,4'-DDD	EPA 608
	EPA 8081A
4,4'-DDE	EPA 608
	EPA 8081A
4,4'-DDT	EPA 608
	EPA 8081A
Aldrin	EPA 608

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

Serial No.: 48425

Expires 12:01 AM April 01, 2014
Issued April 01, 2013

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.
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:

Chlorinated Hydrocarbon Pesticides	
Heptachlor epoxide	EPA 608
	EPA 8081A
Lindane	EPA 608
	EPA 8081A
Methoxychlor	EPA 8081A
Toxaphene	EPA 608
	EPA 8081A
Chlorinated Hydrocarbons	
1,2,3-Trichlorobenzene	EPA 8260B
1,2,4-Trichlorobenzene	EPA 625
	EPA 8270C
2-Chloronaphthalene	EPA 625
	EPA 8270C
Hexachlorobenzene	EPA 625
	EPA 8270C
Hexachlorobutadiene	EPA 625
	EPA 8270C
Hexachlorocyclopentadiene	EPA 625
	EPA 8270C
Hexachloroethane	EPA 625
	EPA 8270C
Chlorophenoxy Acid Pesticides	
2,4,5-T	EPA 8151A
2,4,5-TP (Silvex)	EPA 8151A
2,4-D	EPA 8151A

Chlorophenoxy Acid Pesticides	
Dalapon	EPA 8151A
Dicamba	EPA 8151A
Dichloroprop	EPA 8151A
Dinoseb	EPA 8151A
Demand	
Biochemical Oxygen Demand	SM 18-21 5210B (01)
Carbonaceous BOD	SM 18-21 5210B (01)
Chemical Oxygen Demand	EPA 410.4 Rev. 2.0
	HACH 8000
Dissolved Gases	
Ethane	RSK-175
Ethene (Ethylene)	RSK-175
Methane	RSK-175
Fuel Oxygenates	
Ethanol	EPA 8015B
Methyl tert-butyl ether	EPA 8260B
tert-butyl alcohol	EPA 8260B
Haloethers	
4-Bromophenylphenyl ether	EPA 625
	EPA 8270C
4-Chlorophenylphenyl ether	EPA 625
	EPA 8270C
Bis(2-chloroethoxy)methane	EPA 625
	EPA 8270C

Serial No.: 48425

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

Expires 12:01 AM April 01, 2014
Issued April 01, 2013

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.
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:

Haloethers	
Bis(2-chloroethyl)ether	EPA 625
	EPA 8270C
Bis(2-chloroisopropyl) ether	EPA 625
	EPA 8270C
Mineral	
Acidity	SM 18-21 2310B.4a (97)
Alkalinity	EPA 310.2
	SM 18-21 2320B (97)
Chloride	EPA 300.0 Rev. 2.1
	SM 18-21 4500-Cl- E (97)
Fluoride, Total	EPA 300.0 Rev. 2.1
	SM 18-21 4500-F C (97)
Hardness, Total	SM 18-21 2340B (97)
	SM 18-21 2340C (97)
Sulfate (as SO4)	EPA 300.0 Rev. 2.1
Nitroaromatics and Isophorone	
1,3,5-Trinitrobenzene	EPA 8330
1,3-Dinitrobenzene	EPA 8330
2,4,6-Trinitrotoluene	EPA 8330
2,4-Dinitrotoluene	EPA 625
	EPA 8270C
	EPA 8330
2,6-Dinitrotoluene	EPA 625
	EPA 8270C
	EPA 8330

Nitroaromatics and Isophorone	
2-Amino-4,6-dinitrotoluene	EPA 8330
2-Nitrotoluene	EPA 8330
3-Nitrotoluene	EPA 8330
4-Amino-2,6-dinitrotoluene	EPA 8330
4-Nitrotoluene	EPA 8330
Hexahydro-1,3,5-trinitro-1,3,5-triazine	EPA 8330
Isophorone	EPA 625
	EPA 8270C
Methyl-2,4,6-trinitrophenylnitramine	EPA 8330
Nitrobenzene	EPA 625
	EPA 8270C
	EPA 8330
Octahydro-tetranitro-tetrazocine	EPA 8330
Nitrosoamines	
N-Nitrosodiethylamine	EPA 8270C
N-Nitrosodimethylamine	EPA 625
	EPA 8270C
N-Nitrosodi-n-propylamine	EPA 625
	EPA 8270C
N-Nitrosodiphenylamine	EPA 625
	EPA 8270C
Nutrient	
Ammonia (as N)	EPA 350.1 Rev. 2.0
Kjeldahl Nitrogen, Total	EPA 351.2 Rev. 2.0
Nitrate (as N)	EPA 300.0 Rev. 2.1

Serial No.: 48425

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

Expires 12:01 AM April 01, 2014
Issued April 01, 2013

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.
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:

Nutrient	
Nitrate (as N)	EPA 353.2 Rev. 2.0
Nitrite (as N)	EPA 300.0 Rev. 2.1
	SM 18-21 4500-NO2 B (00)
Orthophosphate (as P)	SM 18-21 4500-P E
Phosphorus, Total	EPA 365.4 Rev. 1974
Petroleum Hydrocarbons	
Diesel Range Organics	EPA 8015B
Gasoline Range Organics	EPA 8015B
Phthalate Esters	
Benzyl butyl phthalate	EPA 625
	EPA 8270C
Bis(2-ethylhexyl) phthalate	EPA 625
	EPA 8270C
Diethyl phthalate	EPA 625
	EPA 8270C
Dimethyl phthalate	EPA 625
	EPA 8270C
Di-n-butyl phthalate	EPA 625
	EPA 8270C
Di-n-octyl phthalate	EPA 625
	EPA 8270C
Polychlorinated Biphenyls	
PCB-1016	EPA 608
	EPA 8082
Polychlorinated Biphenyls	
PCB-1221	EPA 608
	EPA 8082
PCB-1232	EPA 608
	EPA 8082
PCB-1242	EPA 608
	EPA 8082
PCB-1248	EPA 608
	EPA 8082
PCB-1254	EPA 608
	EPA 8082
PCB-1260	EPA 608
	EPA 8082
PCB-1268	EPA 8082
Polynuclear Aromatics	
Acenaphthene	EPA 625
	EPA 8270C
Acenaphthylene	EPA 625
	EPA 8270C
Anthracene	EPA 625
	EPA 8270C
Benzo(a)anthracene	EPA 625
	EPA 8270C
Benzo(a)pyrene	EPA 625
	EPA 8270C
Benzo(b)fluoranthene	EPA 625

Serial No.: 48425

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

Expires 12:01 AM April 01, 2014
Issued April 01, 2013

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.
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:

Polynuclear Aromatics	
Benzo(b)fluoranthene	EPA 8270C
Benzo(ghi)perylene	EPA 625
	EPA 8270C
Benzo(k)fluoranthene	EPA 625
	EPA 8270C
Chrysene	EPA 625
	EPA 8270C
Dibenzo(a,h)anthracene	EPA 625
	EPA 8270C
Fluoranthene	EPA 625
	EPA 8270C
Fluorene	EPA 625
	EPA 8270C
Indeno(1,2,3-cd)pyrene	EPA 625
	EPA 8270C
Naphthalene	EPA 625
	EPA 8270C
Phenanthrene	EPA 625
	EPA 8270C
Pyrene	EPA 625
	EPA 8270C
Priority Pollutant Phenols	
2,4,5-Trichlorophenol	EPA 8270C
2,4,6-Trichlorophenol	EPA 625
	EPA 8270C
Priority Pollutant Phenols	
2,4-Dichlorophenol	EPA 625
	EPA 8270C
2,4-Dimethylphenol	EPA 625
	EPA 8270C
2,4-Dinitrophenol	EPA 625
	EPA 8270C
2-Chlorophenol	EPA 625
	EPA 8270C
2-Methyl-4,6-dinitrophenol	EPA 625
	EPA 8270C
2-Methylphenol	EPA 8270C
2-Nitrophenol	EPA 625
	EPA 8270C
3-Methylphenol	EPA 8270C
4-Chloro-3-methylphenol	EPA 625
	EPA 8270C
4-Methylphenol	EPA 8270C
4-Nitrophenol	EPA 625
	EPA 8270C
Cresols, Total	EPA 8270C
Pentachlorophenol	EPA 625
	EPA 8151A
	EPA 8270C
Phenol	EPA 625
	EPA 8270C

Serial No.: 48425

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

Expires 12:01 AM April 01, 2014
Issued April 01, 2013

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.
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:

Residue	
Solids, Total	SM 18-21 2540B (97)
Solids, Total Dissolved	SM 18-21 2540C (97)
Solids, Total Suspended	SM 18-21 2540D (97)
Semi-Volatile Organics	
1,2-Dichlorobenzene, Semi-volatile	EPA 8270C
1,3-Dichlorobenzene, Semi-volatile	EPA 8270C
1,4-Dichlorobenzene, Semi-volatile	EPA 8270C
2-Methylnaphthalene	EPA 8270C
Acetophenone	EPA 8270C
Benzoic Acid	EPA 8270C
Benzyl alcohol	EPA 8270C
Dibenzofuran	EPA 8270C
Volatile Aromatics	
1,2,4-Trichlorobenzene, Volatile	EPA 8260B
1,2,4-Trimethylbenzene	EPA 8260B
1,2-Dichlorobenzene	EPA 624
	EPA 8260B
1,3,5-Trimethylbenzene	EPA 8260B
1,3-Dichlorobenzene	EPA 624
	EPA 8260B
1,4-Dichlorobenzene	EPA 624
	EPA 8260B
2-Chlorotoluene	EPA 8260B
4-Chlorotoluene	EPA 8260B
Benzene	EPA 624

Volatile Aromatics	
Benzene	EPA 8260B
Chlorobenzene	EPA 624
	EPA 8260B
Ethyl benzene	EPA 624
	EPA 8260B
Isopropylbenzene	EPA 8260B
Naphthalene, Volatile	EPA 8260B
n-Butylbenzene	EPA 8260B
n-Propylbenzene	EPA 8260B
p-Isopropyltoluene (P-Cymene)	EPA 8260B
sec-Butylbenzene	EPA 8260B
Styrene	EPA 8260B
tert-Butylbenzene	EPA 8260B
Toluene	EPA 624
	EPA 8260B
Total Xylenes	EPA 624
	EPA 8260B
Volatile Halocarbons	
1,1,1,2-Tetrachloroethane	EPA 8260B
1,1,1-Trichloroethane	EPA 624
	EPA 8260B
1,1,2,2-Tetrachloroethane	EPA 624
	EPA 8260B
1,1,2-Trichloroethane	EPA 624
	EPA 8260B

Serial No.: 48425

Expires 12:01 AM April 01, 2014
Issued April 01, 2013

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.
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:

Volatile Halocarbons	
1,1-Dichloroethane	EPA 624
	EPA 8260B
1,1-Dichloroethene	EPA 624
	EPA 8260B
1,1-Dichloropropene	EPA 8260B
1,2,3-Trichloropropane	EPA 8260B
1,2-Dibromo-3-chloropropane	EPA 8011
	EPA 8260B
1,2-Dibromoethane	EPA 8011
	EPA 8260B
1,2-Dichloroethane	EPA 624
	EPA 8260B
1,2-Dichloropropane	EPA 624
	EPA 8260B
1,3-Dichloropropane	EPA 8260B
2,2-Dichloropropane	EPA 8260B
2-Chloroethylvinyl ether	EPA 624
	EPA 8260B
Bromochloromethane	EPA 8260B
Bromodichloromethane	EPA 624
	EPA 8260B
Bromoform	EPA 624
	EPA 8260B
Bromomethane	EPA 624
	EPA 8260B
Carbon tetrachloride	EPA 624

Volatile Halocarbons	
Carbon tetrachloride	EPA 8260B
Chloroethane	EPA 624
	EPA 8260B
Chloroform	EPA 624
	EPA 8260B
Chloromethane	EPA 624
	EPA 8260B
cis-1,2-Dichloroethene	EPA 8260B
cis-1,3-Dichloropropene	EPA 624
	EPA 8260B
Dibromochloromethane	EPA 624
	EPA 8260B
Dibromomethane	EPA 8260B
Dichlorodifluoromethane	EPA 8260B
Hexachlorobutadiene, Volatile	EPA 8260B
Methylene chloride	EPA 624
	EPA 8260B
Tetrachloroethene	EPA 624
	EPA 8260B
trans-1,2-Dichloroethene	EPA 624
	EPA 8260B
trans-1,3-Dichloropropene	EPA 624
	EPA 8260B
trans-1,4-Dichloro-2-butene	EPA 8260B
Trichloroethene	EPA 624
	EPA 8260B

Serial No.: 48425

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

Expires 12:01 AM April 01, 2014
Issued April 01, 2013

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.
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:

Volatile Halocarbons	
Trichlorofluoromethane	EPA 624
	EPA 8260B
Vinyl chloride	EPA 624
	EPA 8260B
Volatiles Organics	
2-Butanone (Methylethyl ketone)	EPA 8260B
2-Hexanone	EPA 8260B
4-Methyl-2-Pentanone	EPA 8260B
Acetone	EPA 8260B
Acetonitrile	EPA 8260B
Carbon Disulfide	EPA 8260B
Vinyl acetate	EPA 8260B
Wastewater Metals I	
Barium, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4
	EPA 6010B
	EPA 6020
Cadmium, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4
	EPA 6010B
	EPA 6020
Calcium, Total	EPA 200.7 Rev. 4.4
	EPA 6010B
Chromium, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4
Wastewater Metals I	
Chromium, Total	EPA 6010B
	EPA 6020
Copper, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4
	EPA 6010B
	EPA 6020
Iron, Total	EPA 200.7 Rev. 4.4
	EPA 6010B
Lead, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4
	EPA 6010B
	EPA 6020
Magnesium, Total	EPA 200.7 Rev. 4.4
	EPA 6010B
Manganese, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4
	EPA 6010B
	EPA 6020
Nickel, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4
	EPA 6010B
	EPA 6020
Potassium, Total	EPA 200.7 Rev. 4.4
	EPA 6010B
Silver, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4

Serial No.: 48425

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

Expires 12:01 AM April 01, 2014
Issued April 01, 2013

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.
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:

Wastewater Metals I	
Silver, Total	EPA 6010B
	EPA 6020
Sodium, Total	EPA 200.7 Rev. 4.4
	EPA 6010B
Strontium, Total	EPA 6010B
Wastewater Metals II	
Aluminum, Total	EPA 200.7 Rev. 4.4
	EPA 6010B
Antimony, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4
	EPA 6010B
	EPA 6020
Arsenic, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4
	EPA 6010B
	EPA 6020
Beryllium, Total	EPA 200.7 Rev. 4.4
	EPA 6010B
Chromium VI	SM 18-19 3500-Cr D
Mercury, Total	EPA 245.1 Rev. 3.0
	EPA 7470A
Selenium, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4
	EPA 6010B
	EPA 6020

Wastewater Metals II	
Vanadium, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4
	EPA 6010B
	EPA 6020
Zinc, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4
	EPA 6010B
	EPA 6020
Wastewater Metals III	
Cobalt, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4
	EPA 6010B
	EPA 6020
Molybdenum, Total	EPA 200.7 Rev. 4.4
	EPA 6010B
Thallium, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4
	EPA 6010B
	EPA 6020
Tin, Total	EPA 200.7 Rev. 4.4
	EPA 6010B
Titanium, Total	EPA 200.7 Rev. 4.4
	EPA 6010B
Wastewater Miscellaneous	
Boron, Total	EPA 200.7 Rev. 4.4

Serial No.: 48425

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

Expires 12:01 AM April 01, 2014
Issued April 01, 2013

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.
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:

Wastewater Miscellaneous

Boron, Total	EPA 6010B
Bromide	EPA 300.0 Rev. 2.1
Color	SM 18-21 2120B (01)
Cyanide, Total	SM 18-21 4500-CN E (99)
Oil and Grease Total Recoverable (HEM	EPA 1664A
Organic Carbon, Total	SM 18-21 5310C (00)
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 19-21 4500-S F (00)
Surfactant (MBAS)	SM 18-21 5540C (00)
Total Petroleum Hydrocarbons	EPA 1664A

Sample Preparation Methods

EPA 3005A
EPA 3010A
EPA 3015
EPA 3020A
EPA 3510C
EPA 3520C
EPA 4.1.3
EPA 4.1.4
EPA 5030B
SM 18-20 4500-CN C

Serial No.: 48425

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

Expires 12:01 AM April 01, 2014
Issued April 01, 2013

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.
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 SOLID AND HAZARDOUS WASTE
All approved analytes are listed below:

Acrylates	
Acrolein (Propenal)	EPA 8260B
Acrylonitrile	EPA 8260B
Ethyl methacrylate	EPA 8260B
Methyl methacrylate	EPA 8260B
Amines	
1,2-Diphenylhydrazine	EPA 8270C
1,4-Phenylenediamine	EPA 8270C
2-Nitroaniline	EPA 8270C
3-Nitroaniline	EPA 8270C
4-Chloroaniline	EPA 8270C
4-Nitroaniline	EPA 8270C
Aniline	EPA 8270C
Carbazole	EPA 8270C
Diphenylamine	EPA 8270C
Methapyrilene	EPA 8270C
Benzidines	
3,3'-Dichlorobenzidine	EPA 8270C
Characteristic Testing	
Corrosivity	EPA 9040C
Ignitability	EPA 1010A
Reactivity	SW-846 Ch7 Sec. 7.3
Synthetic Precipitation Leaching Proc.	EPA 1312
TCLP	EPA 1311

Chlorinated Hydrocarbon Pesticides	
4,4'-DDD	EPA 8081A
4,4'-DDE	EPA 8081A
4,4'-DDT	EPA 8081A
Aldrin	EPA 8081A
alpha-BHC	EPA 8081A
alpha-Chlordane	EPA 8081A
beta-BHC	EPA 8081A
Chlordane Total	EPA 8081A
delta-BHC	EPA 8081A
Diallate	EPA 8270C
Dieldrin	EPA 8081A
Endosulfan I	EPA 8081A
Endosulfan II	EPA 8081A
Endosulfan sulfate	EPA 8081A
Endrin	EPA 8081A
Endrin aldehyde	EPA 8081A
Endrin Ketone	EPA 8081A
gamma-Chlordane	EPA 8081A
Heptachlor	EPA 8081A
Heptachlor epoxide	EPA 8081A
Lindane	EPA 8081A
Methoxychlor	EPA 8081A
Toxaphene	EPA 8081A
Chlorinated Hydrocarbons	
1,2,4,5-Tetrachlorobenzene	EPA 8270C

Serial No.: 48426

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

Expires 12:01 AM April 01, 2014
Issued April 01, 2013

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.
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 SOLID AND HAZARDOUS WASTE
All approved analytes are listed below:

Chlorinated Hydrocarbons	
1,2,4-Trichlorobenzene	EPA 8270C
1-Chloronaphthalene	EPA 8270C
2-Chloronaphthalene	EPA 8270C
Hexachlorobenzene	EPA 8270C
Hexachlorobutadiene	EPA 8270C
Hexachlorocyclopentadiene	EPA 8270C
Hexachloroethane	EPA 8270C
Hexachlorophene	EPA 8270C
Hexachloropropene	EPA 8270C
Pentachlorobenzene	EPA 8270C
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 8270C
4-Chlorophenylphenyl ether	EPA 8270C
Haloethers	
Bis(2-chloroethoxy)methane	EPA 8270C
Bis(2-chloroethyl)ether	EPA 8270C
Bis(2-chloroisopropyl) ether	EPA 8270C
Metals I	
Barium, Total	EPA 6010B
	EPA 6020
Cadmium, Total	EPA 6010B
	EPA 6020
Calcium, Total	EPA 6010B
Chromium, Total	EPA 6010B
	EPA 6020
Copper, Total	EPA 6010B
	EPA 6020
Iron, Total	EPA 6010B
Lead, Total	EPA 6010B
	EPA 6020
Magnesium, Total	EPA 6010B
Manganese, Total	EPA 6010B
	EPA 6020
Nickel, Total	EPA 6010B
	EPA 6020
Potassium, Total	EPA 6010B
Silver, Total	EPA 6010B
	EPA 6020
Sodium, Total	EPA 6010B

Serial No.: 48426

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

Expires 12:01 AM April 01, 2014
Issued April 01, 2013

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.
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 SOLID AND HAZARDOUS WASTE
All approved analytes are listed below:

Metals I	
Strontium, Total	EPA 6010B
Metals II	
Aluminum, Total	EPA 6010B
Antimony, Total	EPA 6010B
	EPA 6020
Arsenic, Total	EPA 6010B
	EPA 6020
Beryllium, Total	EPA 6010B
Lithium, Total	EPA 6010B
Mercury, Total	EPA 7471A
Selenium, Total	EPA 6010B
	EPA 6020
Vanadium, Total	EPA 6010B
	EPA 6020
Zinc, Total	EPA 6010B
	EPA 6020
Metals III	
Cobalt, Total	EPA 6010B
	EPA 6020
Molybdenum, Total	EPA 6010B
Thallium, Total	EPA 6010B
	EPA 6020
Tin, Total	EPA 6010B

Minerals	
Bromide	EPA 9056A
Chloride	EPA 9056A
Fluoride, Total	EPA 9056A
Sulfate (as SO4)	EPA 9056A
Miscellaneous	
Cyanide, Total	EPA 9014
Nitroaromatics and Isophorone	
1,3,5-Trinitrobenzene	EPA 8330
1,3-Dinitrobenzene	EPA 8330
2,4,6-Trinitrotoluene	EPA 8330
2,4-Dinitrotoluene	EPA 8270C
	EPA 8330
2,6-Dinitrotoluene	EPA 8270C
	EPA 8330
2-Amino-4,6-dinitrotoluene	EPA 8330
2-Nitrotoluene	EPA 8330
3-Nitrotoluene	EPA 8330
4-Amino-2,6-dinitrotoluene	EPA 8330
4-Nitrotoluene	EPA 8330
Hexahydro-1,3,5-trinitro-1,3,5-triazine	EPA 8330
Isophorone	EPA 8270C
Methyl-2,4,6-trinitrophenylnitramine	EPA 8330
Nitrobenzene	EPA 8270C
	EPA 8330
Octahydro-tetranitro-tetrazocine	EPA 8330

Serial No.: 48426

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

Expires 12:01 AM April 01, 2014
Issued April 01, 2013

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.
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 SOLID AND HAZARDOUS WASTE
All approved analytes are listed below:

Nitroaromatics and Isophorone	
Pyridine	EPA 8270C
Nitrosoamines	
N-Nitrosodiethylamine	EPA 8270C
N-Nitrosodimethylamine	EPA 8270C
N-Nitrosodi-n-butylamine	EPA 8270C
N-Nitrosodi-n-propylamine	EPA 8270C
N-Nitrosodiphenylamine	EPA 8270C
N-nitrosomethylethylamine	EPA 8270C
N-nitrosomorpholine	EPA 8270C
N-nitrosopiperidine	EPA 8270C
N-Nitrosopyrrolidine	EPA 8270C
Nutrients	
Nitrate (as N)	EPA 9056A
Nitrite (as N)	EPA 9056A
Petroleum Hydrocarbons	
Diesel Range Organics	EPA 8015B
Gasoline Range Organics	EPA 8015B
Oil and Grease Total Recoverable (HEM	EPA 9071B (Solvent:Hexane)
Phthalate Esters	
Benzyl butyl phthalate	EPA 8270C
Bis(2-ethylhexyl) phthalate	EPA 8270C
Diethyl phthalate	EPA 8270C
Dimethyl phthalate	EPA 8270C
Di-n-butyl phthalate	EPA 8270C
Phthalate Esters	
Di-n-octyl phthalate	EPA 8270C
Polychlorinated Biphenyls	
PCB-1016	EPA 8082
PCB-1221	EPA 8082
PCB-1232	EPA 8082
PCB-1242	EPA 8082
PCB-1248	EPA 8082
PCB-1254	EPA 8082
PCB-1260	EPA 8082
PCB-1262	EPA 8082
PCB-1268	EPA 8082
Polynuclear Aromatic Hydrocarbons	
3-Methylcholanthrene	EPA 8270C
7,12-Dimethylbenzyl (a) anthracene	EPA 8270C
Acenaphthene	EPA 8270C
Acenaphthylene	EPA 8270C
Anthracene	EPA 8270C
Benzo(a)anthracene	EPA 8270C
Benzo(a)pyrene	EPA 8270C
Benzo(b)fluoranthene	EPA 8270C
Benzo(ghi)perylene	EPA 8270C
Benzo(k)fluoranthene	EPA 8270C
Chrysene	EPA 8270C
Dibenzo(a,h)anthracene	EPA 8270C
Fluoranthene	EPA 8270C

Serial No.: 48426

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

Expires 12:01 AM April 01, 2014
Issued April 01, 2013

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.
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 SOLID AND HAZARDOUS WASTE
All approved analytes are listed below:

Polynuclear Aromatic Hydrocarbons	
Fluorene	EPA 8270C
Indeno(1,2,3-cd)pyrene	EPA 8270C
Naphthalene	EPA 8270C
Phenanthrene	EPA 8270C
Pyrene	EPA 8270C
Priority Pollutant Phenols	
2,3,4,6 Tetrachlorophenol	EPA 8270C
2,4,5-Trichlorophenol	EPA 8270C
2,4,6-Trichlorophenol	EPA 8270C
2,4-Dichlorophenol	EPA 8270C
2,4-Dimethylphenol	EPA 8270C
2,4-Dinitrophenol	EPA 8270C
2,6-Dichlorophenol	EPA 8270C
2-Chlorophenol	EPA 8270C
2-Methyl-4,6-dinitrophenol	EPA 8270C
2-Methylphenol	EPA 8270C
2-Nitrophenol	EPA 8270C
4-Chloro-3-methylphenol	EPA 8270C
4-Methylphenol	EPA 8270C
4-Nitrophenol	EPA 8270C
Pentachlorophenol	EPA 8270C
Phenol	EPA 8270C
Semi-Volatile Organics	
1,2-Dichlorobenzene, Semi-volatile	EPA 8270C
1,3-Dichlorobenzene, Semi-volatile	EPA 8270C
Semi-Volatile Organics	
1,4-Dichlorobenzene, Semi-volatile	EPA 8270C
2-Methylnaphthalene	EPA 8270C
4-Amino biphenyl	EPA 8270C
Acetophenone	EPA 8270C
Aramite	EPA 8270C
Benzoic Acid	EPA 8270C
Benzyl alcohol	EPA 8270C
Dibenzofuran	EPA 8270C
Methyl methanesulfonate	EPA 8270C
O,O,O-Triethyl phosphorothioate	EPA 8270C
Phenacetin	EPA 8270C
Safrole	EPA 8270C
Volatile Aromatics	
1,2,4-Trichlorobenzene, Volatile	EPA 8260B
1,2,4-Trimethylbenzene	EPA 8260B
1,2-Dichlorobenzene	EPA 8260B
1,3,5-Trimethylbenzene	EPA 8260B
1,3-Dichlorobenzene	EPA 8260B
1,4-Dichlorobenzene	EPA 8260B
2-Chlorotoluene	EPA 8260B
4-Chlorotoluene	EPA 8260B
Benzene	EPA 8260B
Bromobenzene	EPA 8260B
Chlorobenzene	EPA 8260B
Ethyl benzene	EPA 8260B

Serial No.: 48426

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

Expires 12:01 AM April 01, 2014
Issued April 01, 2013

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.
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 SOLID AND HAZARDOUS WASTE
All approved analytes are listed below:

Volatile Aromatics	
Isopropylbenzene	EPA 8260B
Naphthalene, Volatile	EPA 8260B
n-Butylbenzene	EPA 8260B
n-Propylbenzene	EPA 8260B
p-Isopropyltoluene (P-Cymene)	EPA 8260B
sec-Butylbenzene	EPA 8260B
Styrene	EPA 8260B
tert-Butylbenzene	EPA 8260B
Toluene	EPA 8260B
Total Xylenes	EPA 8260B
Volatile Halocarbons	
1,1,1,2-Tetrachloroethane	EPA 8260B
1,1,1-Trichloroethane	EPA 8260B
1,1,2,2-Tetrachloroethane	EPA 8260B
1,1,2-Trichloroethane	EPA 8260B
1,1-Dichloroethane	EPA 8260B
1,1-Dichloroethene	EPA 8260B
1,1-Dichloropropene	EPA 8260B
1,2,3-Trichloropropane	EPA 8260B
1,2-Dibromo-3-chloropropane	EPA 8260B
1,2-Dibromoethane	EPA 8260B
1,2-Dichloroethane	EPA 8260B
1,2-Dichloropropane	EPA 8260B
1,3-Dichloropropane	EPA 8260B
2-Chloroethylvinyl ether	EPA 8260B

Volatile Halocarbons	
Bromochloromethane	EPA 8260B
Bromodichloromethane	EPA 8260B
Bromoform	EPA 8260B
Bromomethane	EPA 8260B
Carbon tetrachloride	EPA 8260B
Chloroethane	EPA 8260B
Chloroform	EPA 8260B
Chloromethane	EPA 8260B
cis-1,2-Dichloroethene	EPA 8260B
cis-1,3-Dichloropropene	EPA 8260B
Dibromochloromethane	EPA 8260B
Dibromomethane	EPA 8260B
Dichlorodifluoromethane	EPA 8260B
Hexachlorobutadiene, Volatile	EPA 8260B
Methylene chloride	EPA 8260B
Tetrachloroethene	EPA 8260B
trans-1,2-Dichloroethene	EPA 8260B
trans-1,3-Dichloropropene	EPA 8260B
trans-1,4-Dichloro-2-butene	EPA 8260B
Trichloroethene	EPA 8260B
Trichlorofluoromethane	EPA 8260B
Vinyl chloride	EPA 8260B
Volatile Organics	
1,4-Dioxane	EPA 8260B
2-Butanone (Methylethyl ketone)	EPA 8260B

Serial No.: 48426

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

Expires 12:01 AM April 01, 2014
Issued April 01, 2013

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.
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 SOLID AND HAZARDOUS WASTE
All approved analytes are listed below:

Volatile Organics

2-Hexanone	EPA 8260B
4-Methyl-2-Pentanone	EPA 8260B
Acetone	EPA 8260B
Acetonitrile	EPA 8260B
Carbon Disulfide	EPA 8260B
Methyl tert-butyl ether	EPA 8260B
Vinyl acetate	EPA 8260B

Sample Preparation Methods

EPA 3005A
EPA 3010A
EPA 3020A
EPA 3050B
EPA 3051
EPA 3545
EPA 3546
EPA 3550B
EPA 3580
EPA 5035A-H
EPA 5035A-L
EPA 9010C
EPA 9030B

Serial No.: 48426

Groundwater Monitoring Results Report April and October 2012 Monitoring Events

Former Hampshire Chemical Corp. Facility, Waterloo, New York NYD002234763

Prepared for

Hampshire Chemical Corp.

July 2013

CH2MHILL

Contents

Tables

Figures

Appendixes

Acronyms and Abbreviations

µg/L	micrograms per liter
AOC	area of concern
bgs	below ground surface
canal	Seneca-Cayuga Canal
DCA	dichloroethane
DCE	dichloroethene
facility	former Hampshire Chemical Corp. facility in Waterloo, New York
ft/ft	feet per foot
GWMP	*Groundwater Monitoring Work Plan*
HCC	Hampshire Chemical Corp.
MIBK	methyl isobutyl ketone (4-methyl-2-pentanone)
Microbac	Microbac Laboratories, Inc.
MNA	monitored natural attention
NYCRR	New York Code of Rules and Regulations
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
QAPP	quality assurance project plan
QC	quality control
raceway	Seneca-Cayuga Canal Raceway
RCRA	Resource Conservation and Recovery Act
RFI	Resource Conservation and Recovery Act facility investigation
SDG	sample delivery group
SU	standard units
SVOC	semivolatile organic compound
SWMU	solid waste management unit
TAL	target analyte list

TOGS Class GA	Technical Operation Guidance Series New York State Ambient Water Quality Standards and Guidance Values - Class GA
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 April 2012 and October 2012 at the former Hampshire Chemical Corp. (HCC) facility in Waterloo, New York (facility). The site is regulated under Title 6 of the New York Code of Rules and Regulations (NYCRR) 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 facility since 1993 to evaluate the nature and extent of releases to the environment.

Pursuant to the Administrative Consent Order (ACO) executed between HCC and NYSDEC (Index Number 8-20000218-3281, June 1, 2004), sitewide groundwater monitoring was proposed as part of the *Groundwater Monitoring Work Plan* (GWMP; CH2M HILL 2008a), which will assist in evaluations to determine the most appropriate long-term remedial strategy for groundwater. The RFI groundwater monitoring activities continue pursuant to a Second Amended Order on Consent executed between HCC and NYSDEC under Index Number CO 8-20000218-3281, August 12, 2011 (NYSDEC 2011). All sampling activities were conducted in accordance with the quality assurance project plan (QAPP; CH2M HILL 2009a).

1.1 Site Setting and Background

The facility 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, the east by Gorham Street, the west by East Water Street, and the south by the Seneca-Cayuga Canal (Canal) and is located within the watershed of the Seneca River. The site comprises several interconnected buildings that house offices; quality control (QC) laboratory; manufacturing, maintenance, and shipping/receiving operations; and a chemical treatment plant. The site also includes outside drum storage areas and several tank farms. The *RFI report* (CH2M HILL 2006) and *RFI Addendum Report* (CH2M HILL 2008b) present additional information regarding site setting, history, and manufacturing processes.

The facility 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 (bgs). The bedrock surface generally increases with depth from west to east. Overburden groundwater flow follows the topography of the land from north to the south toward the Cayuga-Seneca Canal.

Thirty-eight groundwater monitoring wells and the Building 4 Pit Sump (BLDG4-PIT-SSP) are included as part of the GWMP implementation. Measurements from two stilling wells (SG-01 and SG-02) have been used prior to 2012 to measure depth-to-water measurements of the Seneca-Cayuga Canal Raceway (raceway) and canal, respectively. SG-01 was destroyed in fall 2011 during facility activities, and only SG-02 was used during the October 2012 groundwater elevation monitoring event.

Four new monitoring wells (MW-29, MW-30, MW-31, and MW-32) were installed in February 2012. The details of the soil boring and well installation for the four new wells will be submitted as part of a separate report, but the monitoring well construction diagrams are included in Appendix A. The wells were initially sampled in February 2012 and were added to sitewide groundwater monitoring program starting in April 2012.

1.2 Site Activities Performed

The following activities were completed during this reporting period:

- Collected synoptic depth–to-water measurements from site monitoring wells and the surface water stilling well in April 2012 and October 2012
- Conducted groundwater sampling and laboratory analysis in April and May 2012

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 Depth-to-Water Measurements

Depth–to-water measurements were collected from accessible site monitoring points to evaluate groundwater flow direction and hydraulic gradients onsite during the April 2012 sampling event and October 2012 event. The depth-to-water measurements were collected between April 24 and May 9, 2012 and on October 15, 2012. Measurements were collected in accordance with the GWMP (CH2M HILL 2008a) using an optical interface probe, which was decontaminated after each use between wells.

2.2 Groundwater Sampling

In April and May 2012, 42 monitoring wells and the Building 4 Pit Sump (BLDG4-PIT-SSP) were sampled. Figure 1-2 shows the sampling locations. Table 2-1 contains a detailed sampling summary. Except for BLDG4-PIT-SSP, groundwater samples were collected from all wells in accordance with the U.S. Environmental Protection Agency (USEPA) Region 2 *Groundwater Sampling Procedure – Low Stress (Low Flow) Purging and Sampling* (USEPA 1998) using a submersible bladder pump and dedicated polyethylene Teflon-lined tubes. Consistent with the previous sampling events, a grab sample was collected from the BLDG4-PIT-SSP using a disposable Teflon bailer; no effort was made to purge BLDG4-PIT-SSP prior to sampling. The samples were submitted to Microbac Laboratories, Inc. (Microbac) (New York State Laboratory ID No. 10861), an ELAP-approved laboratory in New York State, under chain-of-custody for the following analyses as specified by the GWMP and QAPP (CH2M HILL 2008a, 2009a). A copy of Microbac's NYSDOH ELAP's certification is included in Appendix C.

- Volatile organic compounds (VOCs) via USEPA SW-846 via Method 8260B
- Semivolatile organic compounds (SVOCs) via Method USEPA SW-8270C
- Polynuclear aromatic hydrocarbons (PAHs) via Method USEPA SW-8270C SIMs
- Target analyte list (TAL) metals via Method USEPA SW601B

The groundwater samples were analyzed for both total metals and dissolved metals. Dissolved metals samples were collected after all other sample bottles were filled using a 0.45 micron filter. In addition, samples were collected to assess groundwater for potential monitored natural attention (MNA) via the following analyses:

- Sulfate via USEPA Method 375.4
- Nitrate by USEPA WW 353.2
- Methane and carbon dioxide by RSK175
- Alkalinity via method USEPA WW 310.1
- Total phosphorous via USEPA WW 365.2
- Total organic carbon via USEPA WW 415.1

- Ferrous iron concentrations were measured in the field using a Hach 8290 field measurement kit and Accuvac ferrous iron reagent ampules.

Water quality parameters were measured during purging using a Horiba U-52 water quality meter with an in-line flow-through cell: pH (standard units [SU]), temperature (degrees Celsius), dissolved oxygen (milligrams per liter), oxidation-reduction potential (millivolts) and specific conductance (milliSiemens per centimeter). Turbidity measurements also were collected in the field using a LaMotte turbidity meter. Water quality parameter data were recorded on field sampling sheets and are included in Appendix B.

2.3 Data Quality Review

Microbac analyzed the groundwater and QC samples. A project chemist reviewed the data packages to evaluate the quality and usability of the analytical data in supporting remedial implementation and monitoring activities at the site. Based on the results of the data quality review, laboratory qualifiers were added to summary tables where appropriate. A copy of the data quality review is provided in Appendix C.

SECTION 3

Groundwater Sampling Results

The following sections present the results of the groundwater sampling and water level monitoring field activities described in Section 2.

3.1 Groundwater Flow Evaluation

Tables 3-1 (a) and (b) summarize the results of the groundwater elevation monitoring events in April 2012 and October 2012, respectively. Figures 3-1 and 3-2 present the potentiometric surface map for overburden groundwater for the April 2012 and October 2012 monitoring events, respectively. As indicated on the figures, 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-10/9R and MW-6/18 couplets were estimated to be 0.02 feet per foot (ft/ft) to 0.04 ft/ft respectively. The vertical hydraulic gradients calculated at the MW-5S/5I and MW-11S/11I couplets were estimated to be -0.19 ft/ft and -0.23 ft/ft respectively, and the negative gradient indicates downward flow.

3.2 Groundwater Sampling Results

Tables 3-2 through 3-10 provide VOCs, SVOCs, metals, and MNA parameters results. Analytical reports received from the laboratory are included in Appendix C. Additionally, electronic copy of the analytical data in the format required for the NYSDEC EQuIS database is also included in Appendix C. The analytical data tables are grouped by solid waste management unit (SWMU), area of concern (AOC), or site-specific areas as indicated in the following table.

Sampling Points per Area Groupings							
SWMU 1 Table 3-2	**SWMU 7 Table 3-3**	**AOC B Tables 3-4 and 3-5**	**AOC C Table 3-6**	**AOC D Table 3-7**	**AOC E Table 3-8**	**Sitewide Table 3-9**	**Background Table 3-10**
MW-14	MW-25	MW-01	MW-07	MW-11S	MW-10	MW-5S	MW-06
MW-15		MW-02	MW-08	MW-11I		MW-5I	MW-20
MW-16S		MW-03		MW-21		MW-09R	
MW-16I		MW-22		MW-24		MW-12	
MW-17		MW-23		MW-29*		MW-13	
MW-18		MW-32*		MW-30*		MW-19	
MW-26		PZ-01		MW-31*			
MW-27		PZ-03					
MW-28		PZ-04					
TW-01		PZ-05					
TW-02		PZ-06					
		PZ-07					
		BLDG4-PIT-SSP**					

* - Wells MW-29, MW-30, MW-31, and MW-32 were installed in February 2012 and were added to the sitewide groundwater sampling program in 2012.

** - BLDG4-PIT-SSP is a sump monitoring point constructed in the former pit area.

The following sections present a summary of the groundwater sample results for each well grouping onsite. The analytical data obtained in 2012 are discussed in conjunction with historical results from the following reports:

- OB&G Sampling Unit Report (OB&G 2003)
- *2008 RCRA Facility Investigation Report Addendum* (CH2M HILL 2008b)
- *Groundwater Monitoring Results Report October 2008, April 2009, and October 2009* (CH2M HILL 2009b)
- *Groundwater Monitoring Results Report, April 2010 and October 2010 Monitoring Events* (CH2M HILL 2011)
- *Additional Investigation Results Report* (CH2M HILL 2012a) based on the *Additional Groundwater Investigation Work Plan* (CH2M HILL 2010)
- *Groundwater Monitoring Results Report, April and October 2011 Monitoring Events* (CH2M HILL 2012b)

Concentrations for analytes except 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 the NYSDEC (2005), the New York State Department of Health (NYSDOH) guidance value for MIBK is based on the maximum contaminant level (MCL) for unspecified organic contaminants Part 5 Sanitary Code for Public Water System and is 50ug/L (NYSDOH 2011). Figures 3-3 through 3-9 summarize the groundwater analytical exceedances per SWMU, AOC, and other site groupings.

3.2.1 Groundwater Results - SWMU 1

Eleven monitoring wells are associated with SWMU 1: MW-14, MW-15, MW-16S, MW-16I, MW-17, MW-18, MW-26, MW-27, MW-28, TW-01, and TW-02. Table 3-2 summarizes the analytical results. 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.

	April 2012				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							
Benzo(a)anthracene	0.002	MW-28	0.105	2	TW-01	0.973	Dec-10
Benzo(a)pyrene	0.002	MW-28	0.0978	1	TW-01	0.92	Dec-10
Benzo(b)fluoranthene	0.002	MW-28	0.0672	1	MW-16I	7.7 J	Jan-02
Benzo(k)fluoranthene	0.002	MW-28	0.094	2	TW-01	0.902	Dec-10
Chrysene	0.002	MW-28	0.0957	2	TW-01	1.11	Dec-10
Indeno (1,2,3-c,d) pyrene	0.002	MW-28	0.0511 J	1	TW-01	0.595	Dec-10
Total Metals							
Iron	300	TW-01	44,300	10	TW-01	54,200	Apr-11
Magnesium	35,000	TW-02	68,100	4	MW-17	97,000	Jan-02
Manganese	300	MW-27	4,140	7	MW-27	6,430	Apr-11
Sodium	20,000	MW-18	161,000	11	MW-18	303,000	Apr-11
Dissolved Metals							
Iron	300	TW-01	44,700	10	TW-01	44,700	Apr-12
Magnesium	35,000	TW-02	67,000	4	TW-02	67,000	Apr-12
Manganese	300	MW-27	5,520	8	MW-27	5,520	Apr-12
Sodium	20,000	MW-18	168,000	11	MW-18	228,000	Apr-10
General Chemistry							
Sulfate	250,000	TW-02	277,000	1	TW-01	440,000	Apr-11

All concentrations in micrograms per liter (µg/L)
J - Estimated concentration.

No VOCs were above the TOGS Class GA standards in any of the wells sampled. No VOCs have been detected at any wells in this area since 2002. Low-level concentrations of SVOCs were detected above the TOGS Class GA standards at monitoring wells MW-28 and TW-01. Four metals (iron, magnesium, manganese, and sodium) were found to exceed the TOGS Class GA standards. Though the total metals concentrations during the 2012 event were found to be consistently lower than the respective historical high concentrations, the dissolved metals concentrations detected in 2012 were higher, except sodium. Sulfate was detected above its TOGS Class GA standard of 250,000 µg/L in one well, TW-02, at a

concentration of 277,000 µg/L, which is lower than the sulfate concentration detected earlier.

3.2.2 Groundwater Results - SWMU 7

One monitoring well (MW-25) is associated with SWMU 7. Table 3-3 summarizes the analytical results. 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.

April 2012			Historical High Concentrations	
Analyte	**TOGS Class GA Standards**	**Conc. 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	551	5,260	Oct-08
Sodium	20,000	55,000	74,900	Apr-10
Dissolved Metals				
Iron	300	378	378	Apr-12
Sodium	20,000	56,400	78,100	Apr-09
All concentrations in µg/L				

No VOCs or SVOCs have been detected above the TOGS Class GA standards at MW-25. The metals detected above the TOGS Class GA standards in MW-25 were iron and sodium.

3.2.3 Groundwater Results - AOC B

Six monitoring wells (MW-01, MW-02, MW-03, MW-22, MW-23, and MW-32) and six piezometers (PZ-01, PZ-03, PZ-04, PZ-05, PZ-06, and PZ-07) are associated with AOC B. Table 3-4 summarizes the analytical results. 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.

April 2012					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 (1,2-DCA)	0.6	PZ-03	0.77 J	1	PZ-03	1.03	Oct-08
Cis-1,2-Dichloroethene (cis-1,2-DCE)	5	MW-03	20.3 J	2	PZ-01	38.3	Apr-09

Analyte	April 2012				Historical High Concentrations		
	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
4-Methyl-2-pentanone (MIBK)	50[1]	MW-03	22,500	4	MW-03	39,000	May-95
Acetone	50	MW-03	1,520	1	MW-03	4,300	Apr-95
Carbon Disulfide	60	MW-02	155	2	PZ-05	1,290 J	Aug-09
Chloroform	7	MW-02	41.4	4	MW-02	101	Dec-05
Methylene chloride	5	MW-03	35.5 J	4	MW-02	60 J	Jan-02
Toluene	5	MW-03	55.3	3	PZ-07	686	Dec-07
Semivolatile Organic Compounds							
3,3'-Dichlorobenzidine	5	MW-03	47.4 J	1	MW-03	47.4 J	Apr-12
Benzo(a)anthracene	0.002	PZ-06	0.0614 J	2	PZ-07	10.3 J	Dec-07
Benzo(a)pyrene	0.002	PZ-06	0.0645 J	2	PZ-07	9.77 J	Dec-07
Benzo(b)fluoranthene	0.002	PZ-06	0.0716	2	PZ-07	8.13 J	Dec-07
Benzo(k)fluoranthene	0.002	PZ-06	0.0631 J	2	PZ-07	9.07 J	Dec-07
Bis(2-ethylhexyl)phthalate	5	MW-01	5.68 J	1	PZ-03	333	Apr-09
Chrysene	0.002	PZ-06	0.0745	2	PZ-07	10.7 J	Dec-07
Indeno(1,2,3-c,d)pyrene	0.002	PZ-06	0.0442 J	1	PZ-07	7.18 J	Dec-07
Total Metals							
Antimony	3	MW-03	17.7	2	MW-03	159	Aug-94
Arsenic	25	MW-03	553	3	MW-03	1000 J	Jan-02
Cadmium	5	MW-22	22	1	MW-03	113	Apr-11
Chromium	50	MW-03	9,850	2	MW-03	22,700	Apr-11
Iron	300	PZ-01	47,700	8	MW-02	215,000	Aug-94
Lead	25	PZ-06	111	1	MW-23	511	Apr-11
Magnesium	35000	MW-03	373,000	9	MW-03	526,000	Apr-11
Manganese	300	MW-03	5,830	4	PZ-01	7,480	Apr-11
Selenium	10	MW-03	28.5	3	PZ-06	62.7	Oct-08
Sodium	20000	PZ-06	2,360,000	12	MW-02	6,800,000 J	Jan-02

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

April 2012					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
Thallium	0.5	PZ-06	0.511 J	1	PZ-06	1.18	Oct-08
Dissolved Metals							
Antimony, Dissolved	3	MW-03	14.4	2	PZ-06	107	May-09
Arsenic, Dissolved	25	MW-03	537 J	3	PZ-06	1,420	May-09
Chromium, Dissolved	50	MW-03	11,000	2	MW-03	22,200	Apr-11
Iron, Dissolved	300	PZ-03	3,030	3	PZ-06	9,350	May-09
Magnesium, Dissolved	35000	MW-03	421,000	9	MW-03	526,000	Apr-11
Manganese, Dissolved	300	MW-03	6,470	1	MW-03	6,470	Apr-12
Selenium, Dissolved	10	MW-03	38.4	3	PZ-06	109	May-09
Sodium, Dissolved	20000	PZ-06	2,510,000	12	MW-02	4,250,000 J	Apr-04
General chemistry							
Sulfate	250,000	PZ-05	1,700,000	9	MW-02	11,800,000	May-95

All concentrations in µg/L
J - Estimated Concentration

Exceedances of VOCs were detected in all but five wells (MW-01, MW-22, MW-23, MW-32, and PZ-07) and exceedances of SVOCs were detected in four wells (MW-01, MW-03, PZ-06, and PZ-07). Exceedances of metals were detected in all samples. Based on the data, the following observations were made:

- The VOC detected at the highest concentration was MIBK. The highest concentration of MIBK was detected at MW-03 at a concentration of 22,500 µg/L. Concentrations of MIBK at MW-03 have remained below the NYSDOH guidance value between 2002 and 2010. In 2011, MIBK concentration at MW-03 increased to 7,830 µg/L and in 2012, the MIBK concentration further increased to 22,500 µg/L. MIBK also was detected above its NYSDOH guidance value of 50 µg/L in downgradient monitoring locations MW-02, PZ-05, and PZ-06 at concentrations ranging 159 µg/L (PZ-06) to 666 µg/L (MW-02).
- Exceedances of one or more chlorinated VOCs (1,2-DCA, cis-1,2-DCE, chloroform, and methylene chloride) were detected at MW-02, MW-03, PZ-01, PZ-03, PZ-04, and PZ-05.
- Sodium was detected in all wells and the highest metal concentration detected was dissolved sodium at 2,510,000 µg/L (PZ-06). Dissolved concentrations of magnesium, and manganese were detected at historical highs at MW-03. MW-03 generally exhibited the highest concentrations of metals.

Sampling of BLDG4-PIT-SSP

AOC B also is associated with BLDG4-PIT-SSP, which is a sampling point for the sump constructed in the former Building 4 Pit. A grab sample was collected from this location. Table 3-5 summarizes the analytical results. 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.

BLDG4 Pit-SSP - April 2012			BLDG4-Pit-SSP Historical High Concentrations	
Analyte	**TOGS Class GA**	**Conc. Exceeding Criteria, µg/L**	**Highest Conc. Detected, µg/L**	**Sample Date of Highest Conc. Detected**
Volatile Organic Compounds				
MIBK	50[2]	638	1,610,000	May-10
Acetone	50	75.8	1,290	May-09
2-Butanone	50	75.1	284 J	Dec-07
Semivolatile Organic Compounds				
Benzo(a)anthracene	0.002	0.214	1.17	Apr-11
Benzo(a)pyrene	0.002	0.202	0.823	Apr-11
Benzo(b)fluoranthene	0.002	0.232	0.811	Apr-11
Benzo(k)fluoranthene	0.002	0.22	0.76	Apr-11
Bis(2-ethylhexyl)phthalate	5	18.8	359	Dec-07
Chrysene	0.002	0.274	0.954	Apr-11
Indeno(1,2,3-c,d)pyrene	0.002	0.153	0.554	Apr-11
Total Metals				
Cadmium	5	21.6	29.7	Oct-08
Chromium	50	161	2,450	Apr-11
Iron	300	29,300	39,300	May-10
Manganese	300	605	1,240	May-10
Nickel	100	1,100	1,100	Apr-12
Selenium	10	13.5	13.5	Apr-12
Sodium	20,000	159,000	1,470,000	May-10
Zinc	2000	3,980	3,980	Apr-12
Dissolved Metals				
Arsenic, Dissolved	25	102	195	May-09
Barium, Dissolved	1000	1,160	2,160	May-09
Chromium, Dissolved	50	55.9	286	May-09
Magnesium, Dissolved	35000	131,000	314,000	May-09
Sodium, Dissolved	20000	595,000	818,000	May-09

All concentrations in µg/L
J - Estimated Concentration.

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

Based on the data, the following observations are made:

- The VOC detected at the highest concentration was MIBK (638 µg/L), which is similar to the concentration detected in the April 2011 sampling event (625 J), and is markedly lower than the highest historical concentration (1,610,000 µg/L; April 2010 sampling event).
- The SVOC detected at the highest concentration was bis(2-ethylhexyl)phthalate.
- The total metals detected at the highest concentrations were sodium and iron. Nickel and zinc were detected at historical highs.

3.2.4 Groundwater Results - AOC C

Two monitoring wells (MW-07 and MW-08) are associated with AOC C. Table 3-6 summarizes the analytical results. 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.

	April 2012				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							
Selenium	10	MW-07	10.4	1	MW-07	32.4	Dec-05
Sodium	20,000	MW-07	558,000	2	MW-07	1,570,000	Oct-08
Dissolved Metals							
Selenium	300	MW-07	11.4	1	MW-07	14.4	Apr-09
Sodium	20,000	MW-07	584,000	2	MW-07	2,590,000	Apr-09
General Chemistry							
Sulfate	250,000	MW-08	321,000	1	MW-08	321,000	Apr-12

All concentrations in µg/L

No VOCs and SVOCs were detected above the TOGS Class GA standards. Concentrations of metals detected above the TOGS Class GA standards in 2012 were consistently lower than the corresponding historical highs. Sulfate was detected above its TOGS Class GA standard of 250,000 µg/L in one well, MW-08, at a concentration of 321,000 µg/L.

3.2.5 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 3-7 summarizes the analytical results. 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.

	April 2012				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[3]							
Acetone	50	MW-31	58.2 J	1	MW-31	58.2 J	Apr-12
Semivolatile Organic Compounds							
Benzo(a)anthracene	0.002	MW-31	0.0414 J	1	MW-31	0.0414 J	Apr-12
Chrysene	0.002	MW-31	0.066 J	1	MW-31	0.066 J	Apr-12
Total Metals							
Antimony	3	MW-21	133	2	MW-21	135	Apr-11
Arsenic	25	MW-21	24,000	3	MW-11S	24,000	Apr-12
Cadmium	5	MW-31	135	3	MW-31	135	Apr-12
Chromium	50	MW-31	655	2	MW-31	655	Apr-12
Copper	200	MW-31	380	1	MW-31	380	Apr-12
Iron	300	MW-24	49,500	6	MW-24	49,500	Apr-12
Lead	25	MW-31	3,500	1	MW-31	3,500	Apr-12
Magnesium	35000	MW-11I	64,300	3	MW-24	167,000	Dec-05
Manganese	300	MW-24	636	3	MW-24	2,020	Dec-05
Mercury	0.7	MW-31	4.01	1	MW-21	5.68	Oct-08
Nickel	100	MW-21	219	2	MW-21	351	Dec-05
Sodium	20000	MW-21	7,610,000	7	MW-21	10,300,000	Oct-08
Thallium	0.5	MW-31	1.02	1	MW-31	1.02	Apr-12
Zinc	2,000	MW-31	7,700	1	MW-31	7,700	Apr-12
Dissolved Metals							
Antimony, Dissolved	3	MW-21	129	2	MW-21	129	Apr-12
Arsenic, Dissolved	25	MW-21	21,800	3	MW-11S	24,000	Apr-12
Cadmium, Dissolved	5	MW-31	102	3	MW-31	102	Apr-12
Chromium, Dissolved	50	MW-31	587	2	MW-31	587	Apr-12
Copper, Dissolved	200	MW-31	288	1	MW-31	288	Apr-12
Iron, Dissolved	300	MW-31	38,400	5	MW-31	38,400	Apr-12
Lead, Dissolved	25	MW-31	2,940	1	MW-31	2,940	Apr-12
Magnesium, Dissolved	35000	MW-11I	63,900	3	MW-24	149,000	Dec-05
Manganese, Dissolved	300	MW-24	619	3	MW-24	1,790	Dec-05
Mercury, Dissolved	0.7	MW-31	5.23	1	MW-31	5.23	Apr-12
Nickel, Dissolved	100	MW-21	205	1	MW-21	351	Dec-05
Selenium, Dissolved	10	MW-31	10.6	1	MW-24	23	Dec-05

[3] *No other VOCs are detected above the TOGS 1.1.1 Class GA Groundwater Standards and NYSDOH guidance value for MIBK*

	April 2012				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
Sodium, Dissolved	20000	MW-21	7,750,000	7	MW-21	8,050,000	May-09
Thallium, Dissolved	0.5	MW-31	0.873	1	MW-31	0.873	Apr-12
Zinc, Dissolved	2,000	MW-31	5950	1	MW-31	5950	Apr-12
General Chemistry							
Sulfate	250,000	MW-31	829,000	6	MW-21	2,500,000	Apr-11

All concentrations in µg/L
J - Estimated Concentration

In general, the sampling results are consistent with previous sampling events. Concentrations of total arsenic were detected above its TOGS Class GA standard of 25 µg/L at MW-11S (872 µg/L) and MW-21 (24,000 µg/L). MW-11S and MW-21 historically have exhibited elevated concentrations of arsenic ranging from 8,580 µg/L (MW-11S, April 2004) to 7,010 µg/L (MW-11S, October 2008). pH measurements in these two wells historically have ranged from 10.29 SU (MW-21, April 2012) to 11.63 SU (MW-11S, December 2005).

3.2.6 Groundwater Results - AOC E

AOC E consists of MW-10. Table 3-8 summarizes the analytical results. 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.

	April 2012		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				
Sodium	20,000	141,000	1,200,000 J	Jan-02
Dissolved Metals				
Sodium	20,000	134,000	653,000	Apr-04

All concentrations in µg/L

No VOCs and SVOCs have been detected above the TOGS Class GA standards at MW-10. The only metal detected above TOGS Class GA standard was sodium and the concentration recorded in 2012 is significantly lower than the historical high concentration recorded in 2002.

3.2.7 Groundwater Results – Sitewide Monitoring Wells

Six monitoring wells (MW-05S, MW-05I, MW-09R, MW-12, MW-13, and MW-19) are not associated with any specific AOC area in this well grouping. Table 3-9 summarizes the analytical results. 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.

	April 2012				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							
Cis-1,2-DCE[4]	5	MW-19	5.57	1	MW-19	8.43	Oct-09
Semivolatile Organic Compounds							
Bis(2-ethylhexyl)phthalate	5	MW-12	5.36 J	1	MW-13	154	Oct-08
Total Metals							
Iron	300	MW-13	7,580	4	MW-12	9,440	May-10
Magnesium	35,000	MW-09R	98,300	3	MW-19	137,000	Dec-05
Manganese	300	MW-19	417	2	MW-19	1,730	Dec-05
Sodium	20,000	MW-09R	680,000	6	MW-09R	1,400,000	Jan-02
Dissolved Metals							
Iron	300	MW-13	5,660	3	MW-13	5,100	Apr-09
Magnesium	35,000	MW-09R	96,600	3	MW-09R	96,600	Apr-12
Manganese	300	MW-19	427	2	MW-19	939	Apr-09
Sodium	20,000	MW-09R	776,000	6	MW-09R	716,000	Apr-09
General Chemistry							
Sulfate	250,000	MW-09R	612,000	1	MW-09R	670,000	Apr-11

All concentrations in µg/L

In general, the sampling results are consistent with previous sampling events. Exceedances of cis-1,2-DCE was detected at MW-19. As summarized in Section 3.2.3, an investigation of the source of chlorinated VOCs was performed in 2010 and reported in the *Additional Investigation Results Report* (CH2M HILL 2012a) and showed that the extent of these chlorinated VOCs have been delineated.

3.2.8 Groundwater Results – Background Monitoring Wells

Two monitoring wells (MW-6 and MW-20) are background monitoring wells. Table 3-10 summarizes the analytical results. Figure 3-9 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.

[4] *No other VOCs are detected above the TOGS 1.1.1 Class GA Groundwater Standards and NYSDOH guidance value for MIBK*

	April 2012				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							
Sodium	20,000	MW-06	40,700	2	MW-06	68,000 J	Jan-02
Dissolved Metals							
Sodium	20,000	MW-06	39,100	2	MW-20	49,200	Dec-05
All concentrations in µg/L							

In general, the sampling results are consistent with previous sampling events.

3.2.9 Groundwater Results – Methylmercury and Hexavalent Chromium

Methylmercury and hexavalent chromium analyses were conducted at select monitoring wells near the canal to further evaluate the groundwater quality. The results of these two groundwater analytes were reviewed as part of the potential water treatment system design data for the AOC A – Seneca-Cayuga Canal sediment removal remedy. Five monitoring wells (MW-08, MW-09R, MW-21, MW-23, and MW-32) were sampled for methylmercury, and five monitoring wells (MW-02, MW-03, MW-21, MW-23 and MW-32) were sampled for hexavalent chromium. Table 3-11 summarizes the analytical results which were not validated by a CH2M HILL project chemist because it does not form part of the sitewide GWMP. The highest concentration of methylmercury was detected at MW-21 at a concentration of 14 B nanogram per liter (ng/L). There is no TOGS Class GA standard for methylmercury. Methylmercury was detected in the equipment blank at a concentration 0.07 B ng/L. Methylmercury was also detected in method blanks at levels that were above the method detection limit but below the reporting limit. Methylmercury also failed the recovery criteria for the MS/MSD samples.

The highest concentration of hexavalent chromium was detected at MW-21 at a concentration of 4.3 JH µg/L. None of the detected concentration of hexavalent chromium exceeded the TOGS Class GA standard of 50 µg/L. Samples for hexavalent chromium were collected from 5 locations and there were only two detections, which are estimated concentrations less than 5 µg/L and less than the reporting limit. Additionally, there is uncertainty in the data as they were analyzed outside their holding time.

3.2.10 Changes in Compound Concentrations with Depth

The following section discusses the vertical distribution of compounds in groundwater for the two well couplets located onsite (MW-05S/MW-05I and MW-11S/MW-11I). Figure 1-2 shows the locations of the wells.

MW-05S/MW-05I

The following table summarizes changes of analyte concentrations that exceeded the TOGS Class GA standard with increasing depth in the cluster consisting of wells MW-05S (3 to 13 feet bgs) and MW-05I (25 to 30 feet bgs). This well cluster is associated with the sitewide well grouping and is not part of an individual SWMU or AOC.

Well ID Screened Interval, ft	TOGS Class GA Standards, µg/L	MW-05S 3 – 13	MW-05I 25 – 30
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 above TOGS Class GA Standards		
Total Metals			
Magnesium	35,000	-	42,500
Sodium	20,000	40,200	58,500 J
Dissolved Metals			
Magnesium	35,000	-	42,800
Sodium	20,000	40,800	61,300

All concentrations in µg/L

The analytes that were detected above the TOGS Class GA standard in this well cluster were magnesium and sodium, which increased with depth.

MW-11S/MW-11I

The following table summarizes changes of analyte concentrations with increasing depth in the cluster consisting of wells MW-11S (14 feet bgs) and MW-11I (27.1 feet bgs). This well cluster is part of AOC D.

Well ID Screened Interval, ft	TOGS Class GA Standards, µg/L	MW-11S 4 – 14	MW-11I 22– 27
Volatile Organic Compounds	None Detected above the TOGS 1.1.1 Class GA Groundwater Standards and NYSDOH guidance value for MIBK		
Semivolatile Organic Compounds			
Chrysene	0.002	0.0281 J	-
Total Metals			
Arsenic	25	872	-
Cadmium	5	7.9	-
Iron	300	-	2,920
Magnesium	35,000	-	64,300
Sodium	20,000	1,410,000	244,000
Misc.			
Sulfate	250,000	-	555,000

All concentrations in µg/L
J - Estimated Concentration
U - not detected above the laboratory reporting limit

Concentrations of chrysene, arsenic, and cadmium decreased to below the TOGS Class GA standards with depth. Concentrations of sodium also decreased with depth. However, increase in concentrations with depth was observed for iron, magnesium, and sulfate, and may be attributed to background concentrations in groundwater. These results are consistent with historical sampling events.

3.3 Monitored Natural Attenuation Sampling Results

In accordance with the GWMP (CH2M HILL 2008a), samples were collected from monitoring wells for analysis of the MNA parameters listed in Section 2.1. The analytical results are summarized in Tables 3-2 through 3-10, and laboratory reports are provided in Appendix C. An evaluation of the MNA data will be provided in a future report as additional data are accumulated.

3.4 Quality Assurance/Quality Control Samples

Table 2-1 presents the sample IDs and SDGs for the QC samples. Table 3-12 presents the results of analysis of the equipment blanks and trip blanks for the April 2012 sampling event. Carbon disulfide was detected in one trip blank sample (TB-042512) at a concentration of 0.579 J µg/L. Additionally, acetone and methylene chloride were detected in an equipment blank sample (EB-043012-GW) at concentrations of 9.9J and 11 µg/L. No VOCs were detected in any of the blank samples collected.

3.5 Data Quality Review Summary

Appendix C contains detailed results of the data quality review for groundwater samples collected during the April 2012 sampling event. The analytical deliverables for groundwater samples were received in seven SDGs. For these sampling events, some data were qualified as a result of the data evaluation, which is summarized in the data quality review documents. Refer to Table 2-1 for identifying the SDGs by sample ID.

SECTION 4

Summary

Depth-to-groundwater measurements were collected during the April and October 2012 events. Consistent with previous monitoring events, overburden groundwater flow was observed to be generally south toward the canal. A downward vertical gradient in overburden also was observed in the two well clusters onsite.

A sitewide groundwater sampling event will be performed in April 2013, and synoptic groundwater monitoring events will be performed in April 2013 and October 2013.

SECTION 5

References

CH2M HILL. 2006. *RCRA Facility Investigation Report, Former Hampshire Chemical Corp., Waterloo, New York.*

CH2M HILL. 2008a. *Groundwater Monitoring Work Plan, Former Hampshire Chemical Corp. Facility, Waterloo, New York*. October.

CH2M HILL. 2008b. *RCRA Facility Investigation Report Addendum, Former Hampshire Chemical Corp., Waterloo, New York.* September; revised February 2010.

CH2M HILL. 2009a. *Quality Assurance Project Plan, Former Hampshire Chemical Corp. Facility, Waterloo, New York*. September; revised June 2010.

CH2M HILL. 2009b. *Groundwater Monitoring Results Report – October 2008, April 2009 and October 2009 Sampling Events, Former Hampshire Chemical Corp Facility, Waterloo, New York*. March.

CH2M HILL. 2010. *Additional Groundwater Investigation Work Plan, Former Hampshire Chemical Corp. Facility, Waterloo, New York*. September.

CH2M HILL 2011. *Groundwater Monitoring Results Report, April 2010 and November 2010 Monitoring Events. Former Hampshire Chemical Corp. Facility, Waterloo, New York*. May.

CH2M HILL. 2012a. *Additional Investigation Results Report, Former Hampshire Chemical Corp. Facility, Waterloo, NY.* December.

CH2M HILL 2012b. *Groundwater Monitoring Results Report, April and November 2011 Monitoring Events. Former Hampshire Chemical Corp. Facility, Waterloo, New York*. December.

New York State Department of Environmental Conservation (NYSDEC). 2005. Letter from NYSDEC Re: *Hampshire Chemical Corporation, Evans Chemetics Facility, Waterloo, New York, RCRA Facility Investigation (RFI) Report.* January 11.

New York State Department of Environmental Conservation (NYSDEC). 1998. *Technical and Operational Guidance Series (TOGS), Ambient Water Quality Standards and Guidance Values and Ground Water Effluent Limitations.* June 1998; modified January 1999; modified April 2000; modified June 2004.

New York State Department of Environmental Conservation (NYSDEC). 2011. *Second Amended Order on Consent between Hampshire Chemical Corp. and NYSDEC (Index Number CO 8-20000218-3281).* August 12.

New York State Department of Health (NYSDOH). 2011. *Drinking Water Protection Program, Part 5, Subpart 5-1 Public Water Systems – Tables (Revised).* November. http://www.health.nygov/regulations/nycrr/title_10/part_5/subpart_5-1_tables.htm

U.S. Environmental Protection Agency (USEPA) Region 2. 1998. *Groundwater Sampling Procedure – Low Stress (Low Flow) Purging and Sampling.* March.

Tables

Table 2-1
Summary of Groundwater Samples Collected in April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Sampling Location	Sample Identification	Laboratory Analysis	Sample Delivery Group	Sample Type	Sampling Method	Pump placement Depth (ft. from TIC)	Sample Date	Sample Time
MW-01	MW-01-050112	VOCs, SVOCs, Metals[1], MNA	L12050050	N	bladder pump	9.5	5/1/2012	1215
MW-02	MW-02-050712	VOCs, SVOCs, Metals[1], MNA, Cr(VI)	L12050226, 460-39947-1	N	bladder pump	4.5	5/7/2012	1435
MW-03	MW-03-050712	VOCs, SVOCs, Metals[1], MNA, Cr(VI)	L12050226, 460-39947-1	N	bladder pump	14	5/7/2012	1200
MW-05I	MW-05I-050112	VOCs, SVOCs, Metals[1], MNA	L12050050	N	bladder pump	27.5	5/1/2012	1137
MW-05S	MW-05S-050112	VOCs, SVOCs, Metals[1], MNA	L12050050	N	bladder pump	11.5	5/1/2012	1333
MW-06	MW-06-050712	VOCs, SVOCs, Metals[1], MNA	L12050226	N	bladder pump	9	5/7/2012	1330
MW-07	MW-07-042412	VOCs, SVOCs, Metals[1], MNA	L12040844	N	bladder pump	11	4/24/2012	1315
MW-08	MW-08-050212	VOCs, SVOCs, Metals[1], MNA, MeHg	L12050317, 240-11201-1	N	bladder pump	10	5/9/2012	0920
MW-09R	MW-09R-050212	VOCs, SVOCs, Metals[1], MNA, MeHg	L12050317, 240-11201-1	N	bladder pump	12	5/9/2012	1035
MW-10	MW-10-042612	VOCs, SVOCs, Metals[1], MNA	L12040928	N	bladder pump	12	4/26/2012	1205
MW-11I	MW-11I-050212	VOCs, SVOCs, Metals[1], MNA	L12050317	N	bladder pump	25	5/9/2012	1210
MW-11S	MW-11S-050212	VOCs, SVOCs, Metals[1], MNA	L12050317	N	bladder pump	11	5/9/2012	1445
MW-12	MW-12-050412	VOCs, SVOCs, Metals[1], MNA	L12050171	N	bladder pump	8.5	5/4/2012	1030
MW-13	MW-13-050212	VOCs, SVOCs, Metals[1], MNA	L12050099	N	bladder pump	10.5	5/2/2012	1130
MW-14	MW-14-042712	VOCs, SVOCs, Metals[1], MNA	L12040963	N	bladder pump	14	4/27/2012	1107
MW-15	MW-15-050312	VOCs, SVOCs, Metals[1], MNA	L12050153	N	bladder pump	13	5/3/2012	1045
MW-16I	MW-16I-042412	VOCs, SVOCs, Metals[1], MNA	L12040844	N	bladder pump	29	4/24/2012	1235
MW-16S	MW-16S-042412	VOCs, SVOCs, Metals[1], MNA	L12040844	N	bladder pump	30	4/24/2012	1237
MW-17	MW-17-050312	VOCs, SVOCs, Metals[1], MNA	L12050153	N	bladder pump	14	5/3/2012	1130
MW-18	MW-18-050812	VOCs, SVOCs, Metals[1], MNA	L12050284	N	bladder pump	12	5/8/2012	1100
MW-19	MW-19-042612	VOCs, SVOCs, Metals[1], MNA	L12040963	N	bladder pump	15.5	4/26/2012	0930
MW-20	MW-20-042712	VOCs, SVOCs, Metals[1], MNA	L12040963	N	bladder pump	12	4/27/2012	0923
MW-21	MW-21-042512	VOCs, SVOCs, Metals[1], MNA, MeHg, Cr(VI)	240-10651-1, 460-39532-1	N	bladder pump	11	4/25/2012	1245
MW-22	MW-22-042512	VOCs, SVOCs, Metals[1], MNA	L12040898	N	bladder pump	11	4/25/2012	1007
MW-23	MW-23-042512	VOCs, SVOCs, Metals[1], MNA, MeHg, Cr(VI)	L12040898, 240-10651-1, 460-39532-1	N	bladder pump	8	4/25/2012	1330
MW-24	MW-24-050112	VOCs, SVOCs, Metals[1], MNA	L12050050	N	bladder pump	12.5	5/1/2012	0930
MW-25	MW-25-050212	VOCs, SVOCs, Metals[1], MNA	L12050099	N	bladder pump	13	5/2/2012	1410
MW-26	MW-26-050212	VOCs, SVOCs, Metals[1], MNA	L12050099	N	bladder pump	11	5/2/2012	1055
MW-27	MW-27-042612	VOCs, SVOCs, Metals[1], MNA	L12040928	N	bladder pump	11.5	4/26/2012	1037
MW-28	MW-28050312	VOCs, SVOCs, Metals[1], MNA	L12050153	N	bladder pump	12.75	5/3/2012	1500
MW-29	MW-29-043012	VOCs, SVOCs, Metals[1], MNA	L12050011	N	bladder pump	10	4/30/2012	1307
MW-30	MW-30-042512	VOCs, SVOCs, Metals[1], MNA	L12040898	N	bladder pump	11	4/25/2012	1000
MW-31	MW-31-042712[2]	VOCs, SVOCs, Metals[1], MNA	L12040928	N	bladder pump	12	4/27/2012	see notes
MW-32	MW-32-042512	VOCs, SVOCs, Metals[1], MNA, MeHg, Cr(VI)	L12040898, 240-10651-1, 460-39532-1	N	bladder pump	13	4/25/2012	1307
PZ-01	PZ-01-050412	VOCs, SVOCs, Metals[1], MNA	L12050171	N	peristaltic pump	7	5/4/2012	1207
PZ-03	PZ-03-050212	VOCs, SVOCs, Metals[1], MNA	L12050099	N	peristaltic pump	8	5/2/2012	1430
PZ-04	PZ-04-050212	VOCs, SVOCs, Metals[1], MNA	L12050317	N	peristaltic pump	8	5/9/2012	1111
PZ-05	PZ-05-050212	VOCs, SVOCs, Metals[1], MNA	L12050317	N	peristaltic pump	8	5/9/2012	1330
PZ-06	PZ-06-050712	VOCs, SVOCs, Metals[1], MNA	L12050226	N	peristaltic pump	9	5/7/2012	1307
PZ-07	PZ-07-050812	VOCs, SVOCs, Metals[1], MNA	L12050284	N	peristaltic pump	8.5	5/8/2012	1010
TW-01	TW-01-050812	VOCs, SVOCs, Metals[1], MNA	L12050284	N	bladder pump	17.5	5/8/2012	1450
TW-02	TW-02-050312	VOCs, SVOCs, Metals[1], MNA	L12050153	N	bladder pump	12	5/3/2012	1330
BLDG4-PIT	BLDG4-PIT-SSP-050812[3]	VOCs, SVOCs, Metals[1], MNA	L12050284	N	Bailer grab	N/A	5/8/2012	1245
MW-02	DUP-GW-050712	VOCs, SVOCs, Metals[1], MNA	L12050226	FD	bladder pump	see above	5/7/2012	1530
MW-26	DUP-GW-050212	VOCs, SVOCs, Metals[1], MNA	L12050099	FD	bladder pump	see above	5/2/2012	1005
MW-29	DUP-GW-043012	VOCs, SVOCs, Metals[1], MNA	L12050011	FD	bladder pump	see above	4/30/2012	1400
MW-30	DUP-GW-042512	VOCs, SVOCs, Metals[1], MNA	L12040898	FD	bladder pump	see above	4/25/2012	1000
TW-01	DUP-GW-050812	VOCs, SVOCs, Metals[1], MNA	L12050284	FD	bladder pump	see above	4/25/2012	1500
MW-08	MW08-050912-MS	VOCs, SVOCs, Metals[1], MNA	L12050317	MS	bladder pump	see above	5/9/2012	0920
MW-08	MW08-050912-MSD	VOCs, SVOCs, Metals[1], MNA	L12050317	MSD	bladder pump	see above	5/9/2012	0920
MW-12	MW-12-050412MS	VOCs, SVOCs, Metals[1], MNA	L12050171	MS	bladder pump	see above	5/4/2012	1030
MW-12	MW-12-050412SD	VOCs, SVOCs, Metals[1], MNA	L12050171	MSD	bladder pump	see above	5/4/2012	1030
MW-27	MW-27-042612-MS	VOCs, SVOCs, Metals[1], MNA	L12040928	MS	bladder pump	see above	4/26/2012	1037
MW-27	MW-27-042612-MSD	VOCs, SVOCs, Metals[1], MNA	L12040928	MSD	bladder pump	see above	4/26/2012	1037
EB	EB-042512-GW	VOCs, SVOCs, Metals	L12040898	EB	N/A	N/A	4/25/2012	
EB	EB-043012-GW	VOCs, SVOCs, Metals	L12050011	EB	N/A	N/A	4/30/2012	
EB	EB-050812-GW	VOCs, SVOCs, Metals	L12050284	EB	N/A	N/A	5/8/2012	
EB	EB-050912-GW[4]	VOCs, SVOCs, Metals	L12050317	EB	N/A	N/A	5/9/2012	
TB	TB-042412	VOCs	L12040844	TB	N/A	N/A	4/24/2012	
TB	TB-042512	VOCs	L12040898	TB	N/A	N/A	4/25/2012	
TB	TB-042612	VOCs	L12040928	TB	N/A	N/A	4/26/2012	
TB	TB-043012	VOCs	L12050011	TB	N/A	N/A	4/30/2012	
TB	TB-050112	VOCs	L12050050	TB	N/A	N/A	5/1/2012	
TB	TB-050212	VOCs	L12050099	TB	N/A	N/A	5/2/2012	
TB	TB-050312	VOCs	L12050153	TB	N/A	N/A	5/3/2012	
TB	TB-050412	VOCs	L12050171	TB	N/A	N/A	5/4/2012	
TB	TB-050712	VOCs	L12050226	TB	N/A	N/A	5/7/2012	
TB	TB-050812	VOCs	L12050284	TB	N/A	N/A	5/8/2012	
TB	TB-050912	VOCs	L12050317	TB	N/A	N/A	5/9/2012	

NOTES:
1: All samples were analyzed for total and dissolved metals
2: Due to MW-31 being a low producing well it was purged 4 times and sampled during three separate purges: 4/26/12 12:30 VOC's, Methane, CO2, Metals and Dissolved metals, 4/27/12 11:45 Alkalinity, Phosphorus, Total Organic Carbon, and Nitrates, 5/9/12 13:20 SVOC, PAHs, Sulfates and Nitrates
3: This was mistyped in the COC, but corresponds to BLDG4-PIT-SSP. This applies to all project documents where there is an ID discrepancy.
4: This was mistyped in the laboratory report, but corresponds to EB-050912. This applies to all project documents where there is an ID discrepancy.

TIC - Top of Inner Casing Elevation
EB - Equipment Blank, sample of equipment rinse at end of decontamination
MNA - Natural Attenuation Parameters
NM - Not Measured
TB - Trip Blank
FD - Field Duplicate Sample
N - Normal Environmental Sample
MS - Matrix Spike
MSD - Matrix Spike Duplicate

Table 3-1a
Groundwater Elevation Measurements
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Well Number	Date	Ground Elevation (ft amsl)	Inner Casing Elevation (ft amsl)	Depth to Water (feet TIC)	Groundwater Elevation (feet BGS)
MW-01	4/23/2012	434.42	434.42	4.01	430.41
MW-02	4/23/2012	433.56	433.56	2.81	430.75
MW-03	4/23/2012	434.53	434.53	1.94	432.59
MW-05S	4/23/2012	445.40	445.40	3.31	442.09
MW-05I	4/23/2012	445.45	445.45	12.89	432.56
MW-06	4/23/2012	446.87	446.87	4.60	442.27
MW-07	4/23/2012	437.98	437.98	4.21	433.77
MW-08	4/23/2012	440.02	440.02	6.19	433.83
MW-09R	4/23/2012	435.00	434.56	5.20	429.36
MW-10	4/23/2012	445.66	445.66	6.75	438.91
MW-11S	4/23/2012	433.57	433.57	1.40	432.17
MW-11I	4/23/2012	433.72	433.72	4.39	429.33
MW-12	5/4/2012	433.85	433.85	4.03	429.82
MW-13	4/23/2012	433.91	433.91	3.46	430.45
MW-14	4/23/2012	444.10	443.48	8.90	434.58
MW-15	4/27/2012	443.91	443.91	9.57	434.34
MW-16S	4/23/2012	453.23	453.23	23.28	429.95
MW-16I	4/23/2012	452.80	452.80	23.12	429.68
MW-17	4/23/2012	441.65	441.65	12.09	429.56
MW-18	4/23/2012	441.14	441.14	11.06	430.08
MW-19	4/23/2012	445.89	445.89	12.58	433.31
MW-20	4/23/2012	449.18	449.18	8.01	441.17
MW-21	4/23/2012	433.83	433.83	3.92	429.91
MW-22	4/23/2012	433.90	433.90	3.71	430.19
MW-23	4/25/2012	433.03	433.03	3.30	429.73
MW-24	4/23/2012	434.34	434.34	4.10	430.24
MW-25	4/23/2012	441.65	441.32	10.18	431.14
MW-26	4/23/2012	437.95	440.16	11.10	429.06
MW-27	4/23/2012	444.44	444.09	9.94	434.15
MW-28	4/27/2012	444.83	444.55	10.35	434.20
MW-29	4/30/2012	434.27	433.87	3.37	430.50
MW-30	4/23/2012	433.83	433.42	4.50	428.92
MW-31	4/28/2012	433.21	432.72	4.53	428.19
MW-32	4/23/2012	433.37	433.22	4.15	429.07
TW-01	4/23/2012	444.21	446.76	16.36	430.40
TW-02	4/23/2012	437.84	440.06	10.93	429.13
PZ-01	4/23/2012	434.54	434.30	3.51	430.79
PZ-03	5/2/2012	434.47	434.11	1.95	432.16
PZ-04	5/9/2012	432.78	432.20	2.89	429.31
PZ-05	4/23/2012	433.12	432.74	3.80	428.94
PZ-06	4/23/2012	433.11	432.82	2.61	430.21
PZ-07	4/23/2012	433.44	433.10	4.95	428.15
SG-02	4/23/2012	431.32	435.07	6.41	428.66
BLDG4-Pit	4/23/2012	--	434.56	2.13	432.43

Notes:
A water level measurement was not collected from MW-12, MW-31 and PZ-04 because the well areas were flooded. The water level measurements were later collected on 5/4, 4/28, and 5/9, respectively.

A water level was not collected from MW-15 and MW-28 because they were covered with gravel and could not be located. The water level measurements were later collected on 4/27 after the wells were uncovered.

A water level measurement was not collected form PZ-03 because it was covered by totes. The water level measurement was later colleted on 5/2 after the well was uncovered.

A water level measurement was not collected from MW-29 because the manhole cover could not be mannually opened by the field personnel. The water level measurement was later collected on 4/30.

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

amsl - above mean sea level NM - not measured

BGS - below ground surface TIC - top of inner casing

Table3-1b
Groundwater Elevation Measurements
October 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Well Number	Date	Ground Elevation (ft amsl)	Inner Casing Elevation (ft amsl)	Depth to Water (feet TIC)	Groundwater Elevation (feet bgs)
MW-01	10/15/2012	434.42	434.42	4.60	429.82
MW-02	10/15/2012	433.56	433.56	3.95	429.61
MW-03	10/15/2012	434.53	434.53	2.41	432.12
MW-05S	10/15/2012	445.40	445.40	7.92	437.48
MW-05I	10/15/2012	445.45	445.45	14.95	430.50
MW-06	10/15/2012	446.87	446.87	6.76	440.11
MW-07	10/15/2012	437.98	437.98	5.72	432.26
MW-08	10/15/2012	440.02	440.02	6.58	433.44
MW-09R	10/15/2012	435.00	434.56	5.42	429.14
MW-10	10/15/2012	445.66	445.66	7.98	437.68
MW-11S	10/15/2012	433.57	433.57	1.80	431.77
MW-11I	10/15/2012	433.72	433.72	7.90	425.82
MW-12	10/15/2012	433.85	433.85	5.57	428.28
MW-13	10/15/2012	433.91	433.91	4.40	429.51
MW-14	10/15/2012	444.10	443.48	13.56	429.92
MW-15	10/15/2012	443.91	443.91	13.09	430.82
MW-16S	10/15/2012	453.23	453.23	23.76	429.47
MW-16I	10/15/2012	452.80	452.80	23.16	429.64
MW-17	10/15/2012	441.65	441.65	12.51	429.14
MW-18	10/15/2012	441.14	441.14	11.37	429.77
MW-19	10/15/2012	445.89	445.89	NM	NM
MW-20	10/15/2012	449.18	449.18	11.10	438.08
MW-21	10/15/2012	433.83	433.83	3.63	430.20
MW-22	10/15/2012	433.90	433.90	4.03	429.87
MW-23	10/15/2012	433.03	433.03	3.41	429.62
MW-24	10/15/2012	434.34	434.34	4.71	429.63
MW-25	10/15/2012	441.65	441.32	12.04	429.28
MW-26	10/15/2012	437.95	440.16	11.42	428.74
MW-27	10/15/2012	444.44	444.09	11.28	432.81
MW-28	10/15/2012	444.83	444.55	12.57	431.98
MW-29	10/15/2012	434.27	433.87	4.52	429.35
MW-30	10/15/2012	433.83	433.42	4.69	428.73
MW-31	10/15/2012	433.21	432.72	4.03	428.69
MW-32	10/15/2012	433.37	433.22	4.75	428.47
TW-01	10/15/2012	444.21	446.76	16.60	430.16
TW-02	10/15/2012	437.84	440.06	11.54	428.52
PZ-01	10/15/2012	434.54	434.30	2.88	431.42
PZ-03	10/15/2012	434.47	434.11	3.30	430.81
PZ-04	10/15/2012	432.78	432.20	2.67	429.53
PZ-05	10/15/2012	433.12	432.74	4.00	428.74
PZ-06	10/15/2012	433.11	432.82	3.22	429.60
PZ-07	10/15/2012	433.44	433.10	4.61	428.49
SG-02	10/15/2012	431.32	435.07	6.25	428.82
BLDG4-Pit	10/15/2012	--	434.56	2.46	432.10

Notes:
A water level measurement was not collected from MW-19 due to equipmpent covering access to the well.
All wells were surveyed to the New York Central state plane coordinate system (NAD 1983).
amsl - above mean sea level NM - not measured
BGS - below ground surface TIC - top of inner casing

Table 3-2a
Groundwater Sampling Results for SWMU 1 - Volatile Organic Compounds
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-14	MW-15	MW-16I	MW-16S	MW-17	MW-18	MW-26		MW-27	MW-28	TW-01		TW-02
Sample ID			MW-14-042712	MW-15-050312	MW-16I-042412	MW-16S-042412	MW-17-050312	MW-18-050812	DUP-GW-050212	MW-26-050212	MW-27-042612	MW-28050312	DUP-GW-050812	TW-01-050812	TW-02-050312
Sample Date	**CAS#**	**TOGS 1.1.1**	4/27/2012	5/3/2012	4/24/2012	4/24/2012	5/3/2012	5/8/2012	5/2/2012	5/2/2012	4/26/2012	5/3/2012	5/8/2012	5/8/2012	5/3/2012
Analyte															
Volatile Organic Compounds (ug/L)															
1,1,1-Trichloroethane	71-55-6	5	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,1,2,2-Tetrachloroethane	79-34-5	5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1,2-Trichloroethane	79-00-5	1	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,1-Dichloroethane	75-34-3	5	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U
1,1-Dichloroethene	75-35-4	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichlorobenzene	87-61-6	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene	120-82-1	5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2-Dibromo-3-chloropropane	96-12-8	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dibromoethane	106-93-4	--	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2-Dichlorobenzene	95-50-1	3	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U
1,2-Dichloroethane	107-06-2	0.6	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2-Dichloroethene, cis-	156-59-2	5	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2-Dichloroethene, trans-	156-60-5	5	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2-Dichloropropane	78-87-5	1	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,3,5-Trinitrobenzene	99-35-4	--	2.72 U	2.78 U	2.81 U	2.66 U	2.5 U	2.78 U	2.81 U	2.94 U	2.55 U	2.78 U	2.55 U	2.5 U	2.5 U
1,3-Dichlorobenzene	541-73-1	3	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,3-Dichloropropene, cis-	10061-01-5	0.4	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,3-Dichloropropene, trans-	10061-02-6	0.4	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dinitrobenzene	99-65-0	--	2.72 U	2.78 U	2.81 U	2.66 U	2.5 U	2.78 U	2.81 U	2.94 U	2.55 U	2.78 U	2.55 U	2.5 U	2.5 U
1,4-Dichlorobenzene	106-46-7	3	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U
2-Butanone	78-93-3	50	2.5 U	2.5 UJ	2.5 U	2.5 U	2.5 UJ	2.5 U	2.5 UJ	2.5 U	2.5 U	2.5 UJ	2.5 U	2.5 U	2.5 UJ
2-Hexanone	591-78-6	50	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
4-Methyl-2-pentanone	108-10-1	50	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Acetone	67-64-1	50	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Benzene	71-43-2	1	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U
Bromochloromethane	74-97-5	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Bromodichloromethane	75-27-4	50	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Bromoform	75-25-2	50	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromomethane	74-83-9	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 U
Carbon Disulfide	75-15-0	60	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon tetrachloride	56-23-5	5	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Chlorobenzene	108-90-7	5	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U
Chloroethane	75-00-3	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	67-66-3	7	**0.265 J**	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	**0.13 J**	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U
Chloromethane	74-87-3	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Cyclohexane	110-82-7	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dibromochloromethane	124-48-1	50	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Dichlorodifluoromethane	75-71-8	--	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Epichlorohydrin	106-89-8	5	0 UN	UN	0 UN	0 UN	UN	0 UN	0 UN	0 UN	0 UN	UN	0 UN	0 UN	UN
Ethylbenzene	100-41-4	5	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Isopropylbenzene	98-82-8	--	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Methyl Acetate	79-20-9	--	1 U	1 UJ	1 U	1 U	1 UJ	1 U	1 UJ	1 U	1 UJ	1 UJ	1 U	1 U	1 UJ
Methylcyclohexane	108-87-2	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methylene chloride	75-09-2	5	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Styrene	100-42-5	5	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U
tert-Butyl Methyl Ether	1634-04-4	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethene	127-18-4	5	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Toluene	108-88-3	5	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Trichloroethene	79-01-6	5	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Trichlorofluoromethane	75-69-4	--	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Trichlorotrifluoroethane	76-13-1	--	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Vinyl chloride	75-01-4	2	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U

Table 3-2a
Groundwater Sampling Results for SWMU 1 - Volatile Organic Compounds
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-14	MW-15	MW-16I	MW-16S	MW-17	MW-18	MW-26		MW-27	MW-28	TW-01		TW-02
Sample ID			MW-14-042712	MW-15-050312	MW-16I-042412	MW-16S-042412	MW-17-050312	MW-18-050812	DUP-GW-050212	MW-26-050212	MW-27-042612	MW-28050312	DUP-GW-050812	TW-01-050812	TW-02-050312
Sample Date	**CAS#**	**TOGS 1.1.1**	4/27/2012	5/3/2012	4/24/2012	4/24/2012	5/3/2012	5/8/2012	5/2/2012	5/2/2012	4/26/2012	5/3/2012	5/8/2012	5/8/2012	5/3/2012
Analyte															
Volatile Organic Compounds (ug/L)															
Xylene, m,p-	108-38-3/1	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Xylene, o-	95-47-6	--	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 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
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 3-2b
Groundwater Sampling Results for SWMU 1 - Semivolatile Organic Compounds
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-14	MW-15	MW-16I	MW-16S	MW-17	MW-18	MW-26		MW-27	MW-28	TW-01		TW-02
Sample ID			MW-14-042712	MW-15-050312	MW-16I-042412	MW-16S-042412	MW-17-050312	MW-18-050812	DUP-GW-050212	MW-26-050212	MW-27-042612	MW-28050312	DUP-GW-050812	TW-01-050812	TW-02-050312
Sample Date	CAS#	TOGS 1.1.1 GA*	4/27/2012	5/3/2012	4/24/2012	4/24/2012	5/3/2012	5/8/2012	5/2/2012	5/2/2012	4/26/2012	5/3/2012	5/8/2012	5/8/2012	5/3/2012
Analyte															
Semivolatile Organic Compounds (ug/L)															
1,4-Dioxane	123-91-1	--	5.43 U	5.56 U	5.62 U	5.32 U	5 U	5.56 U	5.62 U	5.88 U	5.1 UJ	5.56 U	5.1 U	5 U	5 U
2,4,5-Trichlorophenol	95-95-4	--	2.72 U	2.78 U	2.81 U	2.66 U	2.5 U	2.78 U	2.81 U	2.94 U	2.55 U	2.78 U	2.55 U	2.5 U	2.5 U
2,4,6-Trichlorophenol	88-06-2	--	2.72 U	2.78 U	2.81 U	2.66 U	2.5 U	2.78 U	2.81 U	2.94 U	2.55 U	2.78 U	2.55 U	2.5 U	2.5 U
2,4-Dichlorophenol	120-83-2	5	2.72 U	2.78 U	2.81 U	2.66 U	2.5 U	2.78 U	2.81 U	2.94 U	2.55 U	2.78 U	2.55 U	2.5 U	2.5 U
2,4-Dimethylphenol	105-67-9	50	2.72 U	2.78 U	2.81 U	2.66 U	2.5 U	2.78 U	2.81 U	2.94 U	2.55 U	2.78 U	2.55 U	2.5 U	2.5 U
2,4-Dinitrophenol	51-28-5	1	13.6 U	13.9 U	14 U	13.3 U	12.5 U	13.9 U	14 U	14.7 U	12.8 UJ	13.9 U	12.8 U	12.5 U	12.5 U
2,4-Dinitrotoluene	121-14-2	5	2.72 U	2.78 U	2.81 U	2.66 U	2.5 U	2.78 U	2.81 U	2.94 U	2.55 U	2.78 U	2.55 U	2.5 U	2.5 U
2,6-Dinitrotoluene	606-20-2	5	2.72 U	2.78 U	2.81 U	2.66 U	2.5 U	2.78 U	2.81 U	2.94 U	2.55 U	2.78 U	2.55 U	2.5 U	2.5 U
2-Chloronaphthalene	91-58-7	10	2.72 U	2.78 U	2.81 U	2.66 U	2.5 U	2.78 U	2.81 U	2.94 U	2.55 U	2.78 U	2.55 U	2.5 U	2.5 U
2-Chlorophenol	95-57-8	--	2.72 U	2.78 U	2.81 U	2.66 U	2.5 U	2.78 U	2.81 U	2.94 U	2.55 U	2.78 U	2.55 U	2.5 U	2.5 U
2-Methylnaphthalene	91-57-6	--	0.025 U	0.0275 U	0.0266 U	0.025 UJ	0.025 U	0.0278 U	0.0301 U	0.0281 U	0.025 U	0.0278 U	0.026 U	0.0255 U	0.025 U
2-Methylphenol	95-48-7	--	2.72 U	2.78 U	2.81 U	2.66 U	2.5 U	2.78 U	2.81 U	2.94 U	2.55 U	2.78 U	2.55 U	2.5 U	2.5 U
2-Nitroaniline	88-74-4	5	13.6 U	13.9 U	14 U	13.3 U	12.5 U	13.9 U	14 U	14.7 U	12.8 U	13.9 U	12.8 U	12.5 U	12.5 U
2-Nitrophenol	88-75-5	--	2.72 U	2.78 U	2.81 U	2.66 U	2.5 U	2.78 U	2.81 U	2.94 U	2.55 U	2.78 U	2.55 U	2.5 U	2.5 U
3,3'-Dichlorobenzidine	91-94-1	5	2.72 U	2.78 U	2.81 U	2.66 U	2.5 U	2.78 U	2.81 U	2.94 U	2.55 U	2.78 U	2.55 U	2.5 U	2.5 U
3-Nitroaniline	99-09-2	5	13.6 U	13.9 U	14 U	13.3 U	12.5 U	13.9 U	14 U	14.7 U	12.8 U	13.9 U	12.8 U	12.5 U	12.5 U
4-Bromophenyl phenyl ether	101-55-3	--	2.72 U	2.78 U	2.81 U	2.66 U	2.5 U	2.78 U	2.81 U	2.94 U	2.55 U	2.78 U	2.55 U	2.5 U	2.5 U
4-Chloroaniline	106-47-8	5	2.72 U	2.78 U	2.81 U	2.66 U	2.5 U	2.78 U	2.81 U	2.94 U	2.55 U	2.78 U	2.55 U	2.5 U	2.5 U
4-Methylphenol	106-44-5	--	2.72 U	2.78 U	2.81 U	2.66 U	2.5 U	2.78 U	2.81 U	2.94 U	2.55 U	2.78 U	2.55 U	2.5 U	2.5 U
4-Nitrophenol	100-02-7	--	13.6 U	13.9 U	14 U	13.3 U	12.5 U	13.9 U	14 U	14.7 U	12.8 U	13.9 U	12.8 U	12.5 U	12.5 U
Acenaphthene	83-32-9	20	0.025 U	0.0275 U	0.0266 U	**0.0301 J**	0.025 U	0.0278 U	0.0301 U	0.0281 U	0.025 U	**0.0292 J**	0.026 U	0.0255 U	0.025 U
Acenaphthylene	208-96-8	--	0.025 U	0.0275 U	0.0266 U	0.025 UJ	0.025 U	0.0278 U	0.0301 U	0.0281 U	0.025 U	**0.0418 J**	0.026 U	0.0255 U	0.025 U
Anthracene	120-12-7	50	0.025 U	0.0275 U	0.0266 U	0.025 UJ	0.025 U	0.0278 U	0.0301 U	0.0281 U	0.025 U	**0.0605**	0.026 U	0.0255 U	0.025 U
Benzo(a)anthracene	56-55-3	0.002	0.025 U	0.0275 U	0.0266 U	0.025 UJ	0.025 U	0.0278 U	0.0301 U	0.0281 U	0.025 U	**0.105**	0.026 U	**0.0338 J**	0.025 U
Benzo(a)pyrene	50-32-8	0.002	0.025 U	0.0275 U	0.0266 U	0.025 UJ	0.025 U	0.0278 U	0.0301 U	0.0281 U	0.025 U	**0.0978**	0.026 U	0.0255 U	0.025 U
Benzo(b)fluoranthene	205-99-2	0.002	0.025 U	0.0275 U	0.0266 U	0.025 UJ	0.025 U	0.0278 U	0.0301 U	0.0281 U	0.025 U	**0.0672**	0.026 U	0.0255 U	0.025 U
Benzo(g,h,i)perylene	191-24-2	--	0.025 U	0.0275 U	0.0266 U	0.025 UJ	0.025 U	0.0278 U	0.0301 U	0.0281 U	0.025 U	**0.0503 J**	0.026 U	0.0255 U	0.025 U
Benzo(k)fluoranthene	207-08-9	0.002	0.025 U	0.0275 U	0.0266 U	0.025 UJ	0.025 U	0.0278 U	0.0301 U	0.0281 U	0.025 U	**0.094**	0.026 U	**0.0276 J**	0.025 U
Benzoic Acid	65-85-0	--	10.9 U	**11.1 R**	11.2 UJ	10.6 UJ	**10 R**	11.1 U	**11.2 R**	**11.8 R**	10.2 UJ	**11.1 R**	10.2 U	10 U	**10 R**
Benzyl Alcohol	100-51-6	--	2.72 U	2.78 U	2.81 U	2.66 U	2.5 U	2.78 U	2.81 U	2.94 U	2.55 U	2.78 U	2.55 U	2.5 U	2.5 U
Biphenyl (diphenyl)	92-52-4	--	2.72 U	2.78 U	2.81 U	2.66 U	2.5 U	2.78 U	2.81 U	2.94 U	2.55 U	2.78 U	2.55 U	2.5 U	2.5 U
Bis (2-chloroethoxy) methane	111-91-1	5	2.72 U	2.78 U	2.81 U	2.66 U	2.5 U	2.78 U	2.81 U	2.94 U	2.55 U	2.78 U	2.55 U	2.5 U	2.5 U
Bis (2-chloroethyl) ether	111-44-4	1	2.72 U	2.78 U	2.81 U	2.66 U	2.5 U	2.78 U	2.81 U	2.94 U	2.55 U	2.78 U	2.55 U	2.5 U	2.5 U
Bis (2-ethylhexyl) phthalate	117-81-7	5	**4.61 J**	2.78 U	2.81 U	2.66 U	2.5 U	2.78 U	2.81 U	2.94 U	2.55 U	2.78 U	2.55 U	2.5 U	2.5 U
Butyl benzylphthalate	85-68-7	50	2.72 U	2.78 U	2.81 U	2.66 U	2.5 U	2.78 U	2.81 U	2.94 U	2.55 U	2.78 U	2.55 U	2.5 U	2.5 U
Carbazole	86-74-8	--	2.72 U	2.78 U	2.81 U	2.66 U	2.5 U	2.78 U	2.81 U	2.94 U	2.55 U	2.78 U	2.55 U	2.5 U	2.5 U
Chrysene	218-01-9	0.002	0.025 U	0.0275 U	0.0266 U	0.025 UJ	0.025 U	0.0278 U	0.0301 U	0.0281 U	0.025 U	**0.0957**	0.026 U	**0.036 J**	0.025 U
Di-n-butylphthalate	84-74-2	50	2.72 U	2.78 U	2.81 U	2.66 U	2.5 U	2.78 U	2.81 U	2.94 U	2.55 U	2.78 U	2.55 U	2.5 U	2.5 U
Di-n-octylphthalate	117-84-0	50	2.72 U	2.78 U	2.81 U	2.66 U	2.5 U	2.78 U	2.81 U	2.94 U	2.55 U	2.78 U	2.55 U	2.5 U	2.5 U
Dibenzo (a,h) anthracene	53-70-3	--	0.025 U	0.0275 U	0.0266 U	0.025 UJ	0.025 U	0.0278 U	0.0301 U	0.0281 U	0.025 U	0.0278 U	0.026 U	0.0255 U	0.025 U
Dibenzofuran	132-64-9	--	2.72 U	2.78 U	2.81 U	2.66 U	2.5 U	2.78 U	2.81 U	2.94 U	2.55 U	2.78 U	2.55 U	2.5 U	2.5 U
Diethyl phthalate	84-66-2	50	2.72 U	2.78 U	2.81 U	2.66 U	2.5 U	2.78 U	2.81 U	2.94 U	2.55 U	2.78 U	2.55 U	2.5 U	2.5 U
Dimethyl phthalate	131-11-3	50	2.72 U	2.78 U	2.81 U	2.66 U	2.5 U	2.78 U	2.81 U	2.94 U	2.55 U	2.78 U	2.55 U	2.5 U	2.5 U
Fluoranthene	206-44-0	50	0.025 U	0.0275 U	0.0266 U	0.025 UJ	0.025 U	0.0278 U	0.0301 U	0.0281 U	0.025 U	**0.183**	**0.0366 J**	**0.0761**	**0.0353 J**
Fluorene	86-73-7	50	0.025 U	0.0275 U	0.0266 U	0.025 UJ	0.025 U	0.0278 U	0.0301 U	0.0281 U	0.025 U	**0.0865**	0.026 U	0.0255 U	0.025 U
Hexachlorobenzene	118-74-1	0.04	2.72 U	2.78 U	2.81 U	2.66 U	2.5 U	2.78 U	2.81 U	2.94 U	2.55 U	2.78 U	2.55 U	2.5 U	2.5 U
Hexachlorobutadiene	87-68-3	0.5	2.72 U	2.78 U	2.81 U	2.66 U	2.5 U	2.78 U	2.81 U	2.94 U	2.55 U	2.78 U	2.55 U	2.5 U	2.5 U
Hexachlorocyclopentadiene	77-47-4	5	2.72 U	2.78 U	2.81 U	2.66 U	2.5 U	2.78 UJ	2.81 U	2.94 U	**2.55 R**	2.78 U	2.55 UJ	2.5 UJ	2.5 U
Hexachloroethane	67-72-1	5	2.72 U	2.78 U	2.81 U	2.66 U	2.5 U	2.78 U	2.81 U	2.94 U	2.55 U	2.78 U	2.55 U	2.5 U	2.5 U
Indeno (1,2,3-c,d) pyrene	193-39-5	0.002	0.025 U	0.0275 U	0.0266 U	0.025 UJ	0.025 U	0.0278 U	0.0301 U	0.0281 U	0.025 U	**0.0511 J**	0.026 U	0.0255 U	0.025 U
Isophorone	78-59-1	50	2.72 U	2.78 U	2.81 U	2.66 U	2.5 U	2.78 U	2.81 U	2.94 U	2.55 U	2.78 U	2.55 U	2.5 U	2.5 U
n-Nitrosodiphenylamine	86-30-6	50	2.72 U	2.78 U	2.81 U	2.66 U	2.5 U	2.78 U	2.81 U	2.94 U	2.55 U	2.78 U	2.55 U	2.5 U	2.5 U
Naphthalene	91-20-3	10	0.025 U	0.0275 U	0.0266 U	0.025 UJ	0.025 U	0.0278 U	0.0301 U	0.0281 U	0.025 U	**0.0308 J**	0.026 U	0.0255 U	0.025 U
Nitrobenzene	98-95-3	0.4	2.72 U	2.78 U	2.81 U	2.66 U	2.5 U	2.78 U	2.81 U	2.94 U	2.55 U	2.78 U	2.55 U	2.5 U	2.5 U
Pentachlorophenol	87-86-5	1	13.6 U	13.9 U	14 U	13.3 U	12.5 U	13.9 U	14 U	14.7 U	12.8 U	13.9 U	12.8 U	12.5 U	12.5 U
Phenanthrene	85-01-8	50	0.025 U	0.0275 U	0.0266 U	0.025 UJ	0.025 U	0.0278 U	0.0301 U	0.0281 U	0.025 U	**0.138**	0.026 U	**0.0432 J**	**0.0278 J**
Phenol	108-95-2	1	2.72 U	2.78 U	2.81 U	2.66 U	2.5 U	2.78 U	2.81 U	2.94 U	2.55 U	2.78 U	2.55 U	2.5 U	2.5 U
Pyrene	129-00-0	50	0.025 U	0.0275 U	0.0266 U	0.025 UJ	0.025 U	**0.0328 J**	0.0301 U	0.0281 U	0.025 U	**0.156**	**0.0283 J**	**0.0622**	**0.036 J**
Semivolatile Organic Compounds, TIC (ug/L)															
[1,4,5]Oxadithiepane	3886-40-6	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
1,1,2,2-Tetrachloroethane, TIC	79-34-5_TIC-SV	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	**214 N**	- -	- -
1,1,2-Trichloroethane, TIC	79-00-5_TIC-SV	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	**6.79 N**	- -	- -
1,2,4,5-Tetrathiane	291-22-5	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
1,2,4,6-Tetrathiepane	292-45-5	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
1,4,7,10,13,16-Hexaoxanonadecane,	1000163-64-0	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
1,4-Oxathiane	15980-15-1	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
108-11-2	108-11-2	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
2-Hexanol	626-93-7	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
2-Propanone, 1-chloro-	78-95-5	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
2615-15-8	2615-15-8	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
291-21-4	291-21-4	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -

Table 3-2b
Groundwater Sampling Results for SWMU 1 - Semivolatile Organic Compounds
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-14	MW-15	MW-16I	MW-16S	MW-17	MW-18	MW-26		MW-27	MW-28	TW-01		TW-02
Sample ID			MW-14-042712	MW-15-050312	MW-16I-042412	MW-16S-042412	MW-17-050312	MW-18-050812	DUP-GW-050212	MW-26-050212	MW-27-042612	MW-28050312	DUP-GW-050812	TW-01-050812	TW-02-050312
Sample Date	CAS#	TOGS 1.1.1 GA*	4/27/2012	5/3/2012	4/24/2012	4/24/2012	5/3/2012	5/8/2012	5/2/2012	5/2/2012	4/26/2012	5/3/2012	5/8/2012	5/8/2012	5/3/2012
Analyte															
Semivolatile Organic Compounds (ug/L)															
3-Mercaptopropionic acid	107-96-0	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
4-Methyl-2-pentanone, TIC	108-10-1_TIC-SV	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
590-90-9	590-90-9	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
60-24-2	60-24-2	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
96-27-5	96-27-5	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Acetic acid, mercapto-	68-11-1	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Acetic acid, mercapto-, methyl est	2365-48-2	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Benzene, TIC	71-43-2_TIC-SV	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Benzenepropanoic acid	501-52-0	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Cyclic octaatomic sulfur	10544-50-0	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Dimethyl sulfone	67-71-0	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Dimethyl trisulfide, TIC	3658-80-8_TIC-SV	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Dodecanoic acid	143-07-7	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	**4.83 N**	**4.64 N**	- -
Heptaethylene glycol	5617-32-3	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Hexadecenoic acid, Z-11-	2416-20-8	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Methyl isobutenyl ketone	141-79-7	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Morpholine	110-91-8	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
N,N-Diethyl-2-aminoethanol	100-37-8	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Octadecanoic acid	57-11-4	--	- -	- -	**9.55 N**	**7.81 N**	- -	- -	- -	- -	- -	- -	- -	- -	- -
Octaethylene glycol	1000289-34-2	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Palmitic acid	57-10-3	--	- -	- -	**8.44 N**	**5.98 N**	- -	**10.5 N**	- -	- -	- -	- -	**4.77 N**	**5.11 N**	- -
Pentane, 1,1'-oxybis-	693-65-2	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Propionic Acid	79-09-4	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Sulfur	13798-23-7	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
tert-Amyl methyl ether	994-05-8	--	- -	- -	**5.49 N**	**4.36 N**	- -	- -	**4.66 N**	- -	**4.09 N**	- -	- -	- -	- -
Unknown Semi-volatile 1	UNKNOWNSVOA1	--	**6.86 N**	**7.37 N**	- -	- -	**4.36 N**	**13.3 N**	- -	**5.31 N**	- -	**5.1 N**	- -	**6.51 N**	**5.03 N**
Unknown Semi-volatile 2	UNKNOWNSVOA2	--	**9.84 N**	**4.68 N**	**5 N**	**5.38 N**	**9.13 N**	**12.2 N**	**9 N**	**6 N**	**5.65 N**	**9.16 N**	**10.4 N**	**7.83 N**	**8.98 N**
Unknown Semi-volatile 3	UNKNOWNSVOA3	--	**7.14 N**	**12.7 N**	- -	- -	**4.74 N**	- -	**6.39 N**	**13.8 N**	- -	**8.13 N**	**6.21 N**	- -	**4.07 N**
Unknown Semi-volatile 4	UNKNOWNSVOA4	--	**5.72 N**	**4.92 N**	- -	- -	**14.9 N**	- -	**16.3 N**	**6.13 N**	- -	**12.6 N**	**15.6 N**	- -	**11.1 N**
Unknown Semi-volatile 5	UNKNOWNSVOA5	--	- -	**8.76 N**	**12.2 N**	**6.74 N**	**5.75 N**	- -	**6.25 N**	**8.65 N**	- -	**5.37 N**	**5.53 N**	- -	**4.76 N**
Unknown Semi-volatile 6	UNKNOWNSVOA6	--	- -	**10.9 N**	- -	**5.51 N**	**8.99 N**	- -	**11 N**	**12.7 N**	- -	- -	- -	- -	**17.6 N**
Unknown Semi-volatile 7	UNKNOWNSVOA7	--	- -	**6.54 N**	- -	**21.5 N**	**13.3 N**	- -	**14.9 N**	**7.33 N**	- -	- -	**7.46 N**	- -	**5.63 N**
Unknown Semi-volatile 8	UNKNOWNSVOA8	--	- -	**9.18 N**	- -	**6.95 N**	**7.57 N**	- -	**8.51 N**	**8.69 N**	- -	- -	**4.95 N**	- -	**11.8 N**
Unknown Semi-volatile 9	UNKNOWNSVOA9	--	- -	**9.03 N**	- -	**9.16 N**	**9 N**	- -	**11.6 N**	**5.07 N**	- -	- -	**9.01 N**	- -	**7.15 N**
Unknown Semi-volatile 10	UNKNOWNSVOA10	--	- -	**5.4 N**	- -	**9.43 N**	**10.3 N**	- -	**11.4 N**	**9.44 N**	- -	- -	**5.32 N**	- -	**4.39 N**
Unknown Semi-volatile 11	UNKNOWNSVOA11	--	- -	- -	- -	**6.88 N**	**6.25 N**	- -	**7.84 N**	**6.11 N**	- -	- -	**9.27 N**	- -	- -
Unknown Semi-volatile 12	UNKNOWNSVOA12	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	**7.74 N**	- -	- -
Unknown Semi-volatile 13	UNKNOWNSVOA13	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	**4.26 N**	- -	- -
Unknown Semi-volatile 14	UNKNOWNSVOA14	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	**9.74 N**	- -	- -
Unknown Semi-volatile 15	UNKNOWNSVOA15	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	**14.6 N**	- -	- -
Unknown Semi-volatile 16	UNKNOWNSVOA16	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	**9.6 N**	- -	- -
Unknown Semi-volatile 17	UNKNOWNSVOA17	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	**5.34 N**	- -	- -
Unknown Semi-volatile 18	UNKNOWNSVOA18	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Unknown Semi-volatile 19	UNKNOWNSVOA19	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Unknown Semi-volatile 20	UNKNOWNSVOA20	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -

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
J = The analyte was positively identified; the associated numerical value is the approximate concentration.
R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet the quality control criteria. The presence or absence of the analyte cannot be verified.
N = Detection of TICs
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 3-2c
Groundwater Sampling Results for SWMU 1 - Metals
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-14	MW-15	MW-16I	MW-16S	MW-17	MW-18	MW-26		MW-27	MW-28	TW-01		TW-02
Sample ID			MW-14-042712	MW-15-050312	MW-16I-042412	MW-16S-042412	MW-17-050312	MW-18-050812	DUP-GW-050212	MW-26-050212	MW-27-042612	MW-28050312	DUP-GW-050812	TW-01-050812	TW-02-050312
Sample Date	**CAS#**	**TOGS 1.1.1 GA***	4/27/2012	5/3/2012	4/24/2012	4/24/2012	5/3/2012	5/8/2012	5/2/2012	5/2/2012	4/26/2012	5/3/2012	5/8/2012	5/8/2012	5/3/2012
Analyte															
Metals (ug/L)															
Aluminum	7429-90-5	--	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	**334**	**173**	**148**	**191**
Antimony	7440-36-0	3	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	**0.643 J**	**1.67 J**	**1.75 J**	0.5 U
Arsenic	7440-38-2	25	**3.81**	**0.699 J**	**1.61**	**2.55**	**15**	**1.54 J**	**0.887 J**	**0.882 J**	**4.57**	**5.03**	**3.18**	**3.39**	**7.11**
Barium	7440-39-3	1000	**71.8**	**41.7**	**136**	**164**	**141**	**141**	**152**	**157**	**221**	**113**	**176**	**172**	**217**
Beryllium	7440-41-7	3	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Cadmium	7440-43-9	5	**0.792**	**0.373 J**	**2.49**	0.25 U	**0.638**	0.25 U	**1.09**	**0.99**	**0.409 J**	**1.24**	**0.379 J**	**0.483 J**	**0.873**
Calcium	7440-70-2	--	**132000**	**64300**	**139000**	**135000**	**249000**	**160000**	**97600**	**101000**	**247000**	**138000**	**250000**	**253000**	**285000**
Chromium	7440-47-3	50	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	**2.52 J**
Cobalt	7440-48-4	--	2.5 U	2.5 U	2.5 U	2.5 U	**7.83 J**	2.5 U	2.5 U	2.5 U	2.5 U	**49.9**	2.5 U	2.5 U	**3.71 J**
Copper	7440-50-8	200	**11.2 J**	**12.9 J**	5 U	5 U	5 U	5 U	5 U	5 U	5 U	**41**	5 U	5 U	5 U
Iron	7439-89-6	300	**308**	77 U	**9380**	**23600**	**6660**	**15700**	**659**	**619**	**26000**	**9150**	**44300**	**44300**	**11700**
Lead	7439-92-1	25	0.5 U	**2.26**	0.5 U	0.5 U	**0.623 J**	1 U	**0.503 J**	**0.595 J**	0.5 U	**3.23**	**16.5**	**15.9**	**21.8**
Magnesium	7439-95-4	35000	**19500**	**14200**	**28300**	**25000**	**45000**	**29800**	**18100**	**18800**	**41400**	**24700**	**61700**	**61500**	**68100**
Manganese	7439-96-5	300	**356**	**5.03 J**	**264**	**435**	**696**	**287**	**244**	**248**	**4140**	**1290**	**451**	**451**	**531**
Mercury	7439-97-6	0.7	0.1 U	0.1 U	**0.104 J**	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Nickel	7440-02-0	100	**17 J**	5 U	5 U	5 U	**5.77 J**	5 U	5 U	5 U	5 U	**15.1 J**	5 U	5 U	5 U
Potassium	7440-09-7	--	**3950**	**3160**	**4300**	**3970**	**6630**	**6670**	**3350**	**3600**	**12100**	**3330**	**10300**	**10400**	**5490**
Selenium	7782-49-2	10	**1.95**	**2.2**	**3.38**	**1.94**	**4.04**	**2.78**	**1.6**	**1.75**	**4.33**	**2.19**	**3.1**	**3.91**	**5.04**
Silver	7440-22-4	50	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Sodium	7440-23-5	20000	**44900**	**57600**	**67000 J**	**68900**	**75900**	**161000**	**62200**	**65800**	**84500 J**	**72300**	**59000**	**59100**	**144000**
Thallium	7440-28-0	0.5	**0.138 J**	0.1 U	**0.182 J**	**0.143 J**	**0.164 J**	**0.228 J**	0.1 U	0.1 U	0.1 U	0.1 U	**0.249 J**	**0.298 J**	0.1 U
Vanadium	7440-62-2	--	**12.5**	**7.94 J**	**5.64 J**	5 U	**9.76 J**	5 U	5 U	**9.07 J**	**7.31 J**	**9.66 J**	**7.15 J**	**7.52 J**	**10.8**
Zinc	7440-66-6	2000	**21.1**	**81.5**	**76.8**	5 U	**17.7 J**	5 U	**114**	**123**	5 U	**152**	**103**	**103**	**55.1**
Metals, Dissolved (ug/L)															
Aluminum, Dissolved	7429-90-5_D	--	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Antimony, Dissolved	7440-36-0_D	3	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	**0.55 J**	**1.04 J**	1 U	0.5 U
Arsenic, Dissolved	7440-38-2_D	25	**7.6**	**0.629 J**	**1.36**	**2.36**	**15.8**	**1.37 J**	**0.855 J**	**0.848 J**	**3.52**	**4.66**	**2.78**	**3.18**	**6.4**
Barium, Dissolved	7440-39-3_D	1000	**74.3**	**41.4**	**135**	**172**	**155**	**145**	**155**	**158**	**249**	**107**	**174**	**174**	**224**
Beryllium, Dissolved	7440-41-7_D	3	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Cadmium, Dissolved	7440-43-9_D	5	**0.878**	**0.376 J**	**0.53**	0.25 U	**0.784**	**0.401 J**	**1.03**	**0.943**	0.25 U	**0.945**	**0.363 J**	0.25 U	**0.724**
Calcium, Dissolved	7440-70-2_D	--	**129000**	**64400**	**139000**	**140000**	**252000**	**164000**	**98700**	**101000**	**273000**	**131000**	**255000**	**260000**	**285000**
Chromium, Dissolved	7440-47-3_D	50	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Cobalt, Dissolved	7440-48-4_D	--	2.5 U	2.5 U	2.5 U	2.5 U	**7.8 J**	2.5 U	2.5 U	2.5 U	2.5 U	**48**	2.5 U	2.5 U	**3.8 J**
Copper, Dissolved	7440-50-8_D	200	**9.01 J**	**12.3 J**	5 U	5 U	5 U	5 U	5 U	5 U	5 U	**12.3 J**	5 U	5 U	5 U
Iron, Dissolved	7439-89-6_D	300	**945**	25 U	**9000**	**24400**	**7280**	**15900**	**595**	**599**	**32400**	**8560**	**44400**	**44700**	**11700**
Lead, Dissolved	7439-92-1_D	25	0.5 U	**0.59 J**	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1 U	**0.84 J**
Magnesium, Dissolved	7439-95-4_D	35000	**20400**	**14200**	**27900**	**26200**	**46600**	**30000**	**18400**	**18700**	**44100**	**24600**	**62100**	**61200**	**67000**
Manganese, Dissolved	7439-96-5_D	300	**504**	5 U	**259**	**452**	**677**	**310**	**251**	**254**	**5520**	**1240**	**441**	**448**	**526**
Mercury, Dissolved	7439-97-6_D	0.7	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Nickel, Dissolved	7440-02-0_D	100	**15.6 J**	5 U	5 U	5 U	**6.26 J**	5 U	5 U	5 U	5 U	**13.9 J**	5 U	5 U	5 U
Potassium, Dissolved	7440-09-7_D	--	**3850**	**3070**	**4250**	**4210**	**6760**	**6830**	**3530**	**3500**	**13500**	**3220**	**10500**	**10800**	**5590**
Selenium, Dissolved	7782-49-2_D	10	**2.26**	**2.13**	**2.45**	**1.48**	**3.92**	**2.71**	**1.54**	**1.64**	**4.19**	**1.9**	**3.42**	**4.08**	**5**
Silver, Dissolved	7440-22-4_D	50	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Sodium, Dissolved	7440-23-5_D	20000	**44100**	**58100**	**67200**	**71000**	**79200**	**168000**	**63700**	**65000**	**102000**	**69900**	**61400**	**64700**	**150000**
Thallium, Dissolved	7440-28-0_D	0.5	**0.137 J**	0.1 U	**0.159 J**	**0.146 J**	**0.169 J**	**0.215 J**	0.1 U	0.1 U	0.1 U	0.1 U	**0.309 J**	**0.226 J**	0.1 U
Vanadium, Dissolved	7440-62-2_D	--	**10.2**	**6.98 J**	5 U	5 U	**8.81 J**	**6.46 J**	5 U	**8.2 J**	5 U	**7.15 J**	**6.18 J**	**6.19 J**	**10.1**
Zinc, Dissolved	7440-66-6_D	2000	**18.2 J**	**82.1**	**70.3**	5 U	**20.9**	5 U	**114**	**118**	5 U	**136**	**72.3**	**77.5**	**45.3**

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
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.
mg/L = Milligrams per Liter

Table 3-2d
Groundwater Sampling Results for SWMU 1 - General Chemistry
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

L

Location			MW-14	MW-15	MW-16I	MW-16S	MW-17	MW-18	MW-26		MW-27	MW-28	TW-01	TW-02
Sample ID			MW-14-042712	MW-15-050312	MW-16I-042412	MW-16S-042412	MW-17-050312	MW-18-050812	DUP-GW-050212	MW-26-050212	MW-27-042612	MW-28050312	TW-01-050812	TW-02-050312
Sample Date			4/27/2012	5/3/2012	4/24/2012	4/24/2012	5/3/2012	5/8/2012	5/2/2012	5/2/2012	4/26/2012	5/3/2012	5/8/2012	5/3/2012
Analyte	**CAS#**	**TOGS 1.1.1 GA***												
WCHEM (ug/L)														
Alkalinity	ALK	--	**342000**	**170000**	**412000**	**408000**	**616000**	**436000**	**263000**	**263000**	**726000**	**355000**	**661000**	**739000**
Nitrate	14797-55-8	--	**70**	**671 J**	**103**	**116**	**208 J**	**291 J**	25 U	25 U	500 U	**34 J**	25 UJ	**161 J**
Phosphorus	7723-14-0	--	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	**998 J**	100 U	100 UJ	100 U
Sulfate	14808-79-8	250000	**69900**	**53800 J**	**78500**	**56500**	**244000 J**	**62200**	**54400**	**46400**	**9450 J**	**68600**	**225000**	**277000**
Total Organic Carbon	TOC	--	**4000**	**4560**	**4930**	**3640**	**10700**	**2060**	**2520**	**4190**	**26700 J**	**3200**	**5620**	**7730**
Dissolved Gases (ug/L)														
Carbon Dioxide	124-38-9	--	**45000**	**39000**	**43000**	**39000**	**150000**	**83000**	**61000**	**73000**	**160000**	**160000**	**120000**	**140000**
Methane	74-82-8	--	**250**	**4.2 J**	**100**	**140**	**8.6**	**79**	**220**	**260**	**430 J**	**150**	**620**	**130**

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
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 3-3a
Groundwater Sampling Results for SWMU 7 - Volatile Organic Compounds
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-25
Sample ID			MW-25-050212
Sample Date	**CAS#**	**TOGS 1.1.1 GA***	5/2/2012
Analyte			
Volatile Organic Compounds (ug/L)			
1,1,1-Trichloroethane	71-55-6	5	0.25 U
1,1,2,2-Tetrachloroethane	79-34-5	5	0.2 U
1,1,2-Trichloroethane	79-00-5	1	0.25 U
1,1-Dichloroethane	75-34-3	5	0.125 U
1,1-Dichloroethene	75-35-4	5	0.5 U
1,2,3-Trichlorobenzene	87-61-6	--	0.5 U
1,2,4-Trichlorobenzene	120-82-1	5	0.2 U
1,2-Dibromo-3-chloropropane	96-12-8	--	1 U
1,2-Dibromoethane	106-93-4	--	0.25 U
1,2-Dichlorobenzene	95-50-1	3	0.125 U
1,2-Dichloroethane	107-06-2	0.6	0.25 U
1,2-Dichloroethene, cis-	156-59-2	5	0.25 U
1,2-Dichloroethene, trans-	156-60-5	5	0.25 U
1,2-Dichloropropane	78-87-5	1	0.2 U
1,3,5-Trinitrobenzene	99-35-4	--	2.78 U
1,3-Dichlorobenzene	541-73-1	3	0.25 U
1,3-Dichloropropene, cis-	10061-01-5	0.4	0.25 U
1,3-Dichloropropene, trans-	10061-02-6	0.4	0.5 U
1,3-Dinitrobenzene	99-65-0	--	2.78 U
1,4-Dichlorobenzene	106-46-7	3	0.125 U
2-Butanone	78-93-3	50	2.5 U
2-Hexanone	591-78-6	50	2.5 U
4-Methyl-2-pentanone	108-10-1	50	2.5 U
Acetone	67-64-1	50	2.5 U
Benzene	71-43-2	1	0.125 U
Bromochloromethane	74-97-5	--	0.2 U
Bromodichloromethane	75-27-4	50	0.25 U
Bromoform	75-25-2	50	0.5 U
Bromomethane	74-83-9	5	0.5 UJ
Carbon Disulfide	75-15-0	60	0.5 U
Carbon tetrachloride	56-23-5	5	0.25 U
Chlorobenzene	108-90-7	5	0.125 U
Chloroethane	75-00-3	5	0.5 U
Chloroform	67-66-3	7	**0.762 J**
Chloromethane	74-87-3	5	0.5 U
Cyclohexane	110-82-7	--	1 U
Dibromochloromethane	124-48-1	50	0.25 U
Dichlorodifluoromethane	75-71-8	--	0.25 U
Epichlorohydrin	106-89-8	5	0 UN
Ethylbenzene	100-41-4	5	0.25 U
Isopropylbenzene	98-82-8	--	0.25 U
Methyl Acetate	79-20-9	--	1 U
Methylcyclohexane	108-87-2	--	1 U
Methylene chloride	75-09-2	5	0.25 U
Styrene	100-42-5	5	0.125 U
tert-Butyl Methyl Ether	1634-04-4	--	0.5 U
Tetrachloroethene	127-18-4	5	0.25 U
Toluene	108-88-3	5	0.25 U
Trichloroethene	79-01-6	5	0.25 U
Trichlorofluoromethane	75-69-4	--	0.25 U
Trichlorotrifluoroethane	76-13-1	--	2 U
Vinyl chloride	75-01-4	2	0.25 U
Xylene, m,p-	108-38-3/1	--	0.5 U
Xylene, o-	95-47-6	--	0.25 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
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 3-3b
Groundwater Sampling Results for SWMU 7 - Semivolatile Organic Compounds
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-25
Sample ID			MW-25-050212
Sample Date	**CAS#**	**TOGS 1.1.1 GA***	5/2/2012
Analyte			
Semivolatile Organic Compounds (ug/L)			
1,4-Dioxane	123-91-1	--	5.56 U
2,4,5-Trichlorophenol	95-95-4	--	2.78 U
2,4,6-Trichlorophenol	88-06-2	--	2.78 U
2,4-Dichlorophenol	120-83-2	5	2.78 U
2,4-Dimethylphenol	105-67-9	50	2.78 U
2,4-Dinitrophenol	51-28-5	1	13.9 U
2,4-Dinitrotoluene	121-14-2	5	2.78 U
2,6-Dinitrotoluene	606-20-2	5	2.78 U
2-Chloronaphthalene	91-58-7	10	2.78 U
2-Chlorophenol	95-57-8	--	2.78 U
2-Methylnaphthalene	91-57-6	--	0.0298 U
2-Methylphenol	95-48-7	--	2.78 U
2-Nitroaniline	88-74-4	5	13.9 U
2-Nitrophenol	88-75-5	--	2.78 U
3,3'-Dichlorobenzidine	91-94-1	5	2.78 U
3-Nitroaniline	99-09-2	5	13.9 U
4-Bromophenyl phenyl ether	101-55-3	--	2.78 U
4-Chloroaniline	106-47-8	5	2.78 U
4-Methylphenol	106-44-5	--	2.78 U
4-Nitrophenol	100-02-7	--	13.9 U
Acenaphthene	83-32-9	20	0.0298 U
Acenaphthylene	208-96-8	--	0.0298 U
Anthracene	120-12-7	50	0.0298 U
Benzo(a)anthracene	56-55-3	0.002	0.0298 U
Benzo(a)pyrene	50-32-8	0.002	0.0298 U
Benzo(b)fluoranthene	205-99-2	0.002	0.0298 U
Benzo(g,h,i)perylene	191-24-2	--	0.0298 U
Benzo(k)fluoranthene	207-08-9	0.002	0.0298 U
Benzoic Acid	65-85-0	--	**11.1 R**
Benzyl Alcohol	100-51-6	--	2.78 U
Biphenyl (diphenyl)	92-52-4	--	2.78 U
Bis (2-chloroethoxy) methane	111-91-1	5	2.78 U
Bis (2-chloroethyl) ether	111-44-4	1	2.78 U
Bis (2-ethylhexyl) phthalate	117-81-7	5	2.78 U
Butyl benzylphthalate	85-68-7	50	2.78 U
Carbazole	86-74-8	--	2.78 U
Chrysene	218-01-9	0.002	0.0298 U
Di-n-butylphthalate	84-74-2	50	2.78 U
Di-n-octylphthalate	117-84-0	50	2.78 U
Dibenzo (a,h) anthracene	53-70-3	--	0.0298 U
Dibenzofuran	132-64-9	--	2.78 U
Diethyl phthalate	84-66-2	50	2.78 U
Dimethyl phthalate	131-11-3	50	2.78 U
Fluoranthene	206-44-0	50	0.0298 U
Fluorene	86-73-7	50	0.0298 U
Hexachlorobenzene	118-74-1	0.04	2.78 U
Hexachlorobutadiene	87-68-3	0.5	2.78 U
Hexachlorocyclopentadiene	77-47-4	5	2.78 U
Hexachloroethane	67-72-1	5	2.78 U
Indeno (1,2,3-c,d) pyrene	193-39-5	0.002	0.0298 U
Isophorone	78-59-1	50	2.78 U
n-Nitrosodiphenylamine	86-30-6	50	2.78 U
Naphthalene	91-20-3	10	0.0298 U
Nitrobenzene	98-95-3	0.4	2.78 U
Pentachlorophenol	87-86-5	1	13.9 U
Phenanthrene	85-01-8	50	0.0298 U
Phenol	108-95-2	1	2.78 U
Pyrene	129-00-0	50	0.0298 U
Semivolatile Organic Compounds, TIC (ug/L)			
[1,4,5]Oxadithiepane	3886-40-6	--	- -
1,1,2,2-Tetrachloroethane, TIC	79-34-5_TIC-SV	--	- -
1,1,2-Trichloroethane, TIC	79-00-5_TIC-SV	--	- -
1,2,4,5-Tetrathiane	291-22-5	--	- -
1,2,4,6-Tetrathiepane	292-45-5	--	- -
1,4,7,10,13,16-Hexaoxanonadecane,	1000163-64-0	--	- -
1,4-Oxathiane	15980-15-1	--	- -
108-11-2	108-11-2	--	- -
2-Hexanol	626-93-7	--	- -
2-Propanone, 1-chloro-	78-95-5	--	- -

Table 3-3b
Groundwater Sampling Results for SWMU 7 - Semivolatile Organic Compounds
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-25
Sample ID			MW-25-050212
Sample Date	**CAS#**	**TOGS 1.1.1 GA***	5/2/2012
Analyte			
Semivolatile Organic Compounds (ug/L)			
2615-15-8	2615-15-8	--	- -
291-21-4	291-21-4	--	- -
3-Mercaptopropionic acid	107-96-0	--	- -
4-Methyl-2-pentanone, TIC	108-10-1_TIC-SV	--	- -
590-90-9	590-90-9	--	**39.8 N**
60-24-2	60-24-2	--	- -
96-27-5	96-27-5	--	- -
Acetic acid, mercapto-	68-11-1	--	- -
Acetic acid, mercapto-, methyl est	2365-48-2	--	- -
Benzene, TIC	71-43-2_TIC-SV	--	- -
Benzenepropanoic acid	501-52-0	--	- -
Cyclic octaatomic sulfur	10544-50-0	--	- -
Dimethyl sulfone	67-71-0	--	- -
Dimethyl trisulfide, TIC	3658-80-8_TIC-SV	--	- -
Dodecanoic acid	143-07-7	--	- -
Heptaethylene glycol	5617-32-3	--	- -
Hexadecenoic acid, Z-11-	2416-20-8	--	- -
Methyl isobutenyl ketone	141-79-7	--	- -
Morpholine	110-91-8	--	- -
N,N-Diethyl-2-aminoethanol	100-37-8	--	- -
Octadecanoic acid	57-11-4	--	- -
Octaethylene glycol	1000289-34-2	--	- -
Palmitic acid	57-10-3	--	- -
Pentane, 1,1'-oxybis-	693-65-2	--	- -
Propionic Acid	79-09-4	--	- -
Sulfur	13798-23-7	--	- -
tert-Amyl methyl ether	994-05-8	--	- -
Unknown Semi-volatile 1	UNKNOWNSVOA1	--	**5.69 N**
Unknown Semi-volatile 2	UNKNOWNSVOA2	--	- -
Unknown Semi-volatile 3	UNKNOWNSVOA3	--	**11 N**
Unknown Semi-volatile 4	UNKNOWNSVOA4	--	**15.1 N**
Unknown Semi-volatile 5	UNKNOWNSVOA5	--	**56.5 N**
Unknown Semi-volatile 6	UNKNOWNSVOA6	--	**14.1 N**
Unknown Semi-volatile 7	UNKNOWNSVOA7	--	**7.56 N**
Unknown Semi-volatile 8	UNKNOWNSVOA8	--	**12 N**
Unknown Semi-volatile 9	UNKNOWNSVOA9	--	**4.6 N**
Unknown Semi-volatile 10	UNKNOWNSVOA10	--	**5.53 N**
Unknown Semi-volatile 11	UNKNOWNSVOA11	--	- -
Unknown Semi-volatile 12	UNKNOWNSVOA12	--	- -
Unknown Semi-volatile 13	UNKNOWNSVOA13	--	- -
Unknown Semi-volatile 14	UNKNOWNSVOA14	--	- -
Unknown Semi-volatile 15	UNKNOWNSVOA15	--	- -
Unknown Semi-volatile 16	UNKNOWNSVOA16	--	- -
Unknown Semi-volatile 17	UNKNOWNSVOA17	--	- -
Unknown Semi-volatile 18	UNKNOWNSVOA18	--	- -
Unknown Semi-volatile 19	UNKNOWNSVOA19	--	- -
Unknown Semi-volatile 20	UNKNOWNSVOA20	--	- -

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
R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet the quality control criteria. The presence or absence of the analyte cannot be verified.
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
ug/L = Micrograms per Liter
N = Detection of TICs

Table 3-3c
Groundwater Sampling Results for SWMU 7 - Metals
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-25
Sample ID			MW-25-050212
Sample Date	**CAS#**	**TOGS 1.1.1 GA***	5/2/2012
Analyte			
Metals (ug/L)			
Aluminum	7429-90-5	--	50 U
Antimony	7440-36-0	3	**0.713 J**
Arsenic	7440-38-2	25	**0.639 J**
Barium	7440-39-3	1000	**101**
Beryllium	7440-41-7	3	0.5 U
Cadmium	7440-43-9	5	**1.22**
Calcium	7440-70-2	--	**72000**
Chromium	7440-47-3	50	2.5 U
Cobalt	7440-48-4	--	2.5 U
Copper	7440-50-8	200	**20.2**
Iron	7439-89-6	300	**551**
Lead	7439-92-1	25	**8.33**
Magnesium	7439-95-4	35000	**13000**
Manganese	7439-96-5	300	**27.5**
Mercury	7439-97-6	0.7	0.1 U
Nickel	7440-02-0	100	5 U
Potassium	7440-09-7	--	**2870**
Selenium	7782-49-2	10	**2.34**
Silver	7440-22-4	50	5 U
Sodium	7440-23-5	20000	**55000**
Thallium	7440-28-0	0.5	0.1 U
Vanadium	7440-62-2	--	**5.52 J**
Zinc	7440-66-6	2000	**306**
Metals, Dissolved (ug/L)			
Aluminum, Dissolved	7429-90-5_D	--	50 U
Antimony, Dissolved	7440-36-0_D	3	**0.688 J**
Arsenic, Dissolved	7440-38-2_D	25	**0.52 J**
Barium, Dissolved	7440-39-3_D	1000	**102**
Beryllium, Dissolved	7440-41-7_D	3	0.5 U
Cadmium, Dissolved	7440-43-9_D	5	**1.21**
Calcium, Dissolved	7440-70-2_D	--	**71900**
Chromium, Dissolved	7440-47-3_D	50	2.5 U
Cobalt, Dissolved	7440-48-4_D	--	2.5 U
Copper, Dissolved	7440-50-8_D	200	**15.1 J**
Iron, Dissolved	7439-89-6_D	300	**378**
Lead, Dissolved	7439-92-1_D	25	**2.55**
Magnesium, Dissolved	7439-95-4_D	35000	**13200**
Manganese, Dissolved	7439-96-5_D	300	**27**
Mercury, Dissolved	7439-97-6_D	0.7	0.1 U
Nickel, Dissolved	7440-02-0_D	100	5 U
Potassium, Dissolved	7440-09-7_D	--	**2870**
Selenium, Dissolved	7782-49-2_D	10	**1.98**
Silver, Dissolved	7440-22-4_D	50	5 U
Sodium, Dissolved	7440-23-5_D	20000	**56400**
Thallium, Dissolved	7440-28-0_D	0.5	0.1 U
Vanadium, Dissolved	7440-62-2_D	--	**6.49 J**
Zinc, Dissolved	7440-66-6_D	2000	**290**

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
J = The analyte was positively identified; the associated numerical value is the approximate concentration.
ug/L = Micrograms per Liter
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

Table 3-3d
Groundwater Sampling Results for SWMU 7 - General Chemistry
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-25
Sample ID			MW-25-050212
Sample Date	**CAS#**	**TOGS 1.1.1 GA***	5/2/2012
Analyte			
WCHEM (ug/L)			
Alkalinity	ALK	--	**182000**
Nitrate	14797-55-8	--	**844**
Phosphorus	7723-14-0	--	100 U
Sulfate	14808-79-8	250000	**38000**
Total Organic Carbon	TOC	--	**3110**
Dissolved Gases (ug/L)			
Carbon Dioxide	124-38-9	--	**48000**
Methane	74-82-8	--	**57**

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
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
ug/L = Micrograms per Liter
During the April 2010 and April 2011 groundwater sampling events a Hach Kit was used to measure Ferrous Iron

Table 3-4a
Groundwater Sampling Results for AOC B - Volatile Organic Compounds
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-01	MW-02		MW-03	MW-22	MW-23	MW-32	PZ-01	PZ-03	PZ-04	PZ-05	PZ-06	PZ-07
Sample ID			MW-01-050112	Dup-GW-050712	MW-02-050712	MW-03-050712	MW-22-042512	MW-23-042512	MW-32-042512	PZ-01-050412	PZ-03-050212	PZ-04-050212	PZ-05-050212	PZ-06-050712	PZ-07-050812
Sample Date	**CAS#**	**TOGS 1.1.1 GA***	5/1/2012	5/7/2012	5/7/2012	5/7/2012	4/25/2012	4/25/2012	4/25/2012	5/4/2012	5/2/2012	5/9/2012	5/9/2012	5/7/2012	5/8/2012
Analyte															
Volatile Organic Compounds (ug/L)															
1,1,1-Trichloroethane	71-55-6	5	0.25 U	1.25 U	1.25 U	12.5 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 UJ	0.25 UJ	0.25 U	0.25 U
1,1,2,2-Tetrachloroethane	79-34-5	5	0.2 U	1 U	1 U	10 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 UJ	0.2 UJ	0.2 U	0.2 U
1,1,2-Trichloroethane	79-00-5	1	0.25 U	1.25 U	1.25 U	12.5 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 UJ	0.25 UJ	0.25 U	0.25 U
1,1-Dichloroethane	75-34-3	5	0.125 U	0.625 U	0.625 U	6.25 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 UJ	0.125 UJ	0.125 U	0.125 U
1,1-Dichloroethene	75-35-4	5	0.5 U	2.5 U	2.5 U	25 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 U	0.5 U
1,2,3-Trichlorobenzene	87-61-6	--	0.5 U	2.5 U	2.5 U	25 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 U	0.5 U
1,2,4-Trichlorobenzene	120-82-1	5	0.2 U	1 U	1 U	10 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 UJ	0.2 UJ	0.2 U	0.2 U
1,2-Dibromo-3-chloropropane	96-12-8	--	1 U	5 U	5 U	50 U	1 U	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 U	1 U
1,2-Dibromoethane	106-93-4	--	0.25 U	1.25 U	1.25 U	12.5 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 UJ	0.25 UJ	0.25 U	0.25 U
1,2-Dichlorobenzene	95-50-1	3	0.125 U	0.625 U	0.625 U	6.25 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 UJ	0.125 UJ	0.125 U	0.125 U
1,2-Dichloroethane	107-06-2	0.6	0.25 U	1.25 U	1.25 U	12.5 U	0.25 U	0.25 U	0.25 U	0.25 U	**0.77 J**	0.25 UJ	0.25 UJ	0.25 U	0.25 U
1,2-Dichloroethene, cis-	156-59-2	5	0.25 U	1.25 U	1.25 U	**20.3 J**	0.25 U	0.25 U	0.25 U	**8.97**	0.25 U	0.25 UJ	0.25 UJ	0.25 U	0.25 U
1,2-Dichloroethene, trans-	156-60-5	5	0.25 U	1.25 U	1.25 U	12.5 U	0.25 U	0.25 U	0.25 U	**0.406 J**	0.25 U	0.25 UJ	0.25 UJ	0.25 U	0.25 U
1,2-Dichloropropane	78-87-5	1	0.2 U	1 U	1 U	10 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 UJ	0.2 UJ	0.2 U	0.2 U
1,3,5-Trinitrobenzene	99-35-4	--	2.98 U	5.49 U	5.43 U	27.8 U	2.5 U	2.75 U	2.5 U	3.16 U	2.87 U	2.94 U	2.5 U	7.94 U	2.69 U
1,3-Dichlorobenzene	541-73-1	3	0.25 U	1.25 U	1.25 U	12.5 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 UJ	0.25 UJ	0.25 U	0.25 U
1,3-Dichloropropene, cis-	10061-01-5	0.4	0.25 U	1.25 U	1.25 U	12.5 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 UJ	0.25 UJ	0.25 U	0.25 U
1,3-Dichloropropene, trans-	10061-02-6	0.4	0.5 UJ	2.5 U	2.5 U	25 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 U	0.5 U
1,3-Dinitrobenzene	99-65-0	--	2.98 U	5.49 U	5.43 U	27.8 U	2.5 U	2.75 U	2.5 U	3.16 U	2.87 U	2.94 U	2.5 U	7.94 U	2.69 U
1,4-Dichlorobenzene	106-46-7	3	0.125 U	0.625 U	0.625 U	6.25 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 UJ	0.125 UJ	0.125 U	0.125 U
2-Butanone	78-93-3	50	2.5 U	12.5 U	12.5 U	125 U	2.5 U	2.5 U	2.5 U	2.5 UJ	2.5 U	2.5 UJ	**4.42 J**	2.5 U	2.5 U
2-Hexanone	591-78-6	50	2.5 U	12.5 U	12.5 U	125 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 UJ	2.5 UJ	2.5 U	2.5 U
4-Methyl-2-pentanone	108-10-1	50	2.5 U	**666**	**635**	**22500**	2.5 U	2.5 U	**49.7**	2.5 U	2.5 U	**44.2 J**	**531 J**	**159**	2.5 U
Acetone	67-64-1	50	2.5 U	**20.6 J**	**23 J**	**1520**	2.5 U	2.5 U	**4.38 J**	**4.16 J**	2.5 U	2.5 UJ	**27.1 J**	**6.88 J**	2.5 U
Benzene	71-43-2	1	0.125 U	0.625 U	0.625 U	6.25 U	0.125 U	**0.129 J**	0.125 U	0.125 U	0.125 U	**0.165 J**	**0.278 J**	0.125 U	0.125 U
Bromochloromethane	74-97-5	--	0.2 U	1 U	1 U	10 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 UJ	0.2 UJ	0.2 U	0.2 U
Bromodichloromethane	75-27-4	50	0.25 U	1.25 U	1.25 U	12.5 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 UJ	0.25 UJ	0.25 U	0.25 U
Bromoform	75-25-2	50	0.5 U	2.5 U	2.5 U	25 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 U	0.5 U
Bromomethane	74-83-9	5	0.5 U	2.5 UJ	2.5 UJ	25 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 UJ
Carbon Disulfide	75-15-0	60	0.5 U	**151**	**155**	**50.3**	0.5 U	**5.83**	**3.13**	0.5 U	0.5 U	**16.3 J**	**73.8 J**	0.5 U	0.5 U
Carbon tetrachloride	56-23-5	5	0.25 U	1.25 U	1.25 U	12.5 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 UJ	0.25 UJ	0.25 U	0.25 U
Chlorobenzene	108-90-7	5	0.125 U	0.625 U	0.625 U	6.25 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 UJ	0.125 UJ	0.125 U	**0.863 J**
Chloroethane	75-00-3	5	0.5 U	2.5 U	2.5 U	25 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 U	0.5 U
Chloroform	67-66-3	7	**1.34**	**41.7**	**41.4**	**7.39 J**	**0.541 J**	0.125 U	0.125 U	0.125 U	0.125 U	**25.5 J**	**27.2 J**	0.125 U	0.125 U
Chloromethane	74-87-3	5	0.5 U	2.5 U	2.5 U	25 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 U	0.5 U
Cyclohexane	110-82-7	--	1 U	5 U	5 U	50 U	1 U	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 U	1 U
Dibromochloromethane	124-48-1	50	0.25 U	1.25 U	1.25 U	12.5 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 UJ	0.25 UJ	0.25 U	0.25 U
Dichlorodifluoromethane	75-71-8	--	0.25 U	1.25 U	1.25 U	12.5 U	0.25 U	0.25 U	0.25 UJ	0.25 U	0.25 U	0.25 UJ	0.25 UJ	0.25 U	0.25 U
Epichlorohydrin	106-89-8	5	UN	UN	UN	UN	UN	UN	UN	UN	UN	UN	UN	UN	UN
Ethylbenzene	100-41-4	5	0.25 U	1.25 U	1.25 U	12.5 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 UJ	**0.294 J**	0.25 U	0.25 U
Isopropylbenzene	98-82-8	--	0.25 U	1.25 U	1.25 U	12.5 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 UJ	0.25 UJ	0.25 U	0.25 U
Methyl Acetate	79-20-9	--	1 U	5 U	5 U	50 U	1 U	1 U	1 U	1 UJ	1 U	1 UJ	1 UJ	1 U	1 U
Methylcyclohexane	108-87-2	--	1 U	5 U	5 U	50 U	1 U	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 U	1 U
Methylene chloride	75-09-2	5	0.25 U	**5.51 J**	**5.97 J**	**35.5 J**	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	**8.46 J**	**6.89 J**	0.25 U	0.25 U
Styrene	100-42-5	5	0.125 U	0.625 U	0.625 U	6.25 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 UJ	0.125 UJ	0.125 U	0.125 U
tert-Butyl Methyl Ether	1634-04-4	--	0.5 U	2.5 U	2.5 U	25 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 U	0.5 U
Tetrachloroethene	127-18-4	5	0.25 U	1.25 U	1.25 U	12.5 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 UJ	0.25 UJ	0.25 U	0.25 U
Toluene	108-88-3	5	0.25 U	**12.4**	**12**	**55.3**	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	**2.1 J**	**14.7 J**	0.25 U	0.25 U
Trichloroethene	79-01-6	5	0.25 U	1.25 U	1.25 U	12.5 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 UJ	0.25 UJ	0.25 U	0.25 U
Trichlorofluoromethane	75-69-4	--	0.25 U	1.25 U	1.25 U	12.5 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 UJ	0.25 UJ	0.25 U	0.25 U
Trichlorotrifluoroethane	76-13-1	--	2 U	10 U	10 U	100 U	2 U	2 U	2 U	2 U	2 U	2 UJ	2 UJ	2 U	2 U
Vinyl chloride	75-01-4	2	0.25 U	1.25 U	1.25 U	12.5 U	0.25 U	0.25 U	0.25 U	**0.679 J**	0.25 U	0.25 UJ	0.25 UJ	0.25 U	0.25 U
Xylene, m,p-	108-38-3/1	--	0.5 U	**3.73 J**	**3.64 J**	25 U	0.5 U	**0.683 J**	0.5 U	0.5 U	0.5 U	**1.27 J**	**3.95 J**	0.5 U	0.5 U
Xylene, o-	95-47-6	--	0.25 U	1.25 U	1.25 U	12.5 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	**0.413 J**	**1.36 J**	0.25 U	0.25 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
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.
UN = The analyte is a Tentatively Identified Compound, and was not detected above the reported sample quantitation limit.
ug/L = micrograms per liter

Table 3-4b
Groundwater Sampling Results for AOC B - Semivolatile Organic Compounds
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-01	MW-02		MW-03	MW-22	MW-23	MW-32	PZ-01	PZ-03	PZ-04	PZ-05	PZ-06	PZ-07
Sample ID			MW-01-050112	Dup-GW-050712	MW-02-050712	MW-03-050712	MW-22-042512	MW-23-042512	MW-32-042512	PZ-01-050412	PZ-03-050212	PZ-04-050212	PZ-05-050212	PZ-06-050712	PZ-07-050812
Sample Date	**CAS#**	**TOGS 1.1.1 GA***	5/1/2012	5/7/2012	5/7/2012	5/7/2012	4/25/2012	4/25/2012	4/25/2012	5/4/2012	5/2/2012	5/9/2012	5/9/2012	5/7/2012	5/8/2012
Analyte															
Semivolatile Organic Compounds (ug/L)															
1,4-Dioxane	123-91-1	--	5.95 U	11 U	10.9 U	55.6 UJ	5 U	5.49 U	5 U	6.33 U	5.75 U	5.88 U	5 U	15.9 U	5.38 U
2,4,5-Trichlorophenol	95-95-4	--	2.98 U	5.49 U	5.43 U	27.8 U	2.5 U	2.75 U	2.5 U	3.16 U	2.87 U	2.94 U	2.5 U	7.94 U	2.69 U
2,4,6-Trichlorophenol	88-06-2	--	2.98 U	5.49 U	5.43 U	27.8 U	2.5 U	2.75 U	2.5 U	3.16 U	2.87 U	2.94 U	2.5 U	7.94 U	2.69 U
2,4-Dichlorophenol	120-83-2	5	2.98 U	5.49 U	5.43 U	27.8 U	2.5 U	2.75 U	2.5 U	3.16 U	2.87 U	2.94 U	2.5 U	7.94 U	2.69 U
2,4-Dimethylphenol	105-67-9	50	2.98 U	5.49 U	5.43 U	27.8 U	2.5 U	2.75 U	2.5 U	3.16 U	2.87 U	2.94 U	2.5 U	7.94 U	2.69 U
2,4-Dinitrophenol	51-28-5	1	14.9 U	27.5 U	27.2 U	139 U	12.5 U	13.7 U	12.5 U	15.8 U	14.4 U	14.7 U	12.5 U	39.7 U	13.4 U
2,4-Dinitrotoluene	121-14-2	5	2.98 U	5.49 U	5.43 U	27.8 U	2.5 U	2.75 U	2.5 U	3.16 U	2.87 U	2.94 U	2.5 U	7.94 U	2.69 U
2,6-Dinitrotoluene	606-20-2	5	2.98 U	5.49 U	5.43 U	27.8 U	2.5 U	2.75 U	2.5 U	3.16 U	2.87 U	2.94 U	2.5 U	7.94 U	2.69 U
2-Chloronaphthalene	91-58-7	10	2.98 U	5.49 U	5.43 U	27.8 U	2.5 U	2.75 U	2.5 U	3.16 U	2.87 U	2.94 U	2.5 U	7.94 U	2.69 U
2-Chlorophenol	95-57-8	--	2.98 U	5.49 U	5.43 U	27.8 UJ	2.5 U	2.75 U	2.5 U	3.16 U	2.87 U	2.94 U	2.5 U	7.94 U	2.69 U
2-Methylnaphthalene	91-57-6	--	0.0273 U	0.0263 U	0.0263 U	0.0269 U	0.025 U	0.0255 U	0.025 U	0.025 U	0.025 U	0.0294 U	0.0266 U	0.0342 U	0.0269 UJ
2-Methylphenol	95-48-7	--	2.98 U	5.49 U	5.43 U	27.8 UJ	2.5 U	2.75 U	2.5 U	3.16 U	2.87 U	2.94 U	2.5 U	7.94 U	2.69 U
2-Nitroaniline	88-74-4	5	14.9 U	27.5 U	27.2 U	139 U	12.5 U	13.7 U	12.5 U	15.8 U	14.4 U	14.7 U	12.5 U	39.7 U	13.4 U
2-Nitrophenol	88-75-5	--	2.98 U	5.49 U	5.43 U	27.8 U	2.5 U	2.75 U	2.5 U	3.16 U	2.87 U	2.94 U	2.5 U	7.94 U	2.69 U
3,3'-Dichlorobenzidine	91-94-1	5	2.98 U	5.49 U	5.43 U	**47.4 J**	2.5 U	2.75 U	2.5 U	3.16 U	2.87 U	2.94 U	2.5 U	7.94 U	2.69 U
3-Nitroaniline	99-09-2	5	14.9 U	27.5 U	27.2 U	139 U	12.5 U	13.7 U	12.5 U	15.8 U	14.4 U	14.7 U	12.5 U	39.7 U	13.4 U
4-Bromophenyl phenyl ether	101-55-3	--	2.98 U	5.49 U	5.43 U	27.8 U	2.5 U	2.75 U	2.5 U	3.16 U	2.87 U	2.94 U	2.5 U	7.94 U	2.69 U
4-Chloroaniline	106-47-8	5	2.98 U	5.49 U	5.43 U	27.8 U	2.5 U	2.75 U	2.5 U	3.16 U	2.87 U	2.94 U	2.5 U	7.94 U	2.69 U
4-Methylphenol	106-44-5	--	2.98 U	5.49 U	5.43 U	27.8 UJ	2.5 U	2.75 U	2.5 U	3.16 U	2.87 U	2.94 U	2.5 U	7.94 U	2.69 U
4-Nitrophenol	100-02-7	--	14.9 U	27.5 U	27.2 U	139 U	12.5 U	13.7 U	12.5 U	15.8 U	14.4 U	14.7 U	12.5 U	39.7 U	13.4 U
Acenaphthene	83-32-9	20	0.0273 U	0.0263 U	0.0263 U	0.0269 U	0.025 U	0.0255 U	0.025 U	0.025 U	0.025 U	0.0294 U	0.0266 U	0.0342 U	**0.164 J**
Acenaphthylene	208-96-8	--	0.0273 U	0.0263 U	0.0263 U	0.0269 U	0.025 U	0.0255 U	0.025 U	0.025 U	0.025 U	0.0294 U	0.0266 U	0.0342 U	0.0269 UJ
Anthracene	120-12-7	50	0.0273 U	**0.119**	**0.106**	0.0269 U	0.025 U	0.0255 U	0.025 U	0.025 U	0.025 U	0.0294 U	**0.058**	0.0342 U	**0.203 J**
Benzo(a)anthracene	56-55-3	0.002	0.0273 U	0.0263 U	0.0263 U	0.0269 U	0.025 U	0.0255 U	0.025 U	0.025 U	0.025 U	0.0294 U	0.0266 U	**0.0614 J**	**0.0606 J**
Benzo(a)pyrene	50-32-8	0.002	0.0273 U	0.0263 U	0.0263 U	0.0269 U	0.025 U	0.0255 U	0.025 U	0.025 U	0.025 U	0.0294 U	0.0266 U	**0.0645 J**	**0.0274 J**
Benzo(b)fluoranthene	205-99-2	0.002	0.0273 U	0.0263 U	0.0263 U	0.0269 U	0.025 U	0.0255 U	0.025 U	0.025 U	0.025 U	0.0294 U	0.0266 U	**0.0716**	**0.0321 J**
Benzo(g,h,i)perylene	191-24-2	--	0.0273 U	0.0263 U	0.0263 U	0.0269 U	0.025 U	0.0255 U	0.025 U	0.025 U	0.025 U	0.0294 U	0.0266 U	**0.0547 J**	0.0269 UJ
Benzo(k)fluoranthene	207-08-9	0.002	0.0273 U	0.0263 U	0.0263 U	0.0269 U	0.025 U	0.0255 U	0.025 U	0.025 U	0.025 U	0.0294 U	0.0266 U	**0.0631 J**	**0.0286 J**
Benzoic Acid	65-85-0	--	**11.9 R**	22 UJ	21.7 UJ	**1230 J**	10 UJ	11 UJ	10 UJ	**12.7 R**	**11.5 R**	**11.8 R**	**10 R**	31.7 UJ	10.8 U
Benzyl Alcohol	100-51-6	--	2.98 U	5.49 U	5.43 U	27.8 UJ	2.5 U	2.75 U	2.5 U	3.16 U	2.87 U	2.94 U	2.5 U	7.94 U	2.69 U
Biphenyl (diphenyl)	92-52-4	--	2.98 U	5.49 U	5.43 U	27.8 U	2.5 U	2.75 U	2.5 U	3.16 U	2.87 U	2.94 U	2.5 U	7.94 U	2.69 U
Bis (2-chloroethoxy) methane	111-91-1	5	2.98 U	5.49 U	5.43 U	27.8 U	2.5 U	2.75 U	2.5 U	3.16 U	2.87 U	2.94 U	2.5 U	7.94 U	2.69 U
Bis (2-chloroethyl) ether	111-44-4	1	2.98 U	5.49 U	5.43 U	27.8 UJ	2.5 U	2.75 U	2.5 U	3.16 U	2.87 U	2.94 U	2.5 U	7.94 U	2.69 U
Bis (2-ethylhexyl) phthalate	117-81-7	5	**5.68 J**	5.49 U	5.43 U	27.8 U	2.5 U	2.75 U	2.5 U	**3.85 J**	2.87 U	2.94 U	2.5 U	7.94 U	2.69 U
Butyl benzylphthalate	85-68-7	50	2.98 U	5.49 U	5.43 U	27.8 U	2.5 U	2.75 U	2.5 U	3.16 U	2.87 U	2.94 U	2.5 U	7.94 U	2.69 U
Carbazole	86-74-8	--	2.98 U	5.49 U	5.43 U	27.8 U	2.5 U	2.75 U	2.5 U	3.16 U	2.87 U	2.94 U	2.5 U	7.94 U	2.69 U
Chrysene	218-01-9	0.002	0.0273 U	0.0263 U	0.0263 U	0.0269 U	0.025 U	0.0255 U	0.025 U	0.025 U	0.025 U	0.0294 U	0.0266 U	**0.0745**	**0.069 J**
Di-n-butylphthalate	84-74-2	50	2.98 U	5.49 U	5.43 U	27.8 U	2.5 U	2.75 U	2.5 U	3.16 U	2.87 U	2.94 U	2.5 U	7.94 U	2.69 U
Di-n-octylphthalate	117-84-0	50	2.98 U	5.49 U	5.43 U	27.8 U	2.5 U	2.75 U	2.5 U	3.16 U	2.87 U	2.94 U	2.5 U	7.94 U	2.69 U
Dibenzo (a,h) anthracene	53-70-3	--	0.0273 U	0.0263 U	0.0263 U	0.0269 U	0.025 U	0.0255 U	0.025 U	0.025 U	0.025 U	0.0294 U	0.0266 U	0.0342 U	0.0269 UJ
Dibenzofuran	132-64-9	--	2.98 U	5.49 U	5.43 U	27.8 U	2.5 U	2.75 U	2.5 U	3.16 U	2.87 U	2.94 U	2.5 U	7.94 U	2.69 U
Diethyl phthalate	84-66-2	50	2.98 U	5.49 U	5.43 U	27.8 U	2.5 U	2.75 U	2.5 U	3.16 U	2.87 U	2.94 U	2.5 U	7.94 U	2.69 U
Dimethyl phthalate	131-11-3	50	2.98 U	5.49 U	5.43 U	27.8 U	2.5 U	2.75 U	2.5 U	3.16 U	2.87 U	2.94 U	2.5 U	7.94 U	2.69 U
Fluoranthene	206-44-0	50	0.0273 U	0.0263 U	0.0263 U	0.0269 U	0.025 U	0.0255 U	0.025 U	0.025 U	0.025 U	0.0294 U	0.0266 U	**0.094**	**0.734 J**
Fluorene	86-73-7	50	0.0273 U	0.0263 U	0.0263 U	0.0269 U	0.025 U	0.0255 U	0.025 U	0.025 U	0.025 U	0.0294 U	0.0266 U	0.0342 U	**0.191 J**
Hexachlorobenzene	118-74-1	0.04	2.98 U	5.49 U	5.43 U	27.8 U	2.5 U	2.75 U	2.5 U	3.16 U	2.87 U	2.94 U	2.5 U	7.94 U	2.69 U
Hexachlorobutadiene	87-68-3	0.5	2.98 U	5.49 U	5.43 U	27.8 U	2.5 U	2.75 U	2.5 U	3.16 U	2.87 U	2.94 U	2.5 U	7.94 U	2.69 U
Hexachlorocyclopentadiene	77-47-4	5	2.98 U	5.49 U	5.43 U	27.8 U	2.5 U	2.75 U	2.5 U	3.16 U	2.87 U	2.94 U	2.5 U	7.94 U	2.69 UJ
Hexachloroethane	67-72-1	5	2.98 U	5.49 U	5.43 U	27.8 UJ	2.5 U	2.75 U	2.5 U	3.16 U	2.87 U	2.94 U	2.5 U	7.94 U	2.69 U
Indeno (1,2,3-c,d) pyrene	193-39-5	0.002	0.0273 U	0.0263 U	0.0263 U	0.0269 U	0.025 U	0.0255 U	0.025 U	0.025 U	0.025 U	0.0294 U	0.0266 U	**0.0442 J**	0.0269 UJ
Isophorone	78-59-1	50	2.98 U	5.49 U	5.43 U	27.8 U	2.5 U	2.75 U	2.5 U	3.16 U	2.87 U	2.94 U	2.5 U	7.94 U	2.69 U
n-Nitrosodiphenylamine	86-30-6	50	2.98 U	5.49 U	5.43 U	27.8 U	2.5 U	2.75 U	2.5 U	3.16 U	2.87 U	2.94 U	2.5 U	7.94 U	2.69 U
Naphthalene	91-20-3	10	0.0273 U	0.0263 U	0.0263 U	0.0269 U	0.025 U	0.0255 U	0.025 U	0.025 U	0.025 U	0.0294 U	0.0266 U	0.0342 U	0.0269 UJ
Nitrobenzene	98-95-3	0.4	2.98 U	5.49 U	5.43 U	27.8 U	2.5 U	2.75 U	2.5 U	3.16 U	2.87 U	2.94 U	2.5 U	7.94 U	2.69 U
Pentachlorophenol	87-86-5	1	14.9 U	27.5 U	27.2 U	139 U	12.5 U	13.7 U	12.5 U	15.8 U	14.4 U	14.7 U	12.5 U	39.7 U	13.4 U
Phenanthrene	85-01-8	50	0.0273 U	0.0263 U	0.0263 U	0.0269 U	0.025 U	0.0255 U	0.025 U	0.025 U	0.025 U	0.0294 U	**0.0268 J**	**0.0412 J**	**0.037 J**
Phenol	108-95-2	1	2.98 U	5.49 U	5.43 U	27.8 UJ	2.5 U	2.75 U	2.5 U	3.16 U	2.87 U	2.94 U	2.5 U	7.94 U	2.69 U
Pyrene	129-00-0	50	0.0273 U	0.0263 U	0.0263 U	0.0269 U	0.025 U	0.0255 U	0.025 U	0.025 U	0.025 U	0.0294 U	0.0266 U	**0.09**	**0.47 J**
Semivolatile Organic Compounds, TIC (ug/L)															
[1,4,5]Oxadithiepane	3886-40-6	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
1,1,2,2-Tetrachloroethane, TIC	79-34-5_TIC-SV	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -

Table 3-4b
Groundwater Sampling Results for AOC B - Semivolatile Organic Compounds
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-01	MW-02		MW-03	MW-22	MW-23	MW-32	PZ-01	PZ-03	PZ-04	PZ-05	PZ-06	PZ-07
Sample ID			MW-01-050112	Dup-GW-050712	MW-02-050712	MW-03-050712	MW-22-042512	MW-23-042512	MW-32-042512	PZ-01-050412	PZ-03-050212	PZ-04-050212	PZ-05-050212	PZ-06-050712	PZ-07-050812
Sample Date	**CAS#**	**TOGS 1.1.1 GA***	5/1/2012	5/7/2012	5/7/2012	5/7/2012	4/25/2012	4/25/2012	4/25/2012	5/4/2012	5/2/2012	5/9/2012	5/9/2012	5/7/2012	5/8/2012
Analyte															
1,1,2-Trichloroethane, TIC	79-00-5_TIC-SV	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
1,2,4,5-Tetrathiane	291-22-5	--	- -	**17.9 N**	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
1,2,4,6-Tetrathiepane	292-45-5	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
1,4,7,10,13,16-Hexaoxanonadecane,	1000163-64-0	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
1,4-Oxathiane	15980-15-1	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
108-11-2	108-11-2	--	- -	**12.7 N**	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
2-Hexanol	626-93-7	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	**49.2 N**	- -
2-Propanone, 1-chloro-	78-95-5	--	- -	- -	- -	- -	- -	- -	- -	**8.86 N**	- -	- -	- -	- -	- -
2615-15-8	2615-15-8	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
291-21-4	291-21-4	--	- -	**17.1 N**	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
3-Mercaptopropionic acid	107-96-0	--	- -	- -	- -	**225 N**	- -	- -	- -	- -	- -	- -	- -	**20.7 N**	- -
4-Methyl-2-pentanone, TIC	108-10-1_TIC-SV	--	- -	**264 N**	**289 N**	- -	- -	- -	- -	- -	- -	**20.1 N**	**171 N**	**121 N**	- -
590-90-9	590-90-9	--	- -	**49.4 N**	**101 N**	- -	**23.3 N**	**147 N**	- -	**18.3 N**	- -	- -	- -	**46.8 N**	- -
60-24-2	60-24-2	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	**17.6 N**	- -
96-27-5	96-27-5	--	- -	- -	- -	**55.7 N**	- -	- -	- -	- -	- -	- -	- -	- -	- -
Acetic acid, mercapto-	68-11-1	--	- -	- -	- -	**444 N**	- -	- -	- -	- -	- -	- -	- -	**28.6 N**	- -
Acetic acid, mercapto-, methyl est	2365-48-2	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Benzene, TIC	71-43-2_TIC-SV	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Benzenepropanoic acid	501-52-0	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Cyclic octaatomic sulfur	10544-50-0	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	**1110 N**	- -	- -	- -
Dimethyl sulfone	67-71-0	--	- -	**19.3 N**	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Dimethyl trisulfide, TIC	3658-80-8_TIC-SV	--	- -	**18.1 N**	- -	- -	- -	- -	- -	- -	- -	- -	**29.8 N**	- -	- -
Dodecanoic acid	143-07-7	--	- -	- -	- -	- -	- -	**9.69 N**	- -	- -	- -	- -	- -	- -	- -
Heptaethylene glycol	5617-32-3	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Hexadecenoic acid, Z-11-	2416-20-8	--	- -	- -	- -	- -	**11.8 N**	- -	- -	- -	- -	- -	- -	- -	- -
Methyl isobutenyl ketone	141-79-7	--	- -	- -	- -	- -	**26.3 N**	- -	- -	- -	- -	- -	- -	- -	- -
Morpholine	110-91-8	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
N,N-Diethyl-2-aminoethanol	100-37-8	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Octadecanoic acid	57-11-4	--	- -	- -	- -	- -	**6.64 N**	- -	- -	- -	- -	- -	- -	- -	**4.98 N**
Octaethylene glycol	1000289-34-2	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Palmitic acid	57-10-3	--	- -	- -	- -	- -	**9.75 N**	**9.46 N**	- -	- -	- -	- -	- -	- -	**8.58 N**
Pentane, 1,1'-oxybis-	693-65-2	--	- -	**44.4 N**	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Propionic Acid	79-09-4	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	**69.5 N**	- -
Sulfur	13798-23-7	--	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	**349 N**	- -	- -
tert-Amyl methyl ether	994-05-8	--	**5.4 N**	- -	- -	- -	- -	- -	- -	- -	- -	**65.9 N**	- -	**24.9 N**	- -
Unknown Semi-volatile 1	UNKNOWNSVOA1	--	- -	**18.5 N**	**27.4 N**	- -	**6.6 N**	**12.2 N**	**55.8 N**	- -	**6.1 N**	- -	**15.3 N**	- -	**8.12 N**
Unknown Semi-volatile 2	UNKNOWNSVOA2	--	**9.18 N**	- -	- -	- -	- -	- -	**47.4 N**	- -	**10.3 N**	- -	**46.7 N**	- -	**11.5 N**
Unknown Semi-volatile 3	UNKNOWNSVOA3	--	**9.39 N**	- -	**15.6 N**	- -	- -	**10.5 N**	**255 N**	**49.1 N**	**17.7 N**	- -	- -	- -	**5.46 N**
Unknown Semi-volatile 4	UNKNOWNSVOA4	--	**4.76 N**	- -	- -	**857 N**	**10.9 N**	**6.2 N**	**1060 N**	**5.29 N**	**40.9 N**	- -	**8.94 N**	- -	- -
Unknown Semi-volatile 5	UNKNOWNSVOA5	--	**9.71 N**	**35.4 N**	**18.9 N**	**769 N**	**54.7 N**	**105 N**	**259 N**	**12.8 N**	**56.4 N**	- -	**7.19 N**	- -	- -
Unknown Semi-volatile 6	UNKNOWNSVOA6	--	**4.99 N**	- -	**68.2 N**	**2980 N**	**27 N**	**11.2 N**	**112 N**	**5.28 N**	**43.8 N**	- -	**51.7 N**	**18.8 N**	- -
Unknown Semi-volatile 7	UNKNOWNSVOA7	--	**7.86 N**	**35.8 N**	**35.8 N**	**2610 N**	**5.98 N**	**4.91 N**	**49.3 N**	**19.3 N**	**5.03 N**	- -	- -	- -	- -
Unknown Semi-volatile 8	UNKNOWNSVOA8	--	**8.93 N**	- -	**13.5 N**	**1050 N**	**4.14 N**	- -	**26.4 N**	**7.48 N**	**29.6 N**	- -	**16.9 N**	**84.8 N**	- -
Unknown Semi-volatile 9	UNKNOWNSVOA9	--	**5.74 N**	**28.2 N**	**36.7 N**	**433 N**	**66.1 N**	- -	**28.9 N**	**10.6 N**	**8.08 N**	- -	**20.3 N**	- -	- -
Unknown Semi-volatile 10	UNKNOWNSVOA10	--	- -	**128 N**	**94.3 N**	**838 N**	**34.2 N**	- -	**22.9 N**	- -	**9.61 N**	- -	**206 N**	- -	- -
Unknown Semi-volatile 11	UNKNOWNSVOA11	--	- -	- -	**29.1 N**	**5480 N**	**10.7 N**	- -	**47.4 N**	- -	**10.9 N**	- -	**89.7 N**	- -	- -
Unknown Semi-volatile 12	UNKNOWNSVOA12	--	- -	**41.4 N**	**129 N**	**444 N**	**10.6 N**	- -	**82.9 N**	- -	**7.15 N**	- -	**85.1 N**	- -	- -
Unknown Semi-volatile 13	UNKNOWNSVOA13	--	- -	**13.3 N**	**43.2 N**	**4760 N**	**9.16 N**	- -	**130 N**	- -	**5.38 N**	- -	**11.5 N**	- -	- -
Unknown Semi-volatile 14	UNKNOWNSVOA14	--	- -	**100 N**	**43.8 N**	**237 N**	**4.23 N**	- -	**58.1 N**	- -	**5.39 N**	- -	**87.8 N**	- -	- -
Unknown Semi-volatile 15	UNKNOWNSVOA15	--	- -	- -	**12.6 N**	**1990 N**	**4.87 N**	- -	**84.3 N**	- -	**6.08 N**	- -	**13.6 N**	- -	- -
Unknown Semi-volatile 16	UNKNOWNSVOA16	--	- -	- -	**13.6 N**	**1850 N**	**24.4 N**	- -	**66.8 N**	- -	**5.11 N**	- -	**19.5 N**	- -	- -
Unknown Semi-volatile 17	UNKNOWNSVOA17	--	- -	**12.8 N**	**71.7 N**	**444 N**	**15 N**	- -	**34.3 N**	- -	**6.11 N**	- -	**7.18 N**	- -	- -
Unknown Semi-volatile 18	UNKNOWNSVOA18	--	- -	**15.8 N**	**14.6 N**	**1890 N**	- -	- -	**31.1 N**	- -	**5.02 N**	- -	**8.24 N**	- -	- -
Unknown Semi-volatile 19	UNKNOWNSVOA19	--	- -	**509 N**	**302 N**	- -	- -	- -	**42.3 N**	- -	**5.23 N**	- -	- -	- -	- -
Unknown Semi-volatile 20	UNKNOWNSVOA20	--	- -	**22.2 N**	**25 N**	- -	- -	- -	**180 N**	- -	- -	- -	**7.39 N**	- -	- -

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
J = The analyte was positively identified; the associated numerical value is the approximate concentration.
N = The analyte is a Tentatively Identified Compound.
R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet the quality control criteria. The presence or absence of the analyte cannot be verified.
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 3-4c
Groundwater Sampling Results for AOC B - Metals
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-01	MW-02		MW-03	MW-22	MW-23	MW-32	PZ-01	PZ-03	PZ-04	PZ-05	PZ-06	PZ-07
Sample ID			MW-01-050112	Dup-GW-050712	MW-02-050712	MW-03-050712	MW-22-042512	MW-23-042512	MW-32-042512	PZ-01-050412	PZ-03-050212	PZ-04-050212	PZ-05-050212	PZ-06-050712	PZ-07-050812
Sample Date	**CAS#**	**TOGS 1.1.1 GA***	5/1/2012	5/7/2012	5/7/2012	5/7/2012	4/25/2012	4/25/2012	4/25/2012	5/4/2012	5/2/2012	5/9/2012	5/9/2012	5/7/2012	5/8/2012
Analyte															
Metals (ug/L)															
Aluminum	7429-90-5	--	50 U	**128**	**100**	**52.6 J**	50 U	50 U	**2230**	**28900**	50 U	**130**	**275**	**22700**	50 U
Antimony	7440-36-0	3	**0.978 J**	2.5 U	2.5 U	**17.7**	**1.03**	0.5 U	**2.18**	0.5 U	0.5 U	1 U	1 U	**11.8**	1 U
Arsenic	7440-38-2	25	**2.41**	**22**	**21.9**	**553**	**2.99**	**46.9**	**31.3**	**25**	**21.9**	**5.71**	**7.76**	**17.9**	**1.58 J**
Barium	7440-39-3	1000	**64.9**	**71.2**	**67.4**	**488**	**93.8**	**81.6**	**88.8**	**608**	**30**	**116**	**53**	**577**	**122**
Beryllium	7440-41-7	3	0.5 U	0.5 U	0.5 U	**0.725 J**	0.5 U	0.5 U	**0.593 J**	0.5 U	0.5 U	0.5 U	0.5 U	**0.887 J**	0.5 U
Cadmium	7440-43-9	5	0.42 U	**0.626**	**0.583**	**4.32**	**22**	**0.507**	**1.07**	**0.642**	**0.993**	**0.769**	**1.03**	**4.82**	**1.24**
Calcium	7440-70-2	--	**64900**	**443000**	**435000**	**1770000 J**	**152000**	**212000**	**11200**	**373000**	**222000**	**226000**	**481000**	**304000**	**155000**
Chromium	7440-47-3	50	2.5 U	**16.4**	**15.7**	**9850**	**3.14 J**	**12.6**	**126**	**39.1**	2.5 U	**8.71**	**11.5**	**41.6**	2.5 U
Cobalt	7440-48-4	--	2.5 U	2.5 U	2.5 U	**16.3 J**	2.5 U	2.5 U	2.5 U	**13.8 J**	2.5 U	2.5 U	2.5 U	**13.4 J**	2.5 U
Copper	7440-50-8	200	5 U	5 U	5 U	5 U	**11.8 J**	5 U	5 U	**45**	5 U	5 U	5 U	**68**	5 U
Iron	7439-89-6	300	**100**	**775**	**698**	**603**	**74.2 J**	**70.6 J**	**1060**	**47700**	**3790**	**285**	**740**	**28900**	**1720**
Lead	7439-92-1	25	**13.2**	2.5 U	2.5 U	**3.47 J**	0.5 U	**0.786 J**	**7.29**	**22.9**	0.5 U	**1.48 J**	**1.94 J**	**111**	1 U
Magnesium	7439-95-4	35000	**7820**	**52300**	**50600**	**373000**	**46600**	**17400**	**17200**	**196000**	**99900**	**45100**	**80800**	**97500**	**45000**
Manganese	7439-96-5	300	**71**	**107**	**101**	**5830**	**28.6**	**86**	**17**	**1580**	**327**	**21.4**	**62.7**	**860**	**175**
Mercury	7439-97-6	0.7	0.1 U	**0.11 J**	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	**0.272**	**0.249**	**0.541**	0.1 U
Nickel	7440-02-0	100	5 U	5 U	5 U	**92.6**	5 U	5 U	**27.1 J**	**35.4 J**	5 U	5 U	5 U	**30.5 J**	5 U
Potassium	7440-09-7	--	**3200**	**18100**	**17200**	**74200**	**12600**	**10400**	**15200**	**10500**	**6660**	**25400**	**23600**	**22500**	**4540**
Selenium	7782-49-2	10	**1.75**	**7.23 J**	**6.26 J**	**28.5**	**17.1**	**6.07**	**8.69**	**2.51**	**1.98**	**6.24**	**6.63**	**14.3**	**3.26**
Silver	7440-22-4	50	5 U	5 U	5 U	**14.2**	5 U	5 U	5 U	5 U	5 U	5 U	**7.16 J**	5 U	5 U
Sodium	7440-23-5	20000	**46100**	**1750000**	**1670000**	**410000 J**	**366000**	**1400000**	**1840000**	**71700**	**406000**	**2150000**	**1340000**	**2360000**	**219000**
Thallium	7440-28-0	0.5	**0.105 J**	0.5 U	0.5 U	0.5 U	**0.442**	0.1 U	0.1 U	**0.388**	0.1 U	0.2 U	**0.281 J**	**0.511 J**	0.2 U
Vanadium	7440-62-2	--	**9.68 J**	**27.7**	**26.5**	**346**	**12**	**40.7**	**113**	**60.1**	**12.2**	**24**	**20**	**52.3**	**8.38 J**
Zinc	7440-66-6	2000	**18.2 J**	**17.7 J**	**11.9 J**	**115**	**817 J**	5 U	**458**	**102**	5 U	**15.8 J**	**59.6**	**799**	**126**
Metals, Dissolved (ug/L)															
Aluminum, Dissolved	7429-90-5_D	--	50 U	50 U	50 U	50 U	50 U	50 U	**1020**	**84.9 J**	50 U	50 U	50 U	50 U	50 U
Antimony, Dissolved	7440-36-0_D	3	**0.973 J**	2.5 U	2.5 U	**14.4**	**0.785 J**	0.5 U	**2.2**	0.5 U	0.5 U	1 U	1 U	**4 J**	1 U
Arsenic, Dissolved	7440-38-2_D	25	**2.14**	**23.9**	**22.1**	**537 J**	**8.15**	**45.6**	**29.4**	**16.7**	**22**	**4.9**	**7.81**	**6.12**	**1.42 J**
Barium, Dissolved	7440-39-3_D	1000	**68.2**	**71.1**	**68.5**	**491**	**103**	**83**	**82.4**	**487**	**29.9**	**118**	**49.1**	**364**	**116**
Beryllium, Dissolved	7440-41-7_D	3	0.5 U	0.5 U	0.5 U	**0.735 J**	0.5 U	0.5 U	**0.576 J**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Cadmium, Dissolved	7440-43-9_D	5	0.282 U	0.25 U	0.25 U	**3.71**	**0.267 J**	**0.527**	**1.1**	**0.489 J**	**1.11**	0.25 U	**0.257 J**	0.25 U	0.25 U
Calcium, Dissolved	7440-70-2_D	--	**67700**	**425000**	**412000**	**2080000**	**135000**	**215000**	**10900**	**95000**	**206000**	**211000**	**457000**	**110000**	**148000**
Chromium, Dissolved	7440-47-3_D	50	2.5 U	**16.2**	**15.4**	**11000**	2.5 U	**9.76**	**126**	2.5 U	2.5 U	**6.23**	**9.31**	2.5 U	2.5 U
Cobalt, Dissolved	7440-48-4_D	--	2.5 U	2.5 U	2.5 U	**17.9 J**	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Copper, Dissolved	7440-50-8_D	200	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Iron, Dissolved	7439-89-6_D	300	25 U	25 U	25 U	**150**	**118**	**29.9 J**	**543**	**2470**	**3030**	25 U	25 U	25 U	**1570**
Lead, Dissolved	7439-92-1_D	25	**9.4**	2.5 U	2.5 U	2.5 U	0.5 U	0.5 U	**3.49**	0.5 U	0.5 U	1 U	1 U	2.5 U	1 U
Magnesium, Dissolved	7439-95-4_D	35000	**8000**	**52000**	**49900**	**421000**	**48200**	**17500**	**16900**	**83600**	**100000**	**45100**	**76200**	**36300**	**42600**
Manganese, Dissolved	7439-96-5_D	300	**70.5**	**107**	**104**	**6470**	**51.3**	**88.3**	**10.3**	**34.7**	**282**	**17.8**	**46.2**	**10.8**	**169**
Mercury, Dissolved	7439-97-6_D	0.7	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Nickel, Dissolved	7440-02-0_D	100	5 U	5 U	5 U	**95.1**	5 U	5 U	**26.3 J**	5 U	5 U	5 U	5 U	5 U	5 U
Potassium, Dissolved	7440-09-7_D	--	**3290**	**18200**	**17300**	**87600**	**12900**	**10500**	**15100**	**2880**	**5750**	**24600**	**22200**	**17900**	**4350**
Selenium, Dissolved	7782-49-2_D	10	**1.41**	**7.29 J**	**7.58 J**	**38.4**	**16.1**	**4.33**	**9.61**	**1.77**	**1.69**	**6.54**	**5.51**	**10.2**	**2.75**
Silver, Dissolved	7440-22-4_D	50	5 U	5 U	5 U	**15.9**	5 U	5 U	5 U	5 U	5 U	5 U	**6.01 J**	5 U	5 U
Sodium, Dissolved	7440-23-5_D	20000	**47900**	**1940000**	**1880000**	**473000**	**357000**	**1420000**	**1910000**	**68200**	**347000**	**2080000**	**1340000**	**2510000**	**243000**
Thallium, Dissolved	7440-28-0_D	0.5	0.1 U	0.5 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	**0.246 J**	**0.203 J**	0.5 U	**0.205 J**
Vanadium, Dissolved	7440-62-2_D	--	**8.43 J**	**24.6**	**23.4**	**381**	**11.5**	**35.4**	**111**	5 U	**11**	**15.9**	**12.1**	**12.2**	**5.19 J**
Zinc, Dissolved	7440-66-6_D	2000	**17.3 J**	5 U	5 U	5 U	5 UJ	5 U	**153**	5 U	5 U	5 U	5 U	5 U	5 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
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 B - General Chemistry
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-01	MW-02		MW-03	MW-22	MW-23	MW-32	PZ-01	PZ-03	PZ-04	PZ-05	PZ-06	PZ-07
Sample ID			MW-01-050112	Dup-GW-050712	MW-02-050712	MW-03-050712	MW-22-042512	MW-23-042512	MW-32-042512	PZ-01-050412	PZ-03-050212	PZ-04-050212	PZ-05-050212	PZ-06-050712	PZ-07-050812
Sample Date	**CAS#**	**TOGS 1.1.1 GA***	5/1/2012	5/7/2012	5/7/2012	5/7/2012	4/25/2012	4/25/2012	4/25/2012	5/4/2012	5/2/2012	5/9/2012	5/9/2012	5/7/2012	5/8/2012
Analyte															
WCHEM (ug/L)															
Alkalinity	ALK	--	**166000**	- -	**2830000**	**5370000**	**357000**	**980000**	**764000**	**21600**	**390000**	**1760000**	**2180000**	**271000**	**275000**
Nitrate	14797-55-8	--	**107 J**	- -	2500 U	12500 U	**9060**	625 U	1250 U	**163 J**	25 U	1250 UJ	1250 UJ	**420 J**	25 UJ
Phosphorus	7723-14-0	--	100 U	- -	**591**	**471**	100 U	**1270**	**2500 J**	**2640**	**204**	1000 U	1000 U	100 U	100 U
Sulfate	14808-79-8	250000	**72600 J**	- -	**1410000**	**529000**	**259000**	**1440000**	**507000**	**84400**	**255000**	**1500000**	**1700000**	**146000**	**276000**
Total Organic Carbon	TOC	--	**7710**	- -	**114000**	**6250000**	**12000**	**26100**	**123000**	**13700**	**9940**	**26100**	**105000**	**9050**	**4060**
Dissolved Gases (ug/L)															
Carbon Dioxide	124-38-9	--	**14000**	- -	**310000**	**570000**	**28000**	**15000**	**20000**	**56000**	**47000**	**98000**	**450000**	**5300 J**	**33000**
Methane	74-82-8	--	**62**	- -	**500**	**5400**	**890**	**460**	**2900**	**4500**	**310**	**1500**	**910**	**3 J**	**910**

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
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
During the April 2010 and April 2011 groundwater sampling events a Hach Kit was used to measure Ferrous Iron

Table 3-5a
Groundwater Sampling Results for AOC B Building 4 Pit - Volatile Organic Compounds
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			BBLD-PIT-SSP
Sample ID			BBLD-PIT-SSP-050812
Sample Date	**CAS#**	**TOGS 1.1.1 GA***	5/8/2012
Analyte			
Volatile Organic Compounds (ug/L)			
1,1,1-Trichloroethane	71-55-6	5	0.5 U
1,1,2,2-Tetrachloroethane	79-34-5	5	0.4 U
1,1,2-Trichloroethane	79-00-5	1	0.5 U
1,1-Dichloroethane	75-34-3	5	0.25 U
1,1-Dichloroethene	75-35-4	5	1 U
1,2,3-Trichlorobenzene	87-61-6	--	1 U
1,2,4-Trichlorobenzene	120-82-1	5	0.4 U
1,2-Dibromo-3-chloropropane	96-12-8	--	2 U
1,2-Dibromoethane	106-93-4	--	0.5 U
1,2-Dichlorobenzene	95-50-1	3	0.25 U
1,2-Dichloroethane	107-06-2	0.6	0.5 U
1,2-Dichloroethene, cis-	156-59-2	5	0.5 U
1,2-Dichloroethene, trans-	156-60-5	5	0.5 U
1,2-Dichloropropane	78-87-5	1	0.4 U
1,3,5-Trinitrobenzene	99-35-4	--	5 U
1,3-Dichlorobenzene	541-73-1	3	0.5 U
1,3-Dichloropropene, cis-	10061-01-5	0.4	0.5 U
1,3-Dichloropropene, trans-	10061-02-6	0.4	1 U
1,3-Dinitrobenzene	99-65-0	--	5 U
1,4-Dichlorobenzene	106-46-7	3	0.25 U
2-Butanone	78-93-3	50	**75.1**
2-Hexanone	591-78-6	50	5 U
4-Methyl-2-pentanone	108-10-1	50	**638**
Acetone	67-64-1	50	**75.8**
Benzene	71-43-2	1	0.25 U
Bromochloromethane	74-97-5	--	0.4 U
Bromodichloromethane	75-27-4	50	0.5 U
Bromoform	75-25-2	50	1 U
Bromomethane	74-83-9	5	1 UJ
Carbon Disulfide	75-15-0	60	**10.8**
Carbon tetrachloride	56-23-5	5	0.5 U
Chlorobenzene	108-90-7	5	**0.488 J**
Chloroethane	75-00-3	5	1 U
Chloroform	67-66-3	7	**5.09**
Chloromethane	74-87-3	5	1 U
Cyclohexane	110-82-7	--	2 U
Dibromochloromethane	124-48-1	50	0.5 U
Dichlorodifluoromethane	75-71-8	--	0.5 U
Epichlorohydrin	106-89-8	5	- -
Ethylbenzene	100-41-4	5	0.5 U
Isopropylbenzene	98-82-8	--	0.5 U
Methyl Acetate	79-20-9	--	2 UJ
Methylcyclohexane	108-87-2	--	2 U
Methylene chloride	75-09-2	5	**0.76 J**
Styrene	100-42-5	5	0.25 U
tert-Butyl Methyl Ether	1634-04-4	--	1 U
Tetrachloroethene	127-18-4	5	0.5 U
Toluene	108-88-3	5	**1.64 J**
Trichloroethene	79-01-6	5	0.5 U
Trichlorofluoromethane	75-69-4	--	0.5 U
Trichlorotrifluoroethane	76-13-1	--	4 U
Vinyl chloride	75-01-4	2	0.5 U
Xylene, m,p-	108-38-3/1	--	**1.63 J**
Xylene, o-	95-47-6	--	**1.85 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.
** - 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
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 3-5b
Groundwater Sampling Results for AOC B Building 4 Pit - Semivolatile Organic Compounds
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			BBLD-PIT-SSP
Sample ID			BBLD-PIT-SSP-050812
Sample Date	**CAS#**	**TOGS 1.1.1 GA***	5/8/2012
Analyte			
Semivolatile Organic Compounds (ug/L)			
1,4-Dioxane	123-91-1	--	10 UJ
2,4,5-Trichlorophenol	95-95-4	--	5 U
2,4,6-Trichlorophenol	88-06-2	--	5 U
2,4-Dichlorophenol	120-83-2	5	5 U
2,4-Dimethylphenol	105-67-9	50	5 U
2,4-Dinitrophenol	51-28-5	1	25 U
2,4-Dinitrotoluene	121-14-2	5	5 U
2,6-Dinitrotoluene	606-20-2	5	5 U
2-Chloronaphthalene	91-58-7	10	5 U
2-Chlorophenol	95-57-8	--	5 UJ
2-Methylnaphthalene	91-57-6	--	**0.15**
2-Methylphenol	95-48-7	--	5 UJ
2-Nitroaniline	88-74-4	5	25 U
2-Nitrophenol	88-75-5	--	5 U
3,3'-Dichlorobenzidine	91-94-1	5	5 U
3-Nitroaniline	99-09-2	5	25 U
4-Bromophenyl phenyl ether	101-55-3	--	5 U
4-Chloroaniline	106-47-8	5	5 U
4-Methylphenol	106-44-5	--	**174 J**
4-Nitrophenol	100-02-7	--	25 U
Acenaphthene	83-32-9	20	0.0278 U
Acenaphthylene	208-96-8	--	0.0278 U
Anthracene	120-12-7	50	**0.0519 J**
Benzo(a)anthracene	56-55-3	0.002	**0.214**
Benzo(a)pyrene	50-32-8	0.002	**0.202**
Benzo(b)fluoranthene	205-99-2	0.002	**0.232**
Benzo(g,h,i)perylene	191-24-2	--	**0.168**
Benzo(k)fluoranthene	207-08-9	0.002	**0.22**
Benzoic Acid	65-85-0	--	**114 J**
Benzyl Alcohol	100-51-6	--	5 UJ
Biphenyl (diphenyl)	92-52-4	--	5 U
Bis (2-chloroethoxy) methane	111-91-1	5	5 U
Bis (2-chloroethyl) ether	111-44-4	1	5 UJ
Bis (2-ethylhexyl) phthalate	117-81-7	5	**18.8**
Butyl benzylphthalate	85-68-7	50	5 U
Carbazole	86-74-8	--	5 U
Chrysene	218-01-9	0.002	**0.274**
Di-n-butylphthalate	84-74-2	50	5 U
Di-n-octylphthalate	117-84-0	50	5 U
Dibenzo (a,h) anthracene	53-70-3	--	**0.0619**
Dibenzofuran	132-64-9	--	5 U
Diethyl phthalate	84-66-2	50	5 U
Dimethyl phthalate	131-11-3	50	5 U
Fluoranthene	206-44-0	50	**0.517**
Fluorene	86-73-7	50	0.0278 U
Hexachlorobenzene	118-74-1	0.04	5 U
Hexachlorobutadiene	87-68-3	0.5	5 U
Hexachlorocyclopentadiene	77-47-4	5	5 UJ
Hexachloroethane	67-72-1	5	5 UJ
Indeno (1,2,3-c,d) pyrene	193-39-5	0.002	**0.153**
Isophorone	78-59-1	50	5 U
n-Nitrosodiphenylamine	86-30-6	50	5 U
Naphthalene	91-20-3	10	**1.74**
Nitrobenzene	98-95-3	0.4	5 U
Pentachlorophenol	87-86-5	1	25 U
Phenanthrene	85-01-8	50	**0.323**
Phenol	108-95-2	1	5 UJ

Table 3-5b
Groundwater Sampling Results for AOC B Building 4 Pit - Semivolatile Organic Compounds
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			BBLD-PIT-SSP
Sample ID			BBLD-PIT-SSP-050812
Sample Date	**CAS#**	**TOGS 1.1.1 GA***	5/8/2012
Analyte			
Semivolatile Organic Compounds (ug/L)			
Pyrene	129-00-0	50	**0.374**
Semivolatile Organic Compounds, TIC (ug/L)			
[1,4,5]Oxadithiepane	3886-40-6	--	- -
1,1,2,2-Tetrachloroethane, TIC	79-34-5_TIC-SV	--	- -
1,1,2-Trichloroethane, TIC	79-00-5_TIC-SV	--	- -
1,2,4,5-Tetrathiane	291-22-5	--	- -
1,2,4,6-Tetrathiepane	292-45-5	--	- -
1,4,7,10,13,16-Hexaoxanonadecane,	1000163-64-0	--	- -
1,4-Oxathiane	15980-15-1	--	- -
108-11-2	108-11-2	--	- -
2-Hexanol	626-93-7	--	- -
2-Propanone, 1-chloro-	78-95-5	--	- -
2615-15-8	2615-15-8	--	- -
291-21-4	291-21-4	--	- -
3-Mercaptopropionic acid	107-96-0	--	**1450 N**
4-Methyl-2-pentanone, TIC	108-10-1_TIC-SV	--	- -
590-90-9	590-90-9	--	- -
60-24-2	60-24-2	--	- -
96-27-5	96-27-5	--	- -
Acetic acid, mercapto-	68-11-1	--	**511 N**
Acetic acid, mercapto-, methyl est	2365-48-2	--	**566 N**
Benzene, TIC	71-43-2_TIC-SV	--	- -
Benzenepropanoic acid	501-52-0	--	- -
Cyclic octaatomic sulfur	10544-50-0	--	- -
Dimethyl sulfone	67-71-0	--	- -
Dimethyl trisulfide, TIC	3658-80-8_TIC-SV	--	- -
Dodecanoic acid	143-07-7	--	- -
Heptaethylene glycol	5617-32-3	--	- -
Hexadecenoic acid, Z-11-	2416-20-8	--	- -
Methyl isobutenyl ketone	141-79-7	--	- -
Morpholine	110-91-8	--	- -
N,N-Diethyl-2-aminoethanol	100-37-8	--	- -
Octadecanoic acid	57-11-4	--	- -
Octaethylene glycol	1000289-34-2	--	- -
Palmitic acid	57-10-3	--	- -
Pentane, 1,1'-oxybis-	693-65-2	--	- -
Propionic Acid	79-09-4	--	- -
Sulfur	13798-23-7	--	- -
tert-Amyl methyl ether	994-05-8	--	- -
Unknown Semi-volatile 1	UNKNOWNSVOA1	--	**246 N**
Unknown Semi-volatile 2	UNKNOWNSVOA2	--	**1140 N**
Unknown Semi-volatile 3	UNKNOWNSVOA3	--	**406 N**
Unknown Semi-volatile 4	UNKNOWNSVOA4	--	**226 N**
Unknown Semi-volatile 5	UNKNOWNSVOA5	--	- -
Unknown Semi-volatile 6	UNKNOWNSVOA6	--	**746 N**
Unknown Semi-volatile 7	UNKNOWNSVOA7	--	**2220 N**
Unknown Semi-volatile 8	UNKNOWNSVOA8	--	- -
Unknown Semi-volatile 9	UNKNOWNSVOA9	--	**173 N**
Unknown Semi-volatile 10	UNKNOWNSVOA10	--	- -
Unknown Semi-volatile 11	UNKNOWNSVOA11	--	- -
Unknown Semi-volatile 12	UNKNOWNSVOA12	--	**354 N**
Unknown Semi-volatile 13	UNKNOWNSVOA13	--	**235 N**
Unknown Semi-volatile 14	UNKNOWNSVOA14	--	**193 N**
Unknown Semi-volatile 15	UNKNOWNSVOA15	--	**289 N**
Unknown Semi-volatile 16	UNKNOWNSVOA16	--	**121 N**
Unknown Semi-volatile 17	UNKNOWNSVOA17	--	**146 N**
Unknown Semi-volatile 18	UNKNOWNSVOA18	--	**410 N**

Table 3-5b
Groundwater Sampling Results for AOC B Building 4 Pit - Semivolatile Organic Compounds
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			BBLD-PIT-SSP
Sample ID			BBLD-PIT-SSP-050812
Sample Date	**CAS#**	**TOGS 1.1.1 GA***	5/8/2012
Analyte			
Semivolatile Organic Compounds (ug/L)			
Unknown Semi-volatile 19	UNKNOWNSVOA19	--	**319 N**
Unknown Semi-volatile 20	UNKNOWNSVOA20	--	**128 N**

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
N = The analyte is a Tentatively Identified Compound.
ug/L = micrograms per liter

Table 3-5c
Groundwater Sampling Results for AOC B Building 4 Pit - Metals
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			BBLD-PIT-SSP
Sample ID			BBLD-PIT-SSP-050812
Sample Date	**CAS#**	**TOGS 1.1.1 GA***	5/8/2012
Analyte			
Metals (ug/L)			
Aluminum	7429-90-5	--	**3670**
Antimony	7440-36-0	3	**1.23 J**
Arsenic	7440-38-2	25	**15.9**
Barium	7440-39-3	1000	**153**
Beryllium	7440-41-7	3	0.5 U
Cadmium	7440-43-9	5	**21.6**
Calcium	7440-70-2	--	**127000**
Chromium	7440-47-3	50	**161**
Cobalt	7440-48-4	--	**13.8 J**
Copper	7440-50-8	200	**34.2**
Iron	7439-89-6	300	**29300**
Lead	7439-92-1	25	**4.33**
Magnesium	7439-95-4	35000	**26200**
Manganese	7439-96-5	300	**605**
Mercury	7439-97-6	0.7	**0.252**
Nickel	7440-02-0	100	**1100**
Potassium	7440-09-7	--	**21500**
Selenium	7782-49-2	10	**13.5**
Silver	7440-22-4	50	5 U
Sodium	7440-23-5	20000	**159000**
Thallium	7440-28-0	0.5	0.2 U
Vanadium	7440-62-2	--	**18.7**
Zinc	7440-66-6	2000	**3980**
Metals, Dissolved (ug/L)			
Aluminum, Dissolved	7429-90-5_D	--	50 U
Antimony, Dissolved	7440-36-0_D	3	**2.41**
Arsenic, Dissolved	7440-38-2_D	25	**102**
Barium, Dissolved	7440-39-3_D	1000	**1160**
Beryllium, Dissolved	7440-41-7_D	3	0.5 U
Cadmium, Dissolved	7440-43-9_D	5	**0.707**
Calcium, Dissolved	7440-70-2_D	--	**299000**
Chromium, Dissolved	7440-47-3_D	50	**55.9**
Cobalt, Dissolved	7440-48-4_D	--	2.5 U
Copper, Dissolved	7440-50-8_D	200	5 U
Iron, Dissolved	7439-89-6_D	300	**106**
Lead, Dissolved	7439-92-1_D	25	1 U
Magnesium, Dissolved	7439-95-4_D	35000	**131000**
Manganese, Dissolved	7439-96-5_D	300	**53.1**
Mercury, Dissolved	7439-97-6_D	0.7	0.1 U
Nickel, Dissolved	7440-02-0_D	100	**82.7**
Potassium, Dissolved	7440-09-7_D	--	**84300**
Selenium, Dissolved	7782-49-2_D	10	**9.2**
Silver, Dissolved	7440-22-4_D	50	5 U
Sodium, Dissolved	7440-23-5_D	20000	**595000**
Thallium, Dissolved	7440-28-0_D	0.5	0.2 U
Vanadium, Dissolved	7440-62-2_D	--	**11.1**
Zinc, Dissolved	7440-66-6_D	2000	**33.2**

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
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 3-5d
Groundwater Sampling Results for AOC B Building 4 Pit - General Chemistry
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			BBLD-PIT-SSP
Sample ID			BBLD-PIT-SSP-050812
Sample Date	**CAS#**	**TOGS 1.1.1 GA***	5/8/2012
Analyte			
WCHEM (ug/L)			
Alkalinity	ALK	--	**423000**
Nitrate	14797-55-8	--	2500 UJ
Phosphorus	7723-14-0	--	**658**
Sulfate	14808-79-8	250000	**226000**
Total Organic Carbon	TOC	--	**431000**
Dissolved Gases (ug/L)			
Carbon Dioxide	124-38-9	--	**77000**
Methane	74-82-8	--	**390**

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
UJ = The analyte was below the reported sample quantitation limit. However, the reported value is approximate.
ug/L = Micrograms per Liter
During the April 2010 and April 2011 groundwater sampling events a Hach Kit was used to measure Ferrous Iron

Table 3-6a
Groundwater Sampling Results for AOC C - Volatile Organic Compounds
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-07	MW-08
Sample ID			MW-07-042412	MW-08-050212
Sample Date	**CAS#**	**TOGS 1.1.1 GA***	4/24/2012	5/9/2012
Analyte				
Volatile Organic Compounds (ug/L)				
1,1,1-Trichloroethane	71-55-6	5	0.25 U	0.25 U
1,1,2,2-Tetrachloroethane	79-34-5	5	0.2 U	0.2 U
1,1,2-Trichloroethane	79-00-5	1	0.25 U	0.25 U
1,1-Dichloroethane	75-34-3	5	0.125 U	0.125 U
1,1-Dichloroethene	75-35-4	5	0.5 U	0.5 U
1,2,3-Trichlorobenzene	87-61-6	--	0.5 U	0.5 U
1,2,4-Trichlorobenzene	120-82-1	5	0.2 U	0.2 U
1,2-Dibromo-3-chloropropane	96-12-8	--	1 U	1 U
1,2-Dibromoethane	106-93-4	--	0.25 U	0.25 U
1,2-Dichlorobenzene	95-50-1	3	0.125 U	0.125 U
1,2-Dichloroethane	107-06-2	0.6	0.25 U	0.25 U
1,2-Dichloroethene, cis-	156-59-2	5	0.25 U	0.25 U
1,2-Dichloroethene, trans-	156-60-5	5	0.25 U	0.25 U
1,2-Dichloropropane	78-87-5	1	0.2 U	0.2 U
1,3,5-Trinitrobenzene	99-35-4	--	2.55 U	2.55 U
1,3-Dichlorobenzene	541-73-1	3	0.25 U	0.25 U
1,3-Dichloropropene, cis-	10061-01-5	0.4	0.25 U	0.25 U
1,3-Dichloropropene, trans-	10061-02-6	0.4	0.5 U	0.5 U
1,3-Dinitrobenzene	99-65-0	--	2.55 U	2.55 U
1,4-Dichlorobenzene	106-46-7	3	0.125 U	0.125 U
2-Butanone	78-93-3	50	2.5 U	2.5 U
2-Hexanone	591-78-6	50	2.5 U	2.5 U
4-Methyl-2-pentanone	108-10-1	50	2.5 U	2.5 U
Acetone	67-64-1	50	2.5 U	2.5 U
Benzene	71-43-2	1	0.125 U	0.125 U
Bromochloromethane	74-97-5	--	0.2 U	0.2 U
Bromodichloromethane	75-27-4	50	0.25 U	0.25 U
Bromoform	75-25-2	50	0.5 U	0.5 U
Bromomethane	74-83-9	5	0.5 U	0.5 U
Carbon Disulfide	75-15-0	60	0.5 U	0.5 U
Carbon tetrachloride	56-23-5	5	0.25 U	0.25 U
Chlorobenzene	108-90-7	5	0.125 U	0.125 U
Chloroethane	75-00-3	5	0.5 U	0.5 U
Chloroform	67-66-3	7	0.125 U	**0.645 J**
Chloromethane	74-87-3	5	0.5 U	0.5 UJ
Cyclohexane	110-82-7	--	1 U	1 U
Dibromochloromethane	124-48-1	50	0.25 U	0.25 U
Dichlorodifluoromethane	75-71-8	--	0.25 U	0.25 U
Epichlorohydrin	106-89-8	5	0 UN	0 UN
Ethylbenzene	100-41-4	5	0.25 U	0.25 U
Isopropylbenzene	98-82-8	--	0.25 U	0.25 U
Methyl Acetate	79-20-9	--	1 U	1 UJ
Methylcyclohexane	108-87-2	--	1 U	1 U
Methylene chloride	75-09-2	5	0.25 U	0.25 U
Styrene	100-42-5	5	0.125 U	0.125 U
tert-Butyl Methyl Ether	1634-04-4	--	0.5 U	0.5 U
Tetrachloroethene	127-18-4	5	0.25 U	0.25 U
Toluene	108-88-3	5	0.25 U	0.25 U
Trichloroethene	79-01-6	5	0.25 U	0.25 U
Trichlorofluoromethane	75-69-4	--	0.25 U	0.25 U
Trichlorotrifluoroethane	76-13-1	--	2 U	2 U
Vinyl chloride	75-01-4	2	0.25 U	0.25 U
Xylene, m,p-	108-38-3/1	--	0.5 U	0.5 U
Xylene, o-	95-47-6	--	0.25 U	0.25 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
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 3-6b
Groundwater Sampling Results for AOC C - Semivolatile Organic Compounds
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-07	MW-08
Sample ID			MW-07-042412	MW-08-050212
Sample Date	**CAS#**	**TOGS 1.1.1 GA***	4/24/2012	5/9/2012
Analyte				
Semivolatile Organic Compounds (ug/L)				
1,4-Dioxane	123-91-1	--	5.1 U	5.1 U
2,4,5-Trichlorophenol	95-95-4	--	2.55 U	2.55 U
2,4,6-Trichlorophenol	88-06-2	--	2.55 U	2.55 U
2,4-Dichlorophenol	120-83-2	5	2.55 U	2.55 U
2,4-Dimethylphenol	105-67-9	50	2.55 U	2.55 U
2,4-Dinitrophenol	51-28-5	1	12.8 U	12.8 U
2,4-Dinitrotoluene	121-14-2	5	2.55 U	2.55 U
2,6-Dinitrotoluene	606-20-2	5	2.55 U	2.55 U
2-Chloronaphthalene	91-58-7	10	2.55 U	2.55 U
2-Chlorophenol	95-57-8	--	2.55 U	2.55 U
2-Methylnaphthalene	91-57-6	--	0.0255 U	0.025 U
2-Methylphenol	95-48-7	--	2.55 U	2.55 U
2-Nitroaniline	88-74-4	5	12.8 U	12.8 U
2-Nitrophenol	88-75-5	--	2.55 U	2.55 U
3,3'-Dichlorobenzidine	91-94-1	5	2.55 U	2.55 U
3-Nitroaniline	99-09-2	5	12.8 U	12.8 U
4-Bromophenyl phenyl ether	101-55-3	--	2.55 U	2.55 U
4-Chloroaniline	106-47-8	5	2.55 U	2.55 U
4-Methylphenol	106-44-5	--	2.55 U	2.55 U
4-Nitrophenol	100-02-7	--	12.8 U	12.8 U
Acenaphthene	83-32-9	20	0.0255 U	0.025 U
Acenaphthylene	208-96-8	--	0.0255 U	0.025 U
Anthracene	120-12-7	50	0.0255 U	0.025 U
Benzo(a)anthracene	56-55-3	0.002	0.0255 U	0.025 U
Benzo(a)pyrene	50-32-8	0.002	0.0255 U	0.025 U
Benzo(b)fluoranthene	205-99-2	0.002	0.0255 U	0.025 U
Benzo(g,h,i)perylene	191-24-2	--	0.0255 U	0.025 U
Benzo(k)fluoranthene	207-08-9	0.002	0.0255 U	0.025 U
Benzoic Acid	65-85-0	--	10.2 UJ	**10.2 R**
Benzyl Alcohol	100-51-6	--	2.55 U	2.55 U
Biphenyl (diphenyl)	92-52-4	--	2.55 U	2.55 U
Bis (2-chloroethoxy) methane	111-91-1	5	2.55 U	2.55 U
Bis (2-chloroethyl) ether	111-44-4	1	2.55 U	2.55 U
Bis (2-ethylhexyl) phthalate	117-81-7	5	2.55 U	2.55 U
Butyl benzylphthalate	85-68-7	50	2.55 U	2.55 U
Carbazole	86-74-8	--	2.55 U	2.55 U
Chrysene	218-01-9	0.002	0.0255 U	0.025 U
Di-n-butylphthalate	84-74-2	50	2.55 U	2.55 U
Di-n-octylphthalate	117-84-0	50	2.55 U	2.55 U
Dibenzo (a,h) anthracene	53-70-3	--	0.0255 U	0.025 U
Dibenzofuran	132-64-9	--	2.55 U	2.55 U
Diethyl phthalate	84-66-2	50	2.55 U	2.55 U
Dimethyl phthalate	131-11-3	50	2.55 U	2.55 U
Fluoranthene	206-44-0	50	0.0255 U	0.025 U
Fluorene	86-73-7	50	0.0255 U	0.025 U
Hexachlorobenzene	118-74-1	0.04	2.55 U	2.55 U
Hexachlorobutadiene	87-68-3	0.5	2.55 U	2.55 U
Hexachlorocyclopentadiene	77-47-4	5	2.55 U	2.55 U
Hexachloroethane	67-72-1	5	2.55 U	2.55 U
Indeno (1,2,3-c,d) pyrene	193-39-5	0.002	0.0255 U	0.025 U
Isophorone	78-59-1	50	2.55 U	2.55 U
n-Nitrosodiphenylamine	86-30-6	50	2.55 U	2.55 U
Naphthalene	91-20-3	10	0.0255 U	0.025 U
Nitrobenzene	98-95-3	0.4	2.55 U	2.55 U
Pentachlorophenol	87-86-5	1	12.8 U	12.8 U
Phenanthrene	85-01-8	50	0.0255 U	0.025 U
Phenol	108-95-2	1	2.55 U	2.55 U
Pyrene	129-00-0	50	0.0255 U	0.025 U
Semivolatile Organic Compounds, TIC (ug/L)				
[1,4,5]Oxadithiepane	3886-40-6	--	- -	- -
1,1,2,2-Tetrachloroethane, TIC	79-34-5_TIC-SV	--	- -	- -
1,1,2-Trichloroethane, TIC	79-00-5_TIC-SV	--	- -	- -
1,2,4,5-Tetrathiane	291-22-5	--	- -	- -
1,2,4,6-Tetrathiepane	292-45-5	--	- -	- -
1,4,7,10,13,16-Hexaoxanonadecane,	1000163-64-0	--	- -	- -

Table 3-6b
Groundwater Sampling Results for AOC C - Semivolatile Organic Compounds
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-07	MW-08
Sample ID			MW-07-042412	MW-08-050212
Sample Date	**CAS#**	**TOGS 1.1.1 GA***	4/24/2012	5/9/2012
Analyte				
Semivolatile Organic Compounds (ug/L)				
1,4-Oxathiane	15980-15-1	--	- -	- -
108-11-2	108-11-2	--	- -	- -
2-Hexanol	626-93-7	--	- -	- -
2-Propanone, 1-chloro-	78-95-5	--	- -	- -
2615-15-8	2615-15-8	--	- -	- -
291-21-4	291-21-4	--	- -	- -
3-Mercaptopropionic acid	107-96-0	--	- -	- -
4-Methyl-2-pentanone, TIC	108-10-1_TIC-SV	--	- -	- -
590-90-9	590-90-9	--	**9.53 N**	- -
60-24-2	60-24-2	--	- -	- -
96-27-5	96-27-5	--	- -	- -
Acetic acid, mercapto-	68-11-1	--	- -	- -
Acetic acid, mercapto-, methyl est	2365-48-2	--	- -	- -
Benzene, TIC	71-43-2_TIC-SV	--	- -	- -
Benzenepropanoic acid	501-52-0	--	- -	- -
Cyclic octaatomic sulfur	10544-50-0	--	- -	- -
Dimethyl sulfone	67-71-0	--	- -	- -
Dimethyl trisulfide, TIC	3658-80-8_TIC-SV	--	- -	- -
Dodecanoic acid	143-07-7	--	**4.24 N**	- -
Heptaethylene glycol	5617-32-3	--	- -	- -
Hexadecenoic acid, Z-11-	2416-20-8	--	- -	- -
Methyl isobutenyl ketone	141-79-7	--	- -	- -
Morpholine	110-91-8	--	- -	- -
N,N-Diethyl-2-aminoethanol	100-37-8	--	- -	- -
Octadecanoic acid	57-11-4	--	**16.5 N**	- -
Octaethylene glycol	1000289-34-2	--	- -	- -
Palmitic acid	57-10-3	--	**7.77 N**	- -
Pentane, 1,1'-oxybis-	693-65-2	--	- -	- -
Propionic Acid	79-09-4	--	- -	- -
Sulfur	13798-23-7	--	- -	- -
tert-Amyl methyl ether	994-05-8	--	**5 N**	**119 N**
Unknown Semi-volatile 1	UNKNOWNSVOA1	--	- -	- -
Unknown Semi-volatile 2	UNKNOWNSVOA2	--	- -	**7.12 N**
Unknown Semi-volatile 3	UNKNOWNSVOA3	--	**6.2 N**	**4.78 N**
Unknown Semi-volatile 4	UNKNOWNSVOA4	--	**6.35 N**	**7.11 N**
Unknown Semi-volatile 5	UNKNOWNSVOA5	--	- -	**4.29 N**
Unknown Semi-volatile 6	UNKNOWNSVOA6	--	- -	**4.76 N**
Unknown Semi-volatile 7	UNKNOWNSVOA7	--	- -	**6.03 N**
Unknown Semi-volatile 8	UNKNOWNSVOA8	--	**4.29 N**	- -
Unknown Semi-volatile 9	UNKNOWNSVOA9	--	**7.41 N**	- -
Unknown Semi-volatile 10	UNKNOWNSVOA10	--	**10.8 N**	- -
Unknown Semi-volatile 11	UNKNOWNSVOA11	--	**5.9 N**	- -
Unknown Semi-volatile 12	UNKNOWNSVOA12	--	**7.27 N**	- -
Unknown Semi-volatile 13	UNKNOWNSVOA13	--	**9.04 N**	- -
Unknown Semi-volatile 14	UNKNOWNSVOA14	--	**6.29 N**	- -
Unknown Semi-volatile 15	UNKNOWNSVOA15	--	- -	- -
Unknown Semi-volatile 16	UNKNOWNSVOA16	--	- -	- -
Unknown Semi-volatile 17	UNKNOWNSVOA17	--	- -	- -
Unknown Semi-volatile 18	UNKNOWNSVOA18	--	- -	- -
Unknown Semi-volatile 19	UNKNOWNSVOA19	--	- -	- -
Unknown Semi-volatile 20	UNKNOWNSVOA20	--	- -	- -

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
N = The analyte is a Tentatively Identified Compound.
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 3-6c
Groundwater Sampling Results for AOC C - Metals
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-07	MW-08
Sample ID			MW-07-042412	MW-08-050212
Sample Date	**CAS#**	**TOGS 1.1.1 GA***	4/24/2012	5/9/2012
Analyte				
Metals (ug/L)				
Aluminum	7429-90-5	--	**304**	50 U
Antimony	7440-36-0	3	**0.897 J**	**1.04 J**
Arsenic	7440-38-2	25	**4.63**	**1.46 J**
Barium	7440-39-3	1000	**106**	**56**
Beryllium	7440-41-7	3	0.5 U	0.5 U
Cadmium	7440-43-9	5	**2.63**	**0.493 J**
Calcium	7440-70-2	--	**107000**	**125000**
Chromium	7440-47-3	50	2.5 U	2.5 U
Cobalt	7440-48-4	--	2.5 U	2.5 U
Copper	7440-50-8	200	5 U	5 U
Iron	7439-89-6	300	**216**	**238**
Lead	7439-92-1	25	**0.809 J**	1 U
Magnesium	7439-95-4	35000	**15100**	**23200**
Manganese	7439-96-5	300	**9.69 J**	**51.6**
Mercury	7439-97-6	0.7	0.1 U	0.1 U
Nickel	7440-02-0	100	5 U	5 U
Potassium	7440-09-7	--	**4250**	**3900**
Selenium	7782-49-2	10	**10.4**	**4.16**
Silver	7440-22-4	50	5 U	5 U
Sodium	7440-23-5	20000	**558000**	**189000**
Thallium	7440-28-0	0.5	**0.249**	**0.368 J**
Vanadium	7440-62-2	--	**44.4**	5 U
Zinc	7440-66-6	2000	**37.8**	**86.7**
Metals, Dissolved (ug/L)				
Aluminum, Dissolved	7429-90-5_D	--	50 U	50 U
Antimony, Dissolved	7440-36-0_D	3	**0.918 J**	1 U
Arsenic, Dissolved	7440-38-2_D	25	**4.64**	**1.29 J**
Barium, Dissolved	7440-39-3_D	1000	**110**	**57.5**
Beryllium, Dissolved	7440-41-7_D	3	0.5 U	0.5 U
Cadmium, Dissolved	`	5	**1.86**	**0.498 J**
Calcium, Dissolved	7440-70-2_D	--	**102000**	**123000**
Chromium, Dissolved	7440-47-3_D	50	2.5 U	2.5 U
Cobalt, Dissolved	7440-48-4_D	--	2.5 U	2.5 U
Copper, Dissolved	7440-50-8_D	200	5 U	5 U
Iron, Dissolved	7439-89-6_D	300	25 U	**230**
Lead, Dissolved	7439-92-1_D	25	0.5 U	1 U
Magnesium, Dissolved	7439-95-4_D	35000	**15100**	**23500**
Manganese, Dissolved	7439-96-5_D	300	**12.7**	**54.4**
Mercury, Dissolved	7439-97-6_D	0.7	**0.138 J**	0.1 UJ
Nickel, Dissolved	7440-02-0_D	100	5 U	5 U
Potassium, Dissolved	7440-09-7_D	--	**4320**	**4000**
Selenium, Dissolved	7782-49-2_D	10	**11.4**	**4.21**
Silver, Dissolved	7440-22-4_D	50	5 U	5 U
Sodium, Dissolved	7440-23-5_D	20000	**584000**	**180000**
Thallium, Dissolved	7440-28-0_D	0.5	**0.263**	**0.275 J**
Vanadium, Dissolved	7440-62-2_D	--	**42.7**	5 U
Zinc, Dissolved	7440-66-6_D	2000	**35.1**	**88.8**

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
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 3-6d
Groundwater Sampling Results for AOC C - General Chemistry
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-07	MW-08
Sample ID			MW-07-042412	MW-08-050212
Sample Date	**CAS#**	**TOGS 1.1.1 GA***	4/24/2012	5/9/2012
Analyte				
WCHEM (ug/L)				
Alkalinity	ALK	--	**287000**	**207000**
Nitrate	14797-55-8	--	**2480**	**640 J**
Phosphorus	7723-14-0	--	100 U	100 U
Sulfate	14808-79-8	250000	**53900**	**321000**
Total Organic Carbon	TOC	--	**5560**	**2430**
Dissolved Gases (ug/L)				
Carbon Dioxide	124-38-9	--	**35000**	**27000**
Methane	74-82-8	--	1 U	1 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
Shading indicates the result exceeded screening criteria
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
During the April 2010 and April 2011 groundwater sampling events a Hach Kit was used to measure Ferrous Iron

Table 3-7a
Groundwater Sampling Results for AOC D - Volatile Organic Compounds
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-11I	MW-11S	MW-21	MW-24	MW-29		MW-30		MW-31		
Sample ID			MW-11I-050212	MW-11S-050212	MW-21-042512	MW-24-050112	DUP-GW-043012	MW-29-043012	DUP-GW-042512	MW-30-042512	MW-31-042612	MW-31-042712	MW-31-050212
Sample Date	**CAS#**	**TOGS 1.1.1 GA***	5/9/2012	5/9/2012	4/25/2012	5/1/2012	4/30/2012	4/30/2012	4/25/2012	4/25/2012	4/26/2012	4/27/2012	5/9/2012
Analyte													
Volatile Organic Compounds (ug/L)													
1,1,1-Trichloroethane	71-55-6	5	0.25 U	0.25 U	0.25 UJ	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.5 UJ	- -	- -
1,1,2,2-Tetrachloroethane	79-34-5	5	0.2 U	0.2 U	0.2 UJ	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.4 UJ	- -	- -
1,1,2-Trichloroethane	79-00-5	1	0.25 U	0.25 U	0.25 UJ	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.5 UJ	- -	- -
1,1-Dichloroethane	75-34-3	5	0.125 U	0.125 U	0.125 UJ	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.25 UJ	- -	- -
1,1-Dichloroethene	75-35-4	5	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 UJ	- -	- -
1,2,3-Trichlorobenzene	87-61-6	--	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 UJ	- -	- -
1,2,4-Trichlorobenzene	120-82-1	5	0.2 U	0.2 U	0.2 UJ	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.4 UJ	- -	- -
1,2-Dibromo-3-chloropropane	96-12-8	--	1 U	1 U	1 UJ	1 U	1 U	1 U	1 U	1 U	2 UJ	- -	- -
1,2-Dibromoethane	106-93-4	--	0.25 U	0.25 U	0.25 UJ	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.5 UJ	- -	- -
1,2-Dichlorobenzene	95-50-1	3	0.125 U	0.125 U	0.125 UJ	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.25 UJ	- -	- -
1,2-Dichloroethane	107-06-2	0.6	0.25 U	0.25 U	0.25 UJ	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.5 UJ	- -	- -
1,2-Dichloroethene, cis-	156-59-2	5	0.25 U	0.25 U	0.25 UJ	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.5 UJ	- -	- -
1,2-Dichloroethene, trans-	156-60-5	5	0.25 U	0.25 U	0.25 UJ	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.5 UJ	- -	- -
1,2-Dichloropropane	78-87-5	1	0.2 U	0.2 U	0.2 UJ	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.4 UJ	- -	- -
1,3,5-Trinitrobenzene	99-35-4	--	2.78 U	2.94 U	2.84 U	2.98 U	2.5 U	2.5 U	2.5 U	2.75 U	- -	- -	5.81 U
1,3-Dichlorobenzene	541-73-1	3	0.25 U	0.25 U	0.25 UJ	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.5 UJ	- -	- -
1,3-Dichloropropene, cis-	10061-01-5	0.4	0.25 U	0.25 U	0.25 UJ	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.5 UJ	- -	- -
1,3-Dichloropropene, trans-	10061-02-6	0.4	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U	1 UJ	- -	- -
1,3-Dinitrobenzene	99-65-0	--	2.78 U	2.94 U	2.84 U	2.98 U	2.5 U	2.5 U	2.5 U	2.75 U	- -	- -	5.81 U
1,4-Dichlorobenzene	106-46-7	3	0.125 U	0.125 U	0.125 UJ	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.25 UJ	- -	- -
2-Butanone	78-93-3	50	2.5 U	2.5 U	2.5 UJ	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	**15.9 J**	- -	- -
2-Hexanone	591-78-6	50	2.5 U	2.5 U	2.5 UJ	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	5 UJ	- -	- -
4-Methyl-2-pentanone	108-10-1	50	2.5 U	2.5 U	2.5 UJ	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	5 UJ	- -	- -
Acetone	67-64-1	50	2.5 U	2.5 U	2.5 UJ	**8.05 J**	2.5 U	2.5 U	2.5 U	2.5 U	**58.2 J**	- -	- -
Benzene	71-43-2	1	0.125 U	0.125 U	0.125 UJ	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.25 UJ	- -	- -
Bromochloromethane	74-97-5	--	0.2 U	0.2 U	0.2 UJ	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.4 UJ	- -	- -
Bromodichloromethane	75-27-4	50	0.25 U	0.25 U	0.25 UJ	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.5 UJ	- -	- -
Bromoform	75-25-2	50	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 UJ	- -	- -
Bromomethane	74-83-9	5	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	1 UJ	- -	- -
Carbon Disulfide	75-15-0	60	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**1.78 J**	- -	- -
Carbon tetrachloride	56-23-5	5	0.25 U	0.25 U	0.25 UJ	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.5 UJ	- -	- -
Chlorobenzene	108-90-7	5	**0.152 J**	0.125 U	0.125 UJ	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.25 UJ	- -	- -
Chloroethane	75-00-3	5	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 UJ	- -	- -
Chloroform	67-66-3	7	0.125 U	0.125 U	0.125 UJ	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.25 UJ	- -	- -
Chloromethane	74-87-3	5	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 UJ	- -	- -
Cyclohexane	110-82-7	--	1 U	**2.09 J**	1 UJ	1 U	1 U	1 U	1 U	1 U	2 UJ	- -	- -
Dibromochloromethane	124-48-1	50	0.25 U	0.25 U	0.25 UJ	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.5 UJ	- -	- -
Dichlorodifluoromethane	75-71-8	--	0.25 U	0.25 U	0.25 UJ	0.25 U	0.25 U	0.25 U	0.25 UJ	0.25 U	0.5 UJ	- -	- -
Epichlorohydrin	106-89-8	5	0 UN	0 UN	UN	0 UN	0 UN	0 UN	UN	UN	0 UN	- -	- -
Ethylbenzene	100-41-4	5	0.25 U	**4.33**	0.25 UJ	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.5 UJ	- -	- -
Isopropylbenzene	98-82-8	--	0.25 U	0.25 U	0.25 UJ	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.5 UJ	- -	- -
Methyl Acetate	79-20-9	--	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	1 U	2 UJ	- -	- -
Methylcyclohexane	108-87-2	--	1 U	**1.6 J**	1 UJ	1 U	1 U	1 U	1 U	1 U	2 UJ	- -	- -
Methylene chloride	75-09-2	5	0.25 U	0.25 U	0.25 UJ	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.5 UJ	- -	- -
Styrene	100-42-5	5	0.125 U	0.125 U	0.125 UJ	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.25 UJ	- -	- -
tert-Butyl Methyl Ether	1634-04-4	--	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 UJ	- -	- -
Tetrachloroethene	127-18-4	5	0.25 U	0.25 U	0.25 UJ	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.5 UJ	- -	- -
Toluene	108-88-3	5	0.25 U	**1.22**	0.25 UJ	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.5 UJ	- -	- -
Trichloroethene	79-01-6	5	0.25 U	0.25 U	0.25 UJ	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.5 UJ	- -	- -
Trichlorofluoromethane	75-69-4	--	0.25 U	0.25 U	0.25 UJ	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.5 UJ	- -	- -
Trichlorotrifluoroethane	76-13-1	--	2 U	2 U	2 UJ	2 U	2 U	2 U	2 U	2 U	4 UJ	- -	- -
Vinyl chloride	75-01-4	2	0.25 U	0.25 U	0.25 UJ	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.5 UJ	- -	- -
Xylene, m,p-	108-38-3/1	--	0.5 U	**10.5**	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 UJ	- -	- -
Xylene, o-	95-47-6	--	0.25 U	**1.44**	0.25 UJ	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.5 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.
Bold indicates the analyte was detected
Shading indicates the result exceeded screening criteria
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 AOC D - Semivolatile Organic Compounds
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-11I	MW-11S	MW-21	MW-24	MW-29		MW-30		MW-31
Sample ID			MW-11I-050212	MW-11S-050212	MW-21-042512	MW-24-050112	DUP-GW-043012	MW-29-043012	DUP-GW-042512	MW-30-042512	MW-31-050212
Sample Date	**CAS#**	**TOGS 1.1.1 GA***	5/9/2012	5/9/2012	4/25/2012	5/1/2012	4/30/2012	4/30/2012	4/25/2012	4/25/2012	5/9/2012
Analyte											
Semivolatile Organic Compounds (ug/L)											
1,4-Dioxane	123-91-1	--	5.56 U	5.88 U	5.68 U	5.95 U	5 U	5 U	5 U	5.49 U	11.6 U
2,4,5-Trichlorophenol	95-95-4	--	2.78 U	2.94 U	2.84 U	2.98 U	2.5 U	2.5 U	2.5 U	2.75 U	5.81 U
2,4,6-Trichlorophenol	88-06-2	--	2.78 U	2.94 U	2.84 U	2.98 U	2.5 U	2.5 U	2.5 U	2.75 U	5.81 U
2,4-Dichlorophenol	120-83-2	5	2.78 U	2.94 U	2.84 U	2.98 U	2.5 U	2.5 U	2.5 U	2.75 U	5.81 U
2,4-Dimethylphenol	105-67-9	50	2.78 U	2.94 U	2.84 U	2.98 U	2.5 U	2.5 U	2.5 U	2.75 U	5.81 U
2,4-Dinitrophenol	51-28-5	1	13.9 U	14.7 U	14.2 U	14.9 U	12.5 U	12.5 U	12.5 U	13.7 U	29.1 U
2,4-Dinitrotoluene	121-14-2	5	2.78 U	2.94 U	2.84 U	2.98 U	2.5 U	2.5 U	2.5 U	2.75 U	5.81 U
2,6-Dinitrotoluene	606-20-2	5	2.78 U	2.94 U	2.84 U	2.98 U	2.5 U	2.5 U	2.5 U	2.75 U	5.81 U
2-Chloronaphthalene	91-58-7	10	2.78 U	2.94 U	2.84 U	2.98 U	2.5 U	2.5 U	2.5 U	2.75 U	5.81 U
2-Chlorophenol	95-57-8	--	2.78 U	2.94 U	2.84 U	2.98 U	2.5 U	2.5 U	2.5 U	2.75 U	5.81 U
2-Methylnaphthalene	91-57-6	--	0.0272 U	0.0278 U	0.0269 UJ	0.0278 U	0.0265 U	0.025 U	0.0258 U	0.025 U	**0.0323 J**
2-Methylphenol	95-48-7	--	2.78 U	2.94 U	2.84 U	2.98 U	2.5 U	2.5 U	2.5 U	2.75 U	5.81 U
2-Nitroaniline	88-74-4	5	13.9 U	14.7 U	14.2 U	14.9 U	12.5 U	12.5 U	12.5 U	13.7 U	29.1 U
2-Nitrophenol	88-75-5	--	2.78 U	2.94 U	2.84 U	2.98 U	2.5 U	2.5 U	2.5 U	2.75 U	5.81 U
3,3'-Dichlorobenzidine	91-94-1	5	2.78 U	2.94 U	2.84 U	2.98 U	2.5 U	2.5 U	2.5 U	2.75 U	5.81 U
3-Nitroaniline	99-09-2	5	13.9 U	14.7 U	14.2 U	14.9 U	12.5 U	12.5 U	12.5 U	13.7 U	29.1 U
4-Bromophenyl phenyl ether	101-55-3	--	2.78 U	2.94 U	2.84 U	2.98 U	2.5 U	2.5 U	2.5 U	2.75 U	5.81 U
4-Chloroaniline	106-47-8	5	2.78 U	2.94 U	2.84 U	2.98 U	2.5 U	2.5 U	2.5 U	2.75 U	5.81 U
4-Methylphenol	106-44-5	--	2.78 U	2.94 U	2.84 U	2.98 U	2.5 U	2.5 U	2.5 U	2.75 U	**10.2 J**
4-Nitrophenol	100-02-7	--	13.9 U	14.7 U	14.2 U	14.9 U	12.5 U	12.5 U	12.5 U	13.7 U	29.1 U
Acenaphthene	83-32-9	20	0.0272 U	0.0278 U	0.0269 UJ	0.0278 U	0.0265 U	0.025 U	0.0258 U	0.025 U	0.0278 UJ
Acenaphthylene	208-96-8	--	0.0272 U	0.0278 U	0.0269 UJ	0.0278 U	0.0265 U	0.025 U	0.0258 U	0.025 U	0.0278 UJ
Anthracene	120-12-7	50	0.0272 U	0.0278 U	0.0269 UJ	0.0278 U	0.0265 U	0.025 U	0.0258 U	0.025 U	**0.0355 J**
Benzo(a)anthracene	56-55-3	0.002	0.0272 U	0.0278 U	0.0269 UJ	0.0278 U	0.0265 U	0.025 U	0.0258 U	0.025 U	**0.0414 J**
Benzo(a)pyrene	50-32-8	0.002	0.0272 U	0.0278 U	0.0269 UJ	0.0278 U	0.0265 U	0.025 U	0.0258 U	0.025 U	0.0278 UJ
Benzo(b)fluoranthene	205-99-2	0.002	0.0272 U	0.0278 U	0.0269 UJ	0.0278 U	0.0265 U	0.025 U	0.0258 U	0.025 U	0.0278 UJ
Benzo(g,h,i)perylene	191-24-2	--	0.0272 U	0.0278 U	0.0269 UJ	0.0278 U	0.0265 U	0.025 U	0.0258 U	0.025 U	0.0278 UJ
Benzo(k)fluoranthene	207-08-9	0.002	0.0272 U	0.0278 U	0.0269 UJ	0.0278 U	0.0265 U	0.025 U	0.0258 U	0.025 U	0.0278 UJ
Benzoic Acid	65-85-0	--	**11.1 R**	**11.8 R**	11.4 UJ	**11.9 R**	**10 R**	**10 R**	10 UJ	11 UJ	**23.3 R**
Benzyl Alcohol	100-51-6	--	2.78 U	2.94 U	2.84 U	2.98 U	2.5 U	2.5 U	2.5 U	2.75 U	5.81 U
Biphenyl (diphenyl)	92-52-4	--	2.78 U	2.94 U	2.84 U	2.98 U	2.5 U	2.5 U	2.5 U	2.75 U	5.81 U
Bis (2-chloroethoxy) methane	111-91-1	5	2.78 U	2.94 U	2.84 U	2.98 U	2.5 U	2.5 U	2.5 U	2.75 U	5.81 U
Bis (2-chloroethyl) ether	111-44-4	1	2.78 U	2.94 U	2.84 U	2.98 U	2.5 U	2.5 U	2.5 U	2.75 U	5.81 U
Bis (2-ethylhexyl) phthalate	117-81-7	5	2.78 U	2.94 U	2.84 U	2.98 U	2.5 U	2.5 U	2.5 U	2.75 U	5.81 U
Butyl benzylphthalate	85-68-7	50	2.78 U	2.94 U	2.84 U	2.98 U	2.5 U	2.5 U	2.5 U	2.75 U	5.81 U
Carbazole	86-74-8	--	2.78 U	2.94 U	2.84 U	2.98 U	2.5 U	2.5 U	2.5 U	2.75 U	5.81 U
Chrysene	218-01-9	0.002	0.0272 U	**0.0281 J**	0.0269 UJ	0.0278 U	0.0265 U	0.025 U	0.0258 U	0.025 U	**0.066 J**
Di-n-butylphthalate	84-74-2	50	2.78 U	2.94 U	2.84 U	2.98 U	2.5 U	2.5 U	2.5 U	2.75 U	5.81 U
Di-n-octylphthalate	117-84-0	50	2.78 U	2.94 U	2.84 U	2.98 U	2.5 U	2.5 U	2.5 U	2.75 U	5.81 U
Dibenzo (a,h) anthracene	53-70-3	--	0.0272 U	0.0278 U	0.0269 UJ	0.0278 U	0.0265 U	0.025 U	0.0258 U	0.025 U	0.0278 UJ
Dibenzofuran	132-64-9	--	2.78 U	2.94 U	2.84 U	2.98 U	2.5 U	2.5 U	2.5 U	2.75 U	5.81 U
Diethyl phthalate	84-66-2	50	2.78 U	2.94 U	2.84 U	2.98 U	2.5 U	2.5 U	2.5 U	2.75 U	5.81 U
Dimethyl phthalate	131-11-3	50	2.78 U	2.94 U	2.84 U	2.98 U	2.5 U	2.5 U	2.5 U	2.75 U	5.81 U
Fluoranthene	206-44-0	50	0.0272 U	**0.0432 J**	0.0269 UJ	0.0278 U	0.0265 U	0.025 U	0.0258 U	0.025 U	**0.135 J**
Fluorene	86-73-7	50	0.0272 U	0.0278 U	0.0269 UJ	0.0278 U	0.0265 U	0.025 U	0.0258 U	0.025 U	0.0278 UJ
Hexachlorobenzene	118-74-1	0.04	2.78 U	2.94 U	2.84 U	2.98 U	2.5 U	2.5 U	2.5 U	2.75 U	5.81 U
Hexachlorobutadiene	87-68-3	0.5	2.78 U	2.94 U	2.84 U	2.98 U	2.5 U	2.5 U	2.5 U	2.75 U	5.81 U

Table 3-7b
Groundwater Sampling Results for AOC D - Semivolatile Organic Compounds
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-11I	MW-11S	MW-21	MW-24	MW-29		MW-30		MW-31
Sample ID			MW-11I-050212	MW-11S-050212	MW-21-042512	MW-24-050112	DUP-GW-043012	MW-29-043012	DUP-GW-042512	MW-30-042512	MW-31-050212
Sample Date	**CAS#**	**TOGS 1.1.1 GA***	5/9/2012	5/9/2012	4/25/2012	5/1/2012	4/30/2012	4/30/2012	4/25/2012	4/25/2012	5/9/2012
Analyte											
Semivolatile Organic Compounds (ug/L)											
Hexachlorocyclopentadiene	77-47-4	5	2.78 U	2.94 U	2.84 U	2.98 U	2.5 U	2.5 U	2.5 U	2.75 U	5.81 U
Hexachloroethane	67-72-1	5	2.78 U	2.94 U	2.84 U	2.98 U	2.5 U	2.5 U	2.5 U	2.75 U	5.81 U
Indeno (1,2,3-c,d) pyrene	193-39-5	0.002	0.0272 U	0.0278 U	0.0269 UJ	0.0278 U	0.0265 U	0.025 U	0.0258 U	0.025 U	0.0278 UJ
Isophorone	78-59-1	50	2.78 U	2.94 U	2.84 U	2.98 U	2.5 U	2.5 U	2.5 U	2.75 U	5.81 U
n-Nitrosodiphenylamine	86-30-6	50	2.78 U	2.94 U	2.84 U	2.98 U	2.5 U	2.5 U	2.5 U	2.75 U	5.81 U
Naphthalene	91-20-3	10	0.0272 U	0.0278 U	0.0269 UJ	0.0278 U	0.0265 U	0.025 U	0.0258 U	0.025 U	0.0278 UJ
Nitrobenzene	98-95-3	0.4	2.78 U	2.94 U	2.84 U	2.98 U	2.5 U	2.5 U	2.5 U	2.75 U	5.81 U
Pentachlorophenol	87-86-5	1	13.9 U	14.7 U	14.2 U	14.9 U	12.5 U	12.5 U	12.5 U	13.7 U	29.1 U
Phenanthrene	85-01-8	50	0.0272 U	0.0278 U	0.0269 UJ	0.0278 U	0.0265 U	0.025 U	0.0258 U	0.025 U	**0.138 J**
Phenol	108-95-2	1	2.78 U	2.94 U	2.84 U	2.98 U	2.5 U	2.5 U	2.5 U	2.75 U	5.81 U
Pyrene	129-00-0	50	0.0272 U	**0.0357 J**	0.0269 UJ	0.0278 U	0.0265 U	0.025 U	0.0258 U	0.025 U	**0.1 J**
Semivolatile Organic Compounds, TIC (ug/L)											
[1,4,5]Oxadithiepane	3886-40-6	--	- -	- -	- -	- -	**31.5 N**	**32.6 N**	- -	- -	- -
1,1,2,2-Tetrachloroethane, TIC	79-34-5_TIC-SV	--	- -	- -	- -	- -	- -	- -	- -	- -	- -
1,1,2-Trichloroethane, TIC	79-00-5_TIC-SV	--	- -	- -	- -	- -	- -	- -	- -	- -	- -
1,2,4,5-Tetrathiane	291-22-5	--	- -	- -	**29.7 N**	- -	- -	- -	- -	- -	- -
1,2,4,6-Tetrathiepane	292-45-5	--	- -	- -	**23.5 N**	- -	- -	- -	- -	- -	- -
1,4,7,10,13,16-Hexaoxanonadecane,	1000163-64-0	--	- -	- -	**13.1 N**	- -	- -	- -	- -	- -	- -
1,4-Oxathiane	15980-15-1	--	- -	- -	- -	- -	**14.2 N**	**14.3 N**	- -	- -	- -
108-11-2	108-11-2	--	- -	- -	- -	- -	- -	- -	- -	- -	- -
2-Hexanol	626-93-7	--	- -	- -	- -	- -	- -	- -	- -	- -	- -
2-Propanone, 1-chloro-	78-95-5	--	- -	- -	- -	- -	- -	- -	- -	- -	- -
2615-15-8	2615-15-8	--	- -	**6.15 N**	**8.11 N**	**14.7 N**	- -	- -	- -	**4.58 N**	- -
291-21-4	291-21-4	--	- -	- -	**26 N**	- -	- -	- -	- -	- -	- -
3-Mercaptopropionic acid	107-96-0	--	- -	- -	- -	- -	- -	- -	- -	- -	- -
4-Methyl-2-pentanone, TIC	108-10-1_TIC-SV	--	- -	- -	- -	- -	- -	- -	- -	- -	- -
590-90-9	590-90-9	--	- -	- -	**14.7 N**	- -	- -	- -	- -	- -	- -
60-24-2	60-24-2	--	- -	- -	- -	- -	- -	- -	- -	- -	- -
96-27-5	96-27-5	--	- -	- -	- -	- -	- -	- -	- -	- -	- -
Acetic acid, mercapto-	68-11-1	--	- -	- -	- -	- -	- -	- -	- -	- -	- -
Acetic acid, mercapto-, methyl est	2365-48-2	--	- -	- -	- -	- -	- -	- -	- -	- -	- -
Benzene, TIC	71-43-2_TIC-SV	--	- -	- -	- -	- -	- -	- -	- -	- -	- -
Benzenepropanoic acid	501-52-0	--	- -	- -	- -	- -	- -	- -	- -	- -	**69.5 N**
Cyclic octaatomic sulfur	10544-50-0	--	- -	- -	- -	- -	- -	- -	- -	- -	- -
Dimethyl sulfone	67-71-0	--	- -	- -	- -	- -	- -	- -	- -	- -	- -
Dimethyl trisulfide, TIC	3658-80-8_TIC-SV	--	- -	- -	- -	- -	- -	- -	- -	- -	- -
Dodecanoic acid	143-07-7	--	- -	**31.4 N**	**65.5 N**	**24 N**	- -	- -	- -	- -	- -
Heptaethylene glycol	5617-32-3	--	- -	- -	- -	**9.07 N**	- -	- -	- -	- -	- -
Hexadecenoic acid, Z-11-	2416-20-8	--	- -	- -	- -	- -	- -	- -	- -	- -	- -
Methyl isobutenyl ketone	141-79-7	--	- -	- -	- -	- -	- -	- -	- -	- -	- -
Morpholine	110-91-8	--	- -	- -	- -	- -	**5 N**	**4.3 N**	- -	- -	**11.5 N**
N,N-Diethyl-2-aminoethanol	100-37-8	--	- -	- -	- -	- -	- -	- -	- -	- -	**29.5 N**
Octadecanoic acid	57-11-4	--	- -	- -	**6.14 N**	- -	- -	- -	- -	- -	- -
Octaethylene glycol	1000289-34-2	--	- -	- -	- -	- -	- -	- -	- -	**5.01 N**	- -
Palmitic acid	57-10-3	--	- -	- -	**8.8 N**	- -	- -	- -	- -	- -	- -
Pentane, 1,1'-oxybis-	693-65-2	--	- -	- -	- -	- -	- -	- -	- -	- -	- -
Propionic Acid	79-09-4	--	- -	- -	- -	- -	- -	- -	- -	- -	- -

Table 3-7b
Groundwater Sampling Results for AOC D - Semivolatile Organic Compounds
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-11I	MW-11S	MW-21	MW-24	MW-29		MW-30		MW-31
Sample ID			MW-11I-050212	MW-11S-050212	MW-21-042512	MW-24-050112	DUP-GW-043012	MW-29-043012	DUP-GW-042512	MW-30-042512	MW-31-050212
Sample Date	**CAS#**	**TOGS 1.1.1 GA***	5/9/2012	5/9/2012	4/25/2012	5/1/2012	4/30/2012	4/30/2012	4/25/2012	4/25/2012	5/9/2012
Analyte											
Semivolatile Organic Compounds (ug/L)											
Sulfur	13798-23-7	--	- -	- -	- -	- -	- -	- -	- -	- -	- -
tert-Amyl methyl ether	994-05-8	--	**62.2 N**	**129 N**	- -	**6.01 N**	**5.09 N**	**5.67 N**	- -	- -	**48.3 N**
Unknown Semi-volatile 1	UNKNOWNSVOA1	--	- -	- -	- -	- -	- -	- -	**4.79 N**	**5.77 N**	- -
Unknown Semi-volatile 2	UNKNOWNSVOA2	--	**5.36 N**	**4.98 N**	**16.5 N**	**8.33 N**	- -	- -	**5.38 N**	**8.23 N**	- -
Unknown Semi-volatile 3	UNKNOWNSVOA3	--	**5.99 N**	- -	**373 N**	**25.5 N**	**6.21 N**	**7.05 N**	**4.45 N**	- -	**11.2 N**
Unknown Semi-volatile 4	UNKNOWNSVOA4	--	**15.8 N**	**6.12 N**	- -	- -	**4.62 N**	**4.94 N**	- -	**6.49 N**	- -
Unknown Semi-volatile 5	UNKNOWNSVOA5	--	**6.47 N**	**14.8 N**	**49.5 N**	**5.32 N**	- -	- -	- -	**9.12 N**	**24.4 N**
Unknown Semi-volatile 6	UNKNOWNSVOA6	--	**12.8 N**	**5.96 N**	- -	- -	- -	- -	- -	**5.01 N**	- -
Unknown Semi-volatile 7	UNKNOWNSVOA7	--	**12.7 N**	- -	- -	**13.4 N**	**7.09 N**	**8.11 N**	- -	- -	**11.8 N**
Unknown Semi-volatile 8	UNKNOWNSVOA8	--	**8.21 N**	**9.46 N**	- -	**5.73 N**	**4.43 N**	**13.5 N**	- -	**4.64 N**	**11.3 N**
Unknown Semi-volatile 9	UNKNOWNSVOA9	--	**9.93 N**	**12.8 N**	**10 N**	- -	**6.36 N**	**4.65 N**	- -	**7.64 N**	**21 N**
Unknown Semi-volatile 10	UNKNOWNSVOA10	--	**10.9 N**	**7.86 N**	**109 N**	**20.9 N**	**5.03 N**	**5.67 N**	- -	**4.93 N**	**30.6 N**
Unknown Semi-volatile 11	UNKNOWNSVOA11	--	**7.44 N**	- -	**6.59 N**	**6.37 N**	**4.9 N**	**6.04 N**	- -	- -	**10 N**
Unknown Semi-volatile 12	UNKNOWNSVOA12	--	- -	**9.96 N**	**14.5 N**	- -	- -	- -	- -	- -	**20.4 N**
Unknown Semi-volatile 13	UNKNOWNSVOA13	--	- -	**10.7 N**	- -	**8.88 N**	- -	- -	- -	- -	**13.3 N**
Unknown Semi-volatile 14	UNKNOWNSVOA14	--	- -	**7.11 N**	- -	**14.6 N**	- -	- -	- -	- -	- -
Unknown Semi-volatile 15	UNKNOWNSVOA15	--	- -	**8.09 N**	- -	**6.27 N**	- -	- -	- -	- -	- -
Unknown Semi-volatile 16	UNKNOWNSVOA16	--	- -	- -	- -	- -	- -	- -	- -	- -	- -
Unknown Semi-volatile 17	UNKNOWNSVOA17	--	- -	- -	- -	- -	- -	- -	- -	- -	- -
Unknown Semi-volatile 18	UNKNOWNSVOA18	--	- -	- -	**5.93 N**	- -	- -	- -	- -	- -	- -
Unknown Semi-volatile 19	UNKNOWNSVOA19	--	- -	- -	**23.3 N**	- -	- -	- -	- -	- -	- -
Unknown Semi-volatile 20	UNKNOWNSVOA20	--	- -	- -	- -	- -	- -	- -	- -	- -	- -

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
J = The analyte was positively identified; the associated numerical value is the approximate concentration.
N = The analyte is a Tentatively Identified Compound.
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 AOC D - Metals
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-11I	MW-11S	MW-21	MW-24	MW-29		MW-30		MW-31
Sample ID			MW-11I-050212	MW-11S-050212	MW-21-042512	MW-24-050112	DUP-GW-043012	MW-29-043012	DUP-GW-042512	MW-30-042512	MW-31-042612
Sample Date	**CAS#**	**TOGS 1.1.1 GA***	5/9/2012	5/9/2012	4/25/2012	5/1/2012	4/30/2012	4/30/2012	4/25/2012	4/25/2012	4/26/2012
Analyte											
Metals (ug/L)											
Aluminum	7429-90-5	--	**119**	**115**	**878**	**2360**	**274**	**253**	50 U	**54.8 J**	**53800**
Antimony	7440-36-0	3	1 U	1 U	**133**	**0.738 J**	0.5 U	0.5 U	0.5 U	0.5 U	**17.5**
Arsenic	7440-38-2	25	**6.73**	**872**	**24000**	**9.26**	**1.27**	**0.627 J**	**7.54**	**8.22 J**	**53.6**
Barium	7440-39-3	1000	**35.5**	**38.8**	**207**	**123**	**106**	**104**	**41**	**40.4**	**369**
Beryllium	7440-41-7	3	0.5 U	0.5 U	**1.34 J**	0.5 U	**0.503 J**	**0.508 J**	0.5 U	0.5 U	**1.54 J**
Cadmium	7440-43-9	5	**0.701**	**7.9**	**21.5**	**1.48**	**0.619**	**0.699 J**	**0.636**	**0.76**	**135**
Calcium	7440-70-2	--	**223000**	**3410**	**3810**	**190000**	**274000**	**268000**	**82600**	**81700**	**57600**
Chromium	7440-47-3	50	**3.53 J**	2.5 U	**73.7**	**5.47**	2.5 U	2.5 U	**7.06**	**7.15**	**655**
Cobalt	7440-48-4	--	2.5 U	2.5 U	**9.14 J**	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	**21.6**
Copper	7440-50-8	200	5 U	5 U	5 U	**11.1 J**	5 U	5 U	5 U	5 U	**380**
Iron	7439-89-6	300	**2920**	**168**	**447**	**11800**	**1600**	**1580**	**429**	**498**	**49500**
Lead	7439-92-1	25	1 U	**1.7 J**	2.5 U	**6.61**	**0.823 J**	**0.936 J**	0.5 U	0.5 U	**3500**
Magnesium	7439-95-4	35000	**64300**	**495 J**	**2610**	**57800**	**44800**	**44100 J**	**14600**	**14800**	**27600**
Manganese	7439-96-5	300	**51.6**	5 U	**10.5**	**636**	**329**	**327**	**110**	**109**	**484**
Mercury	7439-97-6	0.7	**0.13 J**	0.1 U	**0.223**	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	**4.01**
Nickel	7440-02-0	100	5 U	5 U	**219**	**5.77 J**	5 U	5 U	5 U	5 U	**104**
Potassium	7440-09-7	--	**3210**	**1300**	**4900**	**8730**	**14400**	**14000**	**8060**	**8100**	**28800**
Selenium	7782-49-2	10	**4.7**	**6.51**	**8.73**	**7.86**	**4.11 J**	**1.86 J**	**3.16**	**3.16**	**9.1**
Silver	7440-22-4	50	5 U	5 U	5 U	5 U	**5.26 J**	**5.47 J**	5 U	5 U	5 U
Sodium	7440-23-5	20000	**244000**	**1410000**	**7610000**	**723000**	**1120000**	**1090000**	**664000**	**660000**	**1850000**
Thallium	7440-28-0	0.5	**0.256 J**	**0.313 J**	0.5 U	**0.108 J**	0.1 U	0.1 U	0.1 U	0.1 U	**1.02**
Vanadium	7440-62-2	--	**9.54 J**	**13.3**	**415**	**17.1**	**25.1**	**23.1**	**21**	**23.9**	**280**
Zinc	7440-66-6	2000	**147**	**57.9**	**32.2**	**102**	19.9 U	12.8 U	5 U	5 U	**7700**
Metals, Dissolved (ug/L)											
Aluminum, Dissolved	7429-90-5_D	--	50 U	50 U	**790**	50 U	50 U	50 U	50 U	50 U	**43700**
Antimony, Dissolved	7440-36-0_D	3	1 U	1 U	**129**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**18.4**
Arsenic, Dissolved	7440-38-2_D	25	**6.35**	**813**	**21800**	**5.95**	**1.46**	**1.67**	**6.67 J**	**6.47**	**51.4**
Barium, Dissolved	7440-39-3_D	1000	**34.1**	**33.4**	**195**	**97.6**	**104**	**101**	**43.6**	**42.8**	**315**
Beryllium, Dissolved	7440-41-7_D	3	0.5 U	0.5 U	**1.36 J**	0.5 U	**0.508 J**	0.5 U	0.5 U	0.5 U	**1.61 J**
Cadmium, Dissolved	7440-43-9_D	5	**0.538**	**7.66**	**32.5**	**0.811**	**0.597**	**0.667**	**0.856**	**0.673**	**102**
Calcium, Dissolved	7440-70-2_D	--	**216000**	**3210**	**3340**	**186000**	**280000**	**270000**	**87100**	**88100**	**48400**
Chromium, Dissolved	7440-47-3_D	50	2.5 U	2.5 U	**75.1**	2.5 U	2.5 U	2.5 U	**3.56 J**	**3.85 J**	**587**
Cobalt, Dissolved	7440-48-4_D	--	2.5 U	2.5 U	**9.68 J**	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	**17.5 J**
Copper, Dissolved	7440-50-8_D	200	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	**288**
Iron, Dissolved	7439-89-6_D	300	**2670**	25 U	**269**	**6790**	**1230**	**1190**	**421**	**410**	**38400**
Lead, Dissolved	7439-92-1_D	25	1 U	1 U	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**2940**
Magnesium, Dissolved	7439-95-4_D	35000	**63900**	**449 J**	**2400**	**52500**	**45300**	**43800**	**15900**	**15500**	**23400**
Manganese, Dissolved	7439-96-5_D	300	**47.9**	5 U	**7.31 J**	**619**	**316**	**307**	**119**	**119**	**389**
Mercury, Dissolved	7439-97-6_D	0.7	0.1 U	**0.118 J**	**0.188 J**	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	**5.23**
Nickel, Dissolved	7440-02-0_D	100	5 U	5 U	**205**	5 U	5 U	5 U	5 U	5 U	**88.2**
Potassium, Dissolved	7440-09-7_D	--	**3070**	**1080**	**4440**	**8820**	**14700**	**13900**	**8650**	**8460**	**25700**
Selenium, Dissolved	7782-49-2_D	10	**5.19**	**5.14**	**8.82**	**5.39**	**4.61**	**5.05**	**3.32**	**2.88**	**10.6**
Silver, Dissolved	7440-22-4_D	50	5 U	5 U	5 U	5 U	**5.57 J**	**5.37 J**	5 U	5 U	5 U
Sodium, Dissolved	7440-23-5_D	20000	**249000**	**1200000**	**7750000**	**703000**	**1140000**	**1110000**	**696000**	**691000**	**1760000**
Thallium, Dissolved	7440-28-0_D	0.5	**0.24 J**	0.2 U	0.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	**0.873**
Vanadium, Dissolved	7440-62-2_D	--	**8.79 J**	**11.6**	**357**	**18.3**	**21.4**	**22**	**19.5**	**21.8**	**252**
Zinc, Dissolved	7440-66-6_D	2000	**114**	**22.7**	**21.3**	**8.75 J**	5 U	5 U	5 U	5 U	**5950**

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
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 AOC D - General Chemistry
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-11I	MW-11S	MW-21	MW-24	MW-29		MW-30		MW-31		
Sample ID			MW-11I-050212	MW-11S-050212	MW-21-042512	MW-24-050112	DUP-GW-043012	MW-29-043012	DUP-GW-042512	MW-30-042512	MW-31-042612	MW-31-042712	MW-31-050212
Sample Date	**CAS#**	**TOGS 1.1.1 GA***	5/9/2012	5/9/2012	4/25/2012	5/1/2012	4/30/2012	4/30/2012	4/25/2012	4/25/2012	4/26/2012	4/27/2012	5/9/2012
Analyte													
WCHEM (ug/L)													
Alkalinity	ALK	--	**254000**	**267000**	**16100000**	**4370000**	**361000 J**	**359000 J**	**705000**	**680000**	- -	**2870000**	- -
Nitrate	14797-55-8	--	250 UJ	250 UJ	2500 UJ	25 U	**37 J**	**270 J**	125 U	5000 U	- -	- -	12500 UJ
Phosphorus	7723-14-0	--	100 U	**112 J**	**17200**	**302**	100 U	100 U	**362 J**	**357 J**	- -	**5970**	- -
Sulfate	14808-79-8	250000	**555000**	**164000**	**736000**	**265000**	**428000**	**459000**	**282000**	**258000**	- -	- -	**829000**
Total Organic Carbon	TOC	--	**2220**	**3300**	**419000**	**44200**	**3030**	**2700**	**11800**	**11400**	- -	**127000**	- -
Dissolved Gases (ug/L)													
Carbon Dioxide	124-38-9	--	**25000**	2500 U	**3500 J**	**250000**	**37000**	**41000**	**21000**	**32000**	**3300 J**	- -	- -
Methane	74-82-8	--	**29**	**180**	**4000**	**2400**	**240**	**260**	**220 J**	**380 J**	**400**	- -	- -

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
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
During the April 2010 and April 2011 groundwater sampling events a Hach Kit was used to measure Ferrous Iron

Table 3-8a
Groundwater Sampling Results for AOC E - Volatile Organic Compounds
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-10
Sample ID			MW-10-042612
Sample Date	**CAS#**	**TOGS 1.1.1 GA***	4/26/2012
Analyte			
Volatile Organic Compounds (ug/L)			
1,1,1-Trichloroethane	71-55-6	5	0.25 U
1,1,2,2-Tetrachloroethane	79-34-5	5	0.2 U
1,1,2-Trichloroethane	79-00-5	1	0.25 U
1,1-Dichloroethane	75-34-3	5	0.125 U
1,1-Dichloroethene	75-35-4	5	0.5 U
1,2,3-Trichlorobenzene	87-61-6	--	0.5 U
1,2,4-Trichlorobenzene	120-82-1	5	0.2 U
1,2-Dibromo-3-chloropropane	96-12-8	--	1 U
1,2-Dibromoethane	106-93-4	--	0.25 U
1,2-Dichlorobenzene	95-50-1	3	0.125 U
1,2-Dichloroethane	107-06-2	0.6	0.25 U
1,2-Dichloroethene, cis-	156-59-2	5	0.25 U
1,2-Dichloroethene, trans-	156-60-5	5	0.25 U
1,2-Dichloropropane	78-87-5	1	0.2 U
1,3,5-Trinitrobenzene	99-35-4	--	2.5 U
1,3-Dichlorobenzene	541-73-1	3	0.25 U
1,3-Dichloropropene, cis-	10061-01-5	0.4	0.25 U
1,3-Dichloropropene, trans-	10061-02-6	0.4	0.5 U
1,3-Dinitrobenzene	99-65-0	--	2.5 U
1,4-Dichlorobenzene	106-46-7	3	0.125 U
2-Butanone	78-93-3	50	2.5 U
2-Hexanone	591-78-6	50	2.5 U
4-Methyl-2-pentanone	108-10-1	50	2.5 U
Acetone	67-64-1	50	2.5 U
Benzene	71-43-2	1	0.125 U
Bromochloromethane	74-97-5	--	0.2 U
Bromodichloromethane	75-27-4	50	0.25 U
Bromoform	75-25-2	50	0.5 U
Bromomethane	74-83-9	5	0.5 U
Carbon Disulfide	75-15-0	60	0.5 U
Carbon tetrachloride	56-23-5	5	0.25 U
Chlorobenzene	108-90-7	5	0.125 U
Chloroethane	75-00-3	5	0.5 U
Chloroform	67-66-3	7	0.125 U
Chloromethane	74-87-3	5	0.5 U
Cyclohexane	110-82-7	--	1 U
Dibromochloromethane	124-48-1	50	0.25 U
Dichlorodifluoromethane	75-71-8	--	0.25 U
Epichlorohydrin	106-89-8	5	0 UN
Ethylbenzene	100-41-4	5	0.25 U
Isopropylbenzene	98-82-8	--	0.25 U
Methyl Acetate	79-20-9	--	1 U
Methylcyclohexane	108-87-2	--	1 U
Methylene chloride	75-09-2	5	0.25 U
Styrene	100-42-5	5	0.125 U
tert-Butyl Methyl Ether	1634-04-4	--	0.5 U
Tetrachloroethene	127-18-4	5	0.25 U
Toluene	108-88-3	5	0.25 U
Trichloroethene	79-01-6	5	0.25 U
Trichlorofluoromethane	75-69-4	--	0.25 U
Trichlorotrifluoroethane	76-13-1	--	2 U
Vinyl chloride	75-01-4	2	0.25 U
Xylene, m,p-	108-38-3/1	--	0.5 U
Xylene, o-	95-47-6	--	0.25 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
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 AOC E - Semivolatile Organic Compounds
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-10
Sample ID			MW-10-042612
Sample Date	**CAS#**	**TOGS 1.1.1 GA***	4/26/2012
Analyte			
Semivolatile Organic Compounds (ug/L)			
1,4-Dioxane	123-91-1	--	5 U
2,4,5-Trichlorophenol	95-95-4	--	2.5 U
2,4,6-Trichlorophenol	88-06-2	--	2.5 U
2,4-Dichlorophenol	120-83-2	5	2.5 U
2,4-Dimethylphenol	105-67-9	50	2.5 U
2,4-Dinitrophenol	51-28-5	1	12.5 UJ
2,4-Dinitrotoluene	121-14-2	5	2.5 U
2,6-Dinitrotoluene	606-20-2	5	2.5 U
2-Chloronaphthalene	91-58-7	10	2.5 U
2-Chlorophenol	95-57-8	--	2.5 U
2-Methylnaphthalene	91-57-6	--	0.0275 U
2-Methylphenol	95-48-7	--	2.5 U
2-Nitroaniline	88-74-4	5	12.5 U
2-Nitrophenol	88-75-5	--	2.5 U
3,3'-Dichlorobenzidine	91-94-1	5	2.5 U
3-Nitroaniline	99-09-2	5	12.5 U
4-Bromophenyl phenyl ether	101-55-3	--	2.5 U
4-Chloroaniline	106-47-8	5	2.5 U
4-Methylphenol	106-44-5	--	2.5 U
4-Nitrophenol	100-02-7	--	12.5 U
Acenaphthene	83-32-9	20	0.0275 U
Acenaphthylene	208-96-8	--	0.0275 U
Anthracene	120-12-7	50	0.0275 U
Benzo(a)anthracene	56-55-3	0.002	0.0275 U
Benzo(a)pyrene	50-32-8	0.002	0.0275 U
Benzo(b)fluoranthene	205-99-2	0.002	0.0275 U
Benzo(g,h,i)perylene	191-24-2	--	0.0275 U
Benzo(k)fluoranthene	207-08-9	0.002	0.0275 U
Benzoic Acid	65-85-0	--	10 UJ
Benzyl Alcohol	100-51-6	--	2.5 U
Biphenyl (diphenyl)	92-52-4	--	2.5 U
Bis (2-chloroethoxy) methane	111-91-1	5	2.5 U
Bis (2-chloroethyl) ether	111-44-4	1	2.5 U
Bis (2-ethylhexyl) phthalate	117-81-7	5	**3.32 J**
Butyl benzylphthalate	85-68-7	50	2.5 U
Carbazole	86-74-8	--	2.5 U
Chrysene	218-01-9	0.002	0.0275 U
Di-n-butylphthalate	84-74-2	50	2.5 U
Di-n-octylphthalate	117-84-0	50	2.5 U
Dibenzo (a,h) anthracene	53-70-3	--	0.0275 U
Dibenzofuran	132-64-9	--	2.5 U
Diethyl phthalate	84-66-2	50	2.5 U
Dimethyl phthalate	131-11-3	50	2.5 U
Fluoranthene	206-44-0	50	0.0275 U
Fluorene	86-73-7	50	0.0275 U
Hexachlorobenzene	118-74-1	0.04	2.5 U
Hexachlorobutadiene	87-68-3	0.5	2.5 U
Hexachlorocyclopentadiene	77-47-4	5	2.5 U
Hexachloroethane	67-72-1	5	2.5 U
Indeno (1,2,3-c,d) pyrene	193-39-5	0.002	0.0275 U
Isophorone	78-59-1	50	2.5 U
n-Nitrosodiphenylamine	86-30-6	50	2.5 U
Naphthalene	91-20-3	10	0.0275 U
Nitrobenzene	98-95-3	0.4	2.5 U
Pentachlorophenol	87-86-5	1	12.5 U
Phenanthrene	85-01-8	50	0.0275 U
Phenol	108-95-2	1	2.5 U
Pyrene	129-00-0	50	0.0275 U
Semivolatile Organic Compounds, TIC (ug/L)			
[1,4,5]Oxadithiepane	3886-40-6	--	- -
1,1,2,2-Tetrachloroethane, TIC	79-34-5_TIC-SV	--	- -
1,1,2-Trichloroethane, TIC	79-00-5_TIC-SV	--	- -
1,2,4,5-Tetrathiane	291-22-5	--	- -

Table 3-8b
Groundwater Sampling Results for AOC E - Semivolatile Organic Compounds
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

1,2,4,6-Tetrathiepane	292-45-5	--	- -
1,4,7,10,13,16-Hexaoxanonadecane,	1000163-64-0	--	- -
1,4-Oxathiane	15980-15-1	--	- -
108-11-2	108-11-2	--	- -
2-Hexanol	626-93-7	--	- -
2-Propanone, 1-chloro-	78-95-5	--	- -
2615-15-8	2615-15-8	--	- -
291-21-4	291-21-4	--	- -
3-Mercaptopropionic acid	107-96-0	--	- -
4-Methyl-2-pentanone, TIC	108-10-1_TIC-SV	--	- -
590-90-9	590-90-9	--	- -
60-24-2	60-24-2	--	- -
96-27-5	96-27-5	--	- -
Acetic acid, mercapto-	68-11-1	--	- -
Acetic acid, mercapto-, methyl est	2365-48-2	--	- -
Benzene, TIC	71-43-2_TIC-SV	--	- -
Benzenepropanoic acid	501-52-0	--	- -
Cyclic octaatomic sulfur	10544-50-0	--	- -
Dimethyl sulfone	67-71-0	--	- -
Dimethyl trisulfide, TIC	3658-80-8_TIC-SV	--	- -
Dodecanoic acid	143-07-7	--	- -
Heptaethylene glycol	5617-32-3	--	- -
Hexadecenoic acid, Z-11-	2416-20-8	--	- -
Methyl isobutenyl ketone	141-79-7	--	- -
Morpholine	110-91-8	--	- -
N,N-Diethyl-2-aminoethanol	100-37-8	--	- -
Octadecanoic acid	57-11-4	--	- -
Octaethylene glycol	1000289-34-2	--	- -
Palmitic acid	57-10-3	--	- -
Pentane, 1,1'-oxybis-	693-65-2	--	- -
Propionic Acid	79-09-4	--	- -
Sulfur	13798-23-7	--	- -
tert-Amyl methyl ether	994-05-8	--	- -
Unknown Semi-volatile 1	UNKNOWNSVOA1	--	**4.25 N**
Unknown Semi-volatile 2	UNKNOWNSVOA2	--	**6 N**
Unknown Semi-volatile 3	UNKNOWNSVOA3	--	- -
Unknown Semi-volatile 4	UNKNOWNSVOA4	--	- -
Unknown Semi-volatile 5	UNKNOWNSVOA5	--	- -
Unknown Semi-volatile 6	UNKNOWNSVOA6	--	- -
Unknown Semi-volatile 7	UNKNOWNSVOA7	--	- -
Unknown Semi-volatile 8	UNKNOWNSVOA8	--	- -
Unknown Semi-volatile 9	UNKNOWNSVOA9	--	- -
Unknown Semi-volatile 10	UNKNOWNSVOA10	--	- -
Unknown Semi-volatile 11	UNKNOWNSVOA11	--	- -
Unknown Semi-volatile 12	UNKNOWNSVOA12	--	- -
Unknown Semi-volatile 13	UNKNOWNSVOA13	--	- -
Unknown Semi-volatile 14	UNKNOWNSVOA14	--	- -
Unknown Semi-volatile 15	UNKNOWNSVOA15	--	- -
Unknown Semi-volatile 16	UNKNOWNSVOA16	--	- -
Unknown Semi-volatile 17	UNKNOWNSVOA17	--	- -
Unknown Semi-volatile 18	UNKNOWNSVOA18	--	- -
Unknown Semi-volatile 19	UNKNOWNSVOA19	--	- -
Unknown Semi-volatile 20	UNKNOWNSVOA20	--	- -

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
J = The analyte was positively identified; the associated numerical value is the approximate concentration.
N = The analyte is a Tentatively Identified Compound.
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 3-8c
Groundwater Sampling Results - Metals
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-10
Sample ID			MW-10-042612
Sample Date	**CAS#**	**TOGS 1.1.1 GA***	4/26/2012
Analyte			
Metals (ug/L)			
Aluminum	7429-90-5	--	**79.2 J**
Antimony	7440-36-0	3	0.5 U
Arsenic	7440-38-2	25	**1.33**
Barium	7440-39-3	1000	**39.7**
Beryllium	7440-41-7	3	0.5 U
Cadmium	7440-43-9	5	**0.357 J**
Calcium	7440-70-2	--	**73700**
Chromium	7440-47-3	50	2.5 U
Cobalt	7440-48-4	--	2.5 U
Copper	7440-50-8	200	5 U
Iron	7439-89-6	300	**266**
Lead	7439-92-1	25	0.5 U
Magnesium	7439-95-4	35000	**30800**
Manganese	7439-96-5	300	**9.97 J**
Mercury	7439-97-6	0.7	0.1 U
Nickel	7440-02-0	100	5 U
Potassium	7440-09-7	--	**828 J**
Selenium	7782-49-2	10	**6.66**
Silver	7440-22-4	50	5 U
Sodium	7440-23-5	20000	**141000**
Thallium	7440-28-0	0.5	**0.134 J**
Vanadium	7440-62-2	--	5 U
Zinc	7440-66-6	2000	5 U
Metals, Dissolved (ug/L)			
Aluminum, Dissolved	7429-90-5_D	--	50 U
Antimony, Dissolved	7440-36-0_D	3	**0.527 J**
Arsenic, Dissolved	7440-38-2_D	25	**1.18**
Barium, Dissolved	7440-39-3_D	1000	**41.5**
Beryllium, Dissolved	7440-41-7_D	3	0.5 U
Cadmium, Dissolved	7440-43-9_D	5	0.25 U
Calcium, Dissolved	7440-70-2_D	--	**68600**
Chromium, Dissolved	7440-47-3_D	50	2.5 U
Cobalt, Dissolved	7440-48-4_D	--	2.5 U
Copper, Dissolved	7440-50-8_D	200	5 U
Iron, Dissolved	7439-89-6_D	300	**83.5 J**
Lead, Dissolved	7439-92-1_D	25	0.5 U
Magnesium, Dissolved	7439-95-4_D	35000	**32100**
Manganese, Dissolved	7439-96-5_D	300	**6.21 J**
Mercury, Dissolved	7439-97-6_D	0.7	0.1 U
Nickel, Dissolved	7440-02-0_D	100	5 U
Potassium, Dissolved	7440-09-7_D	--	**664 J**
Selenium, Dissolved	7782-49-2_D	10	**6.14**
Silver, Dissolved	7440-22-4_D	50	5 U
Sodium, Dissolved	7440-23-5_D	20000	**134000**
Thallium, Dissolved	7440-28-0_D	0.5	**0.142 J**
Vanadium, Dissolved	7440-62-2_D	--	5 U
Zinc, Dissolved	7440-66-6_D	2000	5 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
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 - General Chemistry
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-10
Sample ID			MW-10-042612
Sample Date	**CAS#**	**TOGS 1.1.1 GA***	4/26/2012
Analyte			
WCHEM (ug/L)			
Alkalinity	ALK	--	**405000**
Nitrate	14797-55-8	--	**2960**
Phosphorus	7723-14-0	--	100 UJ
Sulfate	14808-79-8	250000	**99800**
Total Organic Carbon	TOC	--	**4580**
Dissolved Gases (ug/L)			
Carbon Dioxide	124-38-9	--	**31000**
Methane	74-82-8	--	**12**

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
UJ = The analyte was below the reported sample quantitation limit. However, the reported value is approximate.
ug/L = Micrograms per Liter
During the April 2010 and April 2011 groundwater sampling events a Hach Kit was used to measure Ferrous Iron

Table 3-9a
Groundwater Sampling Results - Volatile Organic Compounds
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-05I	MW-05S	MW-09R	MW-12	MW-13	MW-19
Sample ID			MW-05I-050112	MW-05S-050112	MW-09R-050212	MW-12-050412	MW-13-050212	MW-19-042712
Sample Date	**CAS#**	**TOGS 1.1.1 GA***	5/1/2012	5/1/2012	5/9/2012	5/4/2012	5/2/2012	4/27/2012
Analyte								
Volatile Organic Compounds (ug/L)								
1,1,1-Trichloroethane	71-55-6	5	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,1,2,2-Tetrachloroethane	79-34-5	5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1,2-Trichloroethane	79-00-5	1	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,1-Dichloroethane	75-34-3	5	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U
1,1-Dichloroethene	75-35-4	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichlorobenzene	87-61-6	--	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene	120-82-1	5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2-Dibromo-3-chloropropane	96-12-8	--	1 U	1 U	1 UJ	1 U	1 U	1 U
1,2-Dibromoethane	106-93-4	--	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2-Dichlorobenzene	95-50-1	3	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U
1,2-Dichloroethane	107-06-2	0.6	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2-Dichloroethene, cis-	156-59-2	5	0.25 U	0.25 U	**0.549 J**	0.25 U	0.25 U	**5.57**
1,2-Dichloroethene, trans-	156-60-5	5	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	**4**
1,2-Dichloropropane	78-87-5	1	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,3,5-Trinitrobenzene	99-35-4	--	2.5 U	2.5 U	2.87 U	2.78 U	2.55 U	2.75 U
1,3-Dichlorobenzene	541-73-1	3	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,3-Dichloropropene, cis-	10061-01-5	0.4	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,3-Dichloropropene, trans-	10061-02-6	0.4	0.5 UJ	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dinitrobenzene	99-65-0	--	2.5 U	2.5 U	2.87 U	2.78 U	2.55 U	2.75 U
1,4-Dichlorobenzene	106-46-7	3	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U
2-Butanone	78-93-3	50	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
2-Hexanone	591-78-6	50	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
4-Methyl-2-pentanone	108-10-1	50	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Acetone	67-64-1	50	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Benzene	71-43-2	1	0.125 U	0.125 U	**0.191 J**	0.125 U	0.125 U	0.125 U
Bromochloromethane	74-97-5	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Bromodichloromethane	75-27-4	50	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Bromoform	75-25-2	50	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromomethane	74-83-9	5	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U
Carbon Disulfide	75-15-0	60	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon tetrachloride	56-23-5	5	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Chlorobenzene	108-90-7	5	0.125 U	0.125 U	**0.186 J**	0.125 U	0.125 U	0.125 U
Chloroethane	75-00-3	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	67-66-3	7	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U
Chloromethane	74-87-3	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Cyclohexane	110-82-7	--	1 U	1 U	1 U	1 U	1 U	1 U
Dibromochloromethane	124-48-1	50	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Dichlorodifluoromethane	75-71-8	--	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	**10.8**
Epichlorohydrin	106-89-8	5	UN	UN	UN	UN	UN	UN
Ethylbenzene	100-41-4	5	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Isopropylbenzene	98-82-8	--	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Methyl Acetate	79-20-9	--	1 U	1 U	1 UJ	1 UJ	1 U	1 U
Methylcyclohexane	108-87-2	--	1 U	1 U	1 U	1 U	1 U	1 U
Methylene chloride	75-09-2	5	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Styrene	100-42-5	5	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U
tert-Butyl Methyl Ether	1634-04-4	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethene	127-18-4	5	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Toluene	108-88-3	5	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U

Table 3-9a
Groundwater Sampling Results - Volatile Organic Compounds
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-05I	MW-05S	MW-09R	MW-12	MW-13	MW-19
Sample ID			MW-05I-050112	MW-05S-050112	MW-09R-050212	MW-12-050412	MW-13-050212	MW-19-042712
Sample Date	**CAS#**	**TOGS 1.1.1 GA***	5/1/2012	5/1/2012	5/9/2012	5/4/2012	5/2/2012	4/27/2012
Analyte								
Trichloroethene	79-01-6	5	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	**0.304 J**
Trichlorofluoromethane	75-69-4	--	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Trichlorotrifluoroethane	76-13-1	--	2 U	2 U	2 U	2 U	2 U	2 U
Vinyl chloride	75-01-4	2	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Xylene, m,p-	108-38-3/1	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Xylene, o-	95-47-6	--	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 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
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.
UJ = The analyte was below the reported sample quantitation limit. However, the reported value is approximate.
ug/L = Micrograms per Liter

Table 3-9b
Groundwater Sampling Results - Semivolatile Organic Compounds
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-05I	MW-05S	MW-09R	MW-12	MW-13	MW-19
Sample ID			MW-05I-050112	MW-05S-050112	MW-09R-050212	MW-12-050412	MW-13-050212	MW-19-042712
Sample Date	**CAS#**	**TOGS 1.1.1 GA***	5/1/2012	5/1/2012	5/9/2012	5/4/2012	5/2/2012	4/27/2012
Analyte								
Semivolatile Organic Compounds (ug/L)								
1,4-Dioxane	123-91-1	--	5 U	5 U	5.75 U	5.56 U	5.1 U	5.49 U
2,4,5-Trichlorophenol	95-95-4	--	2.5 U	2.5 U	2.87 U	2.78 U	2.55 U	2.75 U
2,4,6-Trichlorophenol	88-06-2	--	2.5 U	2.5 U	2.87 U	2.78 U	2.55 U	2.75 U
2,4-Dichlorophenol	120-83-2	5	2.5 U	2.5 U	2.87 U	2.78 U	2.55 U	2.75 U
2,4-Dimethylphenol	105-67-9	50	2.5 U	2.5 U	2.87 U	2.78 U	2.55 U	2.75 U
2,4-Dinitrophenol	51-28-5	1	12.5 U	12.5 U	14.4 U	13.9 U	12.8 U	13.7 U
2,4-Dinitrotoluene	121-14-2	5	2.5 U	2.5 U	2.87 U	2.78 U	2.55 U	2.75 U
2,6-Dinitrotoluene	606-20-2	5	2.5 U	2.5 U	2.87 U	2.78 U	2.55 U	2.75 U
2-Chloronaphthalene	91-58-7	10	2.5 U	2.5 U	2.87 U	2.78 U	2.55 U	2.75 U
2-Chlorophenol	95-57-8	--	2.5 U	2.5 U	2.87 U	2.78 U	2.55 U	2.75 U
2-Methylnaphthalene	91-57-6	--	0.0275 U	0.0269 U	0.0294 UJ	0.0272 U	0.0255 U	0.0272 U
2-Methylphenol	95-48-7	--	2.5 U	2.5 U	2.87 U	2.78 U	2.55 U	2.75 U
2-Nitroaniline	88-74-4	5	12.5 U	12.5 U	14.4 U	13.9 U	12.8 U	13.7 U
2-Nitrophenol	88-75-5	--	2.5 U	2.5 U	2.87 U	2.78 U	2.55 U	2.75 U
3,3'-Dichlorobenzidine	91-94-1	5	2.5 U	2.5 U	2.87 U	2.78 U	2.55 U	2.75 U
3-Nitroaniline	99-09-2	5	12.5 U	12.5 U	14.4 U	13.9 U	12.8 U	13.7 U
4-Bromophenyl phenyl ether	101-55-3	--	2.5 U	2.5 U	2.87 U	2.78 U	2.55 U	2.75 U
4-Chloroaniline	106-47-8	5	2.5 U	2.5 U	2.87 U	2.78 U	2.55 U	2.75 U
4-Methylphenol	106-44-5	--	2.5 U	2.5 U	2.87 U	2.78 U	2.55 U	2.75 U
4-Nitrophenol	100-02-7	--	12.5 U	12.5 U	14.4 U	13.9 U	12.8 U	13.7 U
Acenaphthene	83-32-9	20	0.0275 U	0.0269 U	0.0294 U	0.0272 U	0.0255 U	0.0272 U
Acenaphthylene	208-96-8	--	0.0275 U	0.0269 U	0.0294 U	0.0272 U	0.0255 U	0.0272 U
Anthracene	120-12-7	50	0.0275 U	0.0269 U	0.0294 U	0.0272 U	0.0255 U	0.0272 U
Benzo(a)anthracene	56-55-3	0.002	0.0275 U	0.0269 U	0.0294 U	0.0272 U	0.0255 U	0.0272 U
Benzo(a)pyrene	50-32-8	0.002	0.0275 U	0.0269 U	0.0294 U	0.0272 U	0.0255 U	0.0272 U
Benzo(b)fluoranthene	205-99-2	0.002	0.0275 U	0.0269 U	0.0294 U	0.0272 U	0.0255 U	0.0272 U
Benzo(g,h,i)perylene	191-24-2	--	0.0275 U	0.0269 U	0.0294 U	0.0272 U	0.0255 U	0.0272 U
Benzo(k)fluoranthene	207-08-9	0.002	0.0275 U	0.0269 U	0.0294 U	0.0272 U	0.0255 U	0.0272 U
Benzoic Acid	65-85-0	--	**10 R**	**10 R**	**11.5 R**	**11.1 R**	**10.2 R**	11 U
Benzyl Alcohol	100-51-6	--	2.5 U	2.5 U	2.87 U	2.78 U	2.55 U	2.75 U
Biphenyl (diphenyl)	92-52-4	--	2.5 U	2.5 U	2.87 U	2.78 U	2.55 U	2.75 U
Bis (2-chloroethoxy) methane	111-91-1	5	2.5 U	2.5 U	2.87 U	2.78 U	2.55 U	2.75 U
Bis (2-chloroethyl) ether	111-44-4	1	2.5 U	2.5 U	2.87 U	2.78 U	2.55 U	2.75 U
Bis (2-ethylhexyl) phthalate	117-81-7	5	2.5 U	2.5 U	2.87 U	**5.36 J**	2.55 U	**4.25 J**
Butyl benzylphthalate	85-68-7	50	2.5 U	2.5 U	2.87 U	2.78 U	2.55 U	2.75 U
Carbazole	86-74-8	--	2.5 U	2.5 U	2.87 U	2.78 U	2.55 U	2.75 U
Chrysene	218-01-9	0.002	0.0275 U	0.0269 U	0.0294 U	0.0272 U	0.0255 U	0.0272 U
Di-n-butylphthalate	84-74-2	50	2.5 U	2.5 U	2.87 U	2.78 U	2.55 U	2.75 U
Di-n-octylphthalate	117-84-0	50	2.5 U	2.5 U	2.87 U	2.78 U	2.55 U	2.75 U
Dibenzo (a,h) anthracene	53-70-3	--	0.0275 U	0.0269 U	0.0294 U	0.0272 U	0.0255 U	0.0272 U
Dibenzofuran	132-64-9	--	2.5 U	2.5 U	2.87 U	2.78 U	2.55 U	2.75 U
Diethyl phthalate	84-66-2	50	2.5 U	2.5 U	2.87 U	2.78 U	2.55 U	2.75 U
Dimethyl phthalate	131-11-3	50	2.5 U	2.5 U	2.87 U	2.78 U	2.55 U	2.75 U
Fluoranthene	206-44-0	50	0.0275 U	0.0269 U	**0.0405 J**	0.0272 U	0.0255 U	**0.083**
Fluorene	86-73-7	50	0.0275 U	0.0269 U	0.0294 U	0.0272 U	0.0255 U	0.0272 U
Hexachlorobenzene	118-74-1	0.04	2.5 U	2.5 U	2.87 U	2.78 U	2.55 U	2.75 U

Table 3-9b
Groundwater Sampling Results - Semivolatile Organic Compounds
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-05I	MW-05S	MW-09R	MW-12	MW-13	MW-19
Sample ID			MW-05I-050112	MW-05S-050112	MW-09R-050212	MW-12-050412	MW-13-050212	MW-19-042712
Sample Date	**CAS#**	**TOGS 1.1.1 GA***	5/1/2012	5/1/2012	5/9/2012	5/4/2012	5/2/2012	4/27/2012
Analyte								
Hexachlorobutadiene	87-68-3	0.5	2.5 U	2.5 U	2.87 U	2.78 U	2.55 U	2.75 U
Hexachlorocyclopentadiene	77-47-4	5	2.5 U	2.5 U	2.87 U	**2.78 R**	2.55 U	2.75 U
Hexachloroethane	67-72-1	5	2.5 U	2.5 U	2.87 U	2.78 U	2.55 U	2.75 U
Indeno (1,2,3-c,d) pyrene	193-39-5	0.002	0.0275 U	0.0269 U	0.0294 U	0.0272 U	0.0255 U	0.0272 U
Isophorone	78-59-1	50	2.5 U	2.5 U	2.87 U	2.78 U	2.55 U	2.75 U
n-Nitrosodiphenylamine	86-30-6	50	2.5 U	2.5 U	2.87 U	2.78 U	2.55 U	2.75 U
Naphthalene	91-20-3	10	0.0275 U	0.0269 U	0.0294 UJ	0.0272 U	0.0255 U	0.0272 U
Nitrobenzene	98-95-3	0.4	2.5 U	2.5 U	2.87 U	2.78 U	2.55 U	2.75 U
Pentachlorophenol	87-86-5	1	12.5 U	12.5 U	14.4 U	13.9 U	12.8 U	13.7 U
Phenanthrene	85-01-8	50	0.0275 U	0.0269 U	0.0294 U	0.0272 U	0.0255 U	0.0272 U
Phenol	108-95-2	1	2.5 U	2.5 U	2.87 U	2.78 U	2.55 U	2.75 U
Pyrene	129-00-0	50	0.0275 U	0.0269 U	**0.0394 J**	0.0272 U	0.0255 U	**0.0723**
Semivolatile Organic Compounds, TIC (ug/L)								
[1,4,5]Oxadithiepane	3886-40-6	--	- -	- -	**537 N**	- -	- -	- -
1,1,2,2-Tetrachloroethane, TIC	79-34-5_TIC-SV	--	- -	- -	- -	- -	- -	- -
1,1,2-Trichloroethane, TIC	79-00-5_TIC-SV	--	- -	- -	- -	- -	- -	- -
1,2,4,5-Tetrathiane	291-22-5	--	- -	- -	- -	- -	- -	- -
1,2,4,6-Tetrathiepane	292-45-5	--	- -	- -	- -	- -	- -	- -
1,4,7,10,13,16-Hexaoxanonadecane,	1000163-64-0	--	- -	- -	- -	- -	- -	- -
1,4-Oxathiane	15980-15-1	--	- -	- -	**67 N**	- -	- -	- -
108-11-2	108-11-2	--	- -	- -	- -	- -	- -	- -
2-Hexanol	626-93-7	--	- -	- -	- -	- -	- -	- -
2-Propanone, 1-chloro-	78-95-5	--	- -	- -	- -	- -	- -	- -
2615-15-8	2615-15-8	--	- -	- -	- -	- -	- -	- -
291-21-4	291-21-4	--	- -	- -	- -	- -	- -	- -
3-Mercaptopropionic acid	107-96-0	--	- -	- -	- -	- -	- -	- -
4-Methyl-2-pentanone, TIC	108-10-1_TIC-SV	--	- -	- -	- -	- -	- -	- -
590-90-9	590-90-9	--	- -	- -	- -	- -	- -	- -
60-24-2	60-24-2	--	- -	- -	- -	- -	- -	- -
96-27-5	96-27-5	--	- -	- -	- -	- -	- -	- -
Acetic acid, mercapto-	68-11-1	--	- -	- -	- -	- -	- -	- -
Acetic acid, mercapto-, methyl est	2365-48-2	--	- -	- -	- -	- -	- -	- -
Benzene, TIC	71-43-2_TIC-SV	--	- -	- -	- -	- -	- -	- -
Benzenepropanoic acid	501-52-0	--	- -	- -	- -	- -	- -	- -
Cyclic octaatomic sulfur	10544-50-0	--	- -	- -	- -	- -	- -	- -
Dimethyl sulfone	67-71-0	--	- -	- -	- -	- -	- -	- -
Dimethyl trisulfide, TIC	3658-80-8_TIC-SV	--	- -	- -	- -	- -	- -	- -
Dodecanoic acid	143-07-7	--	- -	- -	- -	- -	- -	**33.4 N**
Heptaethylene glycol	5617-32-3	--	- -	- -	- -	- -	- -	- -
Hexadecenoic acid, Z-11-	2416-20-8	--	- -	- -	- -	- -	- -	- -
Methyl isobutenyl ketone	141-79-7	--	- -	- -	- -	- -	- -	- -
Morpholine	110-91-8	--	- -	- -	- -	- -	**18.5 N**	- -
N,N-Diethyl-2-aminoethanol	100-37-8	--	- -	- -	- -	- -	- -	- -
Octadecanoic acid	57-11-4	--	- -	- -	- -	- -	- -	- -
Octaethylene glycol	1000289-34-2	--	- -	- -	- -	- -	- -	- -
Palmitic acid	57-10-3	--	- -	- -	- -	- -	- -	- -
Pentane, 1,1'-oxybis-	693-65-2	--	- -	- -	- -	- -	- -	- -

Table 3-9b
Groundwater Sampling Results - Semivolatile Organic Compounds
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-05I	MW-05S	MW-09R	MW-12	MW-13	MW-19
Sample ID			MW-05I-050112	MW-05S-050112	MW-09R-050212	MW-12-050412	MW-13-050212	MW-19-042712
Sample Date	**CAS#**	**TOGS 1.1.1 GA***	5/1/2012	5/1/2012	5/9/2012	5/4/2012	5/2/2012	4/27/2012
Analyte								
Propionic Acid	79-09-4	--	- -	- -	- -	- -	- -	- -
Sulfur	13798-23-7	--	- -	- -	- -	- -	- -	- -
tert-Amyl methyl ether	994-05-8	--	- -	- -	**104 N**	- -	- -	- -
Unknown Semi-volatile 1	UNKNOWNSVOA1	--	**4.25 N**	**4.64 N**	- -	**5.96 N**	- -	**6.78 N**
Unknown Semi-volatile 2	UNKNOWNSVOA2	--	**7.27 N**	**7.1 N**	**19.3 N**	**10.3 N**	**6.79 N**	**4.45 N**
Unknown Semi-volatile 3	UNKNOWNSVOA3	--	- -	**7.6 N**	- -	**4.59 N**	**8.19 N**	- -
Unknown Semi-volatile 4	UNKNOWNSVOA4	--	- -	**5.43 N**	- -	**7.13 N**	**5.4 N**	**6.97 N**
Unknown Semi-volatile 5	UNKNOWNSVOA5	--	- -	**7.86 N**	**31.6 N**	**11 N**	**7.42 N**	- -
Unknown Semi-volatile 6	UNKNOWNSVOA6	--	- -	**4.16 N**	**9.82 N**	**6.56 N**	**4.27 N**	- -
Unknown Semi-volatile 7	UNKNOWNSVOA7	--	- -	**8.14 N**	**5.31 N**	**9.33 N**	**4.33 N**	- -
Unknown Semi-volatile 8	UNKNOWNSVOA8	--	- -	**5.26 N**	**18.5 N**	- -	**5.44 N**	- -
Unknown Semi-volatile 9	UNKNOWNSVOA9	--	- -	- -	**7.1 N**	- -	- -	- -
Unknown Semi-volatile 10	UNKNOWNSVOA10	--	- -	- -	**5.08 N**	- -	- -	- -
Unknown Semi-volatile 11	UNKNOWNSVOA11	--	- -	- -	**11.5 N**	- -	- -	- -
Unknown Semi-volatile 12	UNKNOWNSVOA12	--	- -	- -	**17.1 N**	- -	- -	- -
Unknown Semi-volatile 13	UNKNOWNSVOA13	--	- -	- -	**10.3 N**	- -	- -	- -
Unknown Semi-volatile 14	UNKNOWNSVOA14	--	- -	- -	**9.33 N**	- -	- -	- -
Unknown Semi-volatile 15	UNKNOWNSVOA15	--	- -	- -	**13.1 N**	- -	- -	- -
Unknown Semi-volatile 16	UNKNOWNSVOA16	--	- -	- -	**9.95 N**	- -	- -	- -
Unknown Semi-volatile 17	UNKNOWNSVOA17	--	- -	- -	- -	- -	- -	- -
Unknown Semi-volatile 18	UNKNOWNSVOA18	--	- -	- -	- -	- -	- -	- -
Unknown Semi-volatile 19	UNKNOWNSVOA19	--	- -	- -	- -	- -	- -	- -
Unknown Semi-volatile 20	UNKNOWNSVOA20	--	- -	- -	- -	- -	- -	- -

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
J = The analyte was positively identified; the associated numerical value is the approximate concentration.
N = The analyte is a Tentatively Identified Compound.
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 3-9c
Groundwater Sampling Results - Metals
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-05I	MW-05S	MW-09R	MW-12	MW-13	MW-19
Sample ID			MW-05I-050112	MW-05S-050112	MW-09R-050212	MW-12-050412	MW-13-050212	MW-19-042712
Sample Date	**CAS#**	**TOGS 1.1.1 GA***	5/1/2012	5/1/2012	5/9/2012	5/4/2012	5/2/2012	4/27/2012
Analyte								
Metals (ug/L)								
Aluminum	7429-90-5	--	50 U	50 U	50 U	50 U	50 U	**352**
Antimony	7440-36-0	3	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U
Arsenic	7440-38-2	25	**2.14**	**2.07**	**5.7**	**0.833 J**	**4.69**	**2.91**
Barium	7440-39-3	1000	**164**	**55.2**	**48.8**	**122**	**174**	**143**
Beryllium	7440-41-7	3	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Cadmium	7440-43-9	5	**0.862**	0.381 U	**0.503**	**0.383 J**	**1.06**	**0.651**
Calcium	7440-70-2	--	**101000**	**125000**	**273000**	**131000 J**	**118000**	**164000**
Chromium	7440-47-3	50	2.5 U	2.5 U	**3.31 J**	2.5 U	2.5 U	**3.98 J**
Cobalt	7440-48-4	--	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Copper	7440-50-8	200	5 U	5 U	5 U	5 U	5 U	5 U
Iron	7439-89-6	300	**207**	**124**	**2760**	**376**	**7580**	**837**
Lead	7439-92-1	25	0.5 U	0.5 U	1 U	**0.651 J**	**0.745 J**	**1.94**
Magnesium	7439-95-4	35000	**42500**	**34600**	**98300**	**21000 J**	**16100**	**49100**
Manganese	7439-96-5	300	**35.9**	**47.6**	**388**	**280**	**244**	**417**
Mercury	7439-97-6	0.7	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Nickel	7440-02-0	100	5 U	5 U	5 U	5 U	5 U	**5.94 J**
Potassium	7440-09-7	--	**3450**	**2860**	**5530**	**5240**	**4320**	**793 J**
Selenium	7782-49-2	10	**2.12**	**2.68**	**8.17**	**2.36**	**1.35**	**5.41**
Silver	7440-22-4	50	5 U	5 U	5 U	5 U	5 U	5 U
Sodium	7440-23-5	20000	**58500 J**	**40200**	**680000**	**118000 J**	**67000**	**114000**
Thallium	7440-28-0	0.5	**0.167 J**	**0.124 J**	0.2 U	0.1 U	0.1 U	**0.112 J**
Vanadium	7440-62-2	--	**9.2 J**	**6.31 J**	**12.2**	**5.98 J**	**6.28 J**	**15.9**
Zinc	7440-66-6	2000	5 U	5 U	5 U	**48.5**	5 U	**9.88 J**
Metals, Dissolved (ug/L)								
Aluminum, Dissolved	7429-90-5_D	--	50 U	50 U	50 U	50 U	50 U	50 U
Antimony, Dissolved	7440-36-0_D	3	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U
Arsenic, Dissolved	7440-38-2_D	25	**1.93**	**1.73**	**4.52**	**0.853 J**	**4.63**	**2.94**
Barium, Dissolved	7440-39-3_D	1000	**154**	**52.9**	**46.7**	**116**	**165**	**138**
Beryllium, Dissolved	7440-41-7_D	3	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Cadmium, Dissolved	7440-43-9_D	5	**0.512**	0.267 U	**0.666**	0.25 U	**0.569**	**0.609**
Calcium, Dissolved	7440-70-2_D	--	**98600**	**127000**	**267000**	**125000**	**116000**	**159000**
Chromium, Dissolved	7440-47-3_D	50	2.5 U	2.5 U	**2.73 J**	2.5 U	2.5 U	**2.58 J**
Cobalt, Dissolved	7440-48-4_D	--	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Copper, Dissolved	7440-50-8_D	200	5 U	5 U	5 U	5 U	5 U	5 U
Iron, Dissolved	7439-89-6_D	300	**174**	**111**	**2270**	**245**	**5660**	**376**
Lead, Dissolved	7439-92-1_D	25	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U
Magnesium, Dissolved	7439-95-4_D	35000	**42800**	**35000**	**96600**	**19300 J**	**15700**	**46700**
Manganese, Dissolved	7439-96-5_D	300	**41.7**	**50.1**	**376**	**264**	**239**	**427**
Mercury, Dissolved	7439-97-6_D	0.7	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Nickel, Dissolved	7440-02-0_D	100	5 U	5 U	5 U	5 U	5 U	5 U
Potassium, Dissolved	7440-09-7_D	--	**3530**	**2880**	**6580**	**4970**	**4150**	**710 J**
Selenium, Dissolved	7782-49-2_D	10	**1.62**	**2.85**	**6.46**	**2.05**	**1.35**	**5.49**
Silver, Dissolved	7440-22-4_D	50	5 U	5 U	5 U	5 U	5 U	5 U
Sodium, Dissolved	7440-23-5_D	20000	**61300**	**40800**	**776000**	**108000 J**	**65800**	**113000**
Thallium, Dissolved	7440-28-0_D	0.5	**0.172 J**	**0.125 J**	0.2 U	0.1 U	0.1 U	**0.105 J**
Vanadium, Dissolved	7440-62-2_D	--	**7.6 J**	**5.09 J**	**12.4**	5 U	**7.82 J**	**13.8**
Zinc, Dissolved	7440-66-6_D	2000	5 U	**6.96 J**	5 U	5 U	5 U	**5 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
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 3-9d
Groundwater Sampling Results - General Chemistry
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-05I	MW-05S	MW-09R	MW-12	MW-13	MW-19
Sample ID			MW-05I-050112	MW-05S-050112	MW-09R-050212	MW-12-050412	MW-13-050212	MW-19-042712
Sample Date	**CAS#**	**TOGS 1.1.1 GA***	5/1/2012	5/1/2012	5/9/2012	5/4/2012	5/2/2012	4/27/2012
Analyte								
WCHEM (ug/L)								
Alkalinity	ALK	--	**344000**	**358000**	**637000**	**290000 J**	**306000**	**395000**
Nitrate	14797-55-8	--	**83**	**115**	1250 UJ	**1580 J**	**94**	25 U
Phosphorus	7723-14-0	--	100 U	100 U	**127 J**	**110 J**	**159 J**	100 U
Sulfate	14808-79-8	250000	**83500**	**149000**	**612000**	**114000**	**46900**	**64600**
Total Organic Carbon	TOC	--	**3830**	**3140**	**89200**	**5890**	**6350**	**4010**
Dissolved Gases (ug/L)								
Carbon Dioxide	124-38-9	--	**29000**	**54000**	**120000**	**47000**	**80000**	**71000**
Methane	74-82-8	--	**170**	**49**	**160**	**4200**	**980**	**190**

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
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
During the April 2010 and April 2011 groundwater sampling events a Hach Kit was used to measure Ferrous Iron

Table 3-10a
Groundwater Sampling Results - Background Volatile Organic Compounds
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-06	MW-20
Sample ID			MW-06-050712	MW-20-042712
Sample Date	**CAS#**	**TOGS 1.1.1 GA***	5/7/2012	4/27/2012
Analyte				
Volatile Organic Compounds (ug/L)				
1,1,1-Trichloroethane	71-55-6	5	0.25 U	0.25 U
1,1,2,2-Tetrachloroethane	79-34-5	5	0.2 U	0.2 U
1,1,2-Trichloroethane	79-00-5	1	0.25 U	0.25 U
1,1-Dichloroethane	75-34-3	5	0.125 U	0.125 U
1,1-Dichloroethene	75-35-4	5	0.5 U	0.5 U
1,2,3-Trichlorobenzene	87-61-6	--	0.5 U	0.5 U
1,2,4-Trichlorobenzene	120-82-1	5	0.2 U	0.2 U
1,2-Dibromo-3-chloropropane	96-12-8	--	1 U	1 U
1,2-Dibromoethane	106-93-4	--	0.25 U	0.25 U
1,2-Dichlorobenzene	95-50-1	3	0.125 U	0.125 U
1,2-Dichloroethane	107-06-2	0.6	0.25 U	0.25 U
1,2-Dichloroethene, cis-	156-59-2	5	0.25 U	0.25 U
1,2-Dichloroethene, trans-	156-60-5	5	0.25 U	0.25 U
1,2-Dichloropropane	78-87-5	1	0.2 U	0.2 U
1,3,5-Trinitrobenzene	99-35-4	--	2.75 U	2.69 U
1,3-Dichlorobenzene	541-73-1	3	0.25 U	0.25 U
1,3-Dichloropropene, cis-	10061-01-5	0.4	0.25 U	0.25 U
1,3-Dichloropropene, trans-	10061-02-6	0.4	0.5 U	0.5 U
1,3-Dinitrobenzene	99-65-0	--	2.75 U	2.69 U
1,4-Dichlorobenzene	106-46-7	3	0.125 U	0.125 U
2-Butanone	78-93-3	50	2.5 U	2.5 U
2-Hexanone	591-78-6	50	2.5 U	2.5 U
4-Methyl-2-pentanone	108-10-1	50	2.5 U	2.5 U
Acetone	67-64-1	50	2.5 U	2.5 U
Benzene	71-43-2	1	0.125 U	0.125 U
Bromochloromethane	74-97-5	--	0.2 U	0.2 U
Bromodichloromethane	75-27-4	50	0.25 U	0.25 U
Bromoform	75-25-2	50	0.5 U	0.5 U
Bromomethane	74-83-9	5	0.5 UJ	0.5 U
Carbon Disulfide	75-15-0	60	0.5 U	0.5 U
Carbon tetrachloride	56-23-5	5	0.25 U	0.25 U
Chlorobenzene	108-90-7	5	0.125 U	0.125 U
Chloroethane	75-00-3	5	0.5 U	0.5 U
Chloroform	67-66-3	7	0.125 U	0.125 U
Chloromethane	74-87-3	5	0.5 U	0.5 U
Cyclohexane	110-82-7	--	1 U	1 U
Dibromochloromethane	124-48-1	50	0.25 U	0.25 U
Dichlorodifluoromethane	75-71-8	--	0.25 U	0.25 U
Epichlorohydrin	106-89-8	5	0 UN	0 UN
Ethylbenzene	100-41-4	5	0.25 U	0.25 U
Isopropylbenzene	98-82-8	--	0.25 U	0.25 U
Methyl Acetate	79-20-9	--	1 U	1 U
Methylcyclohexane	108-87-2	--	1 U	1 U
Methylene chloride	75-09-2	5	0.25 U	0.25 U
Styrene	100-42-5	5	0.125 U	0.125 U
tert-Butyl Methyl Ether	1634-04-4	--	0.5 U	0.5 U
Tetrachloroethene	127-18-4	5	0.25 U	0.25 U
Toluene	108-88-3	5	0.25 U	0.25 U
Trichloroethene	79-01-6	5	0.25 U	0.25 U
Trichlorofluoromethane	75-69-4	--	0.25 U	0.25 U
Trichlorotrifluoroethane	76-13-1	--	2 U	2 U
Vinyl chloride	75-01-4	2	0.25 U	0.25 U
Xylene, m,p-	108-38-3/1	--	0.5 U	0.5 U
Xylene, o-	95-47-6	--	0.25 U	0.25 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
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.
UN = The analyte is a Tentatively Identified Compound, and was not detected above the reported sample quantitation limit.
ug/L = micrograms per liter

Table 3-10b
Groundwater Sampling Results - Background Semivolatile Organic Compounds
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-06	MW-20
Sample ID			MW-06-050712	MW-20-042712
Sample Date	**CAS#**	**TOGS 1.1.1 GA***	5/7/2012	4/27/2012
Analyte				
Semivolatile Organic Compounds (ug/L)				
1,4-Dioxane	123-91-1	--	5.49 U	5.38 U
2,4,5-Trichlorophenol	95-95-4	--	2.75 U	2.69 U
2,4,6-Trichlorophenol	88-06-2	--	2.75 U	2.69 U
2,4-Dichlorophenol	120-83-2	5	2.75 U	2.69 U
2,4-Dimethylphenol	105-67-9	50	2.75 U	2.69 U
2,4-Dinitrophenol	51-28-5	1	13.7 U	13.4 U
2,4-Dinitrotoluene	121-14-2	5	2.75 U	2.69 U
2,6-Dinitrotoluene	606-20-2	5	2.75 U	2.69 U
2-Chloronaphthalene	91-58-7	10	2.75 U	2.69 U
2-Chlorophenol	95-57-8	--	2.75 U	2.69 U
2-Methylnaphthalene	91-57-6	--	0.0255 U	0.0266 U
2-Methylphenol	95-48-7	--	2.75 U	2.69 U
2-Nitroaniline	88-74-4	5	13.7 U	13.4 U
2-Nitrophenol	88-75-5	--	2.75 U	2.69 U
3,3'-Dichlorobenzidine	91-94-1	5	2.75 U	2.69 U
3-Nitroaniline	99-09-2	5	13.7 U	13.4 U
4-Bromophenyl phenyl ether	101-55-3	--	2.75 U	2.69 U
4-Chloroaniline	106-47-8	5	2.75 U	2.69 U
4-Methylphenol	106-44-5	--	2.75 U	2.69 U
4-Nitrophenol	100-02-7	--	13.7 U	13.4 U
Acenaphthene	83-32-9	20	0.0255 U	0.0266 U
Acenaphthylene	208-96-8	--	0.0255 U	0.0266 U
Anthracene	120-12-7	50	0.0255 U	0.0266 U
Benzo(a)anthracene	56-55-3	0.002	0.0255 U	0.0266 U
Benzo(a)pyrene	50-32-8	0.002	0.0255 U	0.0266 U
Benzo(b)fluoranthene	205-99-2	0.002	0.0255 U	0.0266 U
Benzo(g,h,i)perylene	191-24-2	--	0.0255 U	0.0266 U
Benzo(k)fluoranthene	207-08-9	0.002	0.0255 U	0.0266 U
Benzoic Acid	65-85-0	--	11 UJ	10.8 U
Benzyl Alcohol	100-51-6	--	2.75 U	2.69 U
Biphenyl (diphenyl)	92-52-4	--	2.75 U	2.69 U
Bis (2-chloroethoxy) methane	111-91-1	5	2.75 U	2.69 U
Bis (2-chloroethyl) ether	111-44-4	1	2.75 U	2.69 U
Bis (2-ethylhexyl) phthalate	117-81-7	5	2.75 U	2.69 U
Butyl benzylphthalate	85-68-7	50	2.75 U	2.69 U
Carbazole	86-74-8	--	2.75 U	2.69 U
Chrysene	218-01-9	0.002	0.0255 U	0.0266 U
Di-n-butylphthalate	84-74-2	50	2.75 U	2.69 U
Di-n-octylphthalate	117-84-0	50	2.75 U	2.69 U
Dibenzo (a,h) anthracene	53-70-3	--	0.0255 U	0.0266 U
Dibenzofuran	132-64-9	--	2.75 U	2.69 U
Diethyl phthalate	84-66-2	50	2.75 U	2.69 U
Dimethyl phthalate	131-11-3	50	2.75 U	2.69 U
Fluoranthene	206-44-0	50	0.0255 U	0.0266 U
Fluorene	86-73-7	50	0.0255 U	0.0266 U
Hexachlorobenzene	118-74-1	0.04	2.75 U	2.69 U
Hexachlorobutadiene	87-68-3	0.5	2.75 U	2.69 U
Hexachlorocyclopentadiene	77-47-4	5	2.75 U	2.69 U
Hexachloroethane	67-72-1	5	2.75 U	2.69 U
Indeno (1,2,3-c,d) pyrene	193-39-5	0.002	0.0255 U	0.0266 U
Isophorone	78-59-1	50	2.75 U	2.69 U
n-Nitrosodiphenylamine	86-30-6	50	2.75 U	2.69 U
Naphthalene	91-20-3	10	0.0255 U	0.0266 U
Nitrobenzene	98-95-3	0.4	2.75 U	2.69 U
Pentachlorophenol	87-86-5	1	13.7 U	13.4 U
Phenanthrene	85-01-8	50	0.0255 U	0.0266 U
Phenol	108-95-2	1	2.75 U	2.69 U
Pyrene	129-00-0	50	0.0255 U	0.0266 U
Semivolatile Organic Compounds, TIC (ug/L)				
[1,4,5]Oxadithiepane	3886-40-6	--	- -	- -
1,1,2,2-Tetrachloroethane, TIC	79-34-5_TIC-SV	--	- -	- -
1,1,2-Trichloroethane, TIC	79-00-5_TIC-SV	--	- -	- -
1,2,4,5-Tetrathiane	291-22-5	--	- -	- -
1,2,4,6-Tetrathiepane	292-45-5	--	- -	- -
1,4,7,10,13,16-Hexaoxanonadecane,	1000163-64-0	--	- -	- -
1,4-Oxathiane	15980-15-1	--	- -	- -
108-11-2	108-11-2	--	- -	- -
2-Hexanol	626-93-7	--	- -	- -
2-Propanone, 1-chloro-	78-95-5	--	- -	- -

Table 3-10b
Groundwater Sampling Results - Background Semivolatile Organic Compounds
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

2615-15-8	2615-15-8	--	- -	- -
291-21-4	291-21-4	--	- -	- -
3-Mercaptopropionic acid	107-96-0	--	- -	- -
4-Methyl-2-pentanone, TIC	108-10-1_TIC-SV	--	- -	- -
590-90-9	590-90-9	--	**38.3 N**	- -
60-24-2	60-24-2	--	- -	- -
96-27-5	96-27-5	--	- -	- -
Acetic acid, mercapto-	68-11-1	--	- -	- -
Acetic acid, mercapto-, methyl est	2365-48-2	--	- -	- -
Benzene, TIC	71-43-2_TIC-SV	--	**5.13 N**	- -
Benzenepropanoic acid	501-52-0	--	- -	- -
Cyclic octaatomic sulfur	10544-50-0	--	- -	- -
Dimethyl sulfone	67-71-0	--	- -	- -
Dimethyl trisulfide, TIC	3658-80-8_TIC-SV	--	- -	- -
Dodecanoic acid	143-07-7	--	- -	- -
Heptaethylene glycol	5617-32-3	--	- -	- -
Hexadecenoic acid, Z-11-	2416-20-8	--	- -	- -
Methyl isobutenyl ketone	141-79-7	--	- -	- -
Morpholine	110-91-8	--	- -	- -
N,N-Diethyl-2-aminoethanol	100-37-8	--	- -	- -
Octadecanoic acid	57-11-4	--	- -	- -
Octaethylene glycol	1000289-34-2	--	- -	- -
Palmitic acid	57-10-3	--	- -	- -
Pentane, 1,1'-oxybis-	693-65-2	--	- -	- -
Propionic Acid	79-09-4	--	- -	- -
Sulfur	13798-23-7	--	- -	- -
tert-Amyl methyl ether	994-05-8	--	- -	- -
Unknown Semi-volatile 1	UNKNOWNSVOA1	--	- -	**6.99 N**
Unknown Semi-volatile 2	UNKNOWNSVOA2	--	**15.6 N**	**7.82 N**
Unknown Semi-volatile 3	UNKNOWNSVOA3	--	**13.6 N**	**5.29 N**
Unknown Semi-volatile 4	UNKNOWNSVOA4	--	**4.8 N**	- -
Unknown Semi-volatile 5	UNKNOWNSVOA5	--	- -	- -
Unknown Semi-volatile 6	UNKNOWNSVOA6	--	**69 N**	- -
Unknown Semi-volatile 7	UNKNOWNSVOA7	--	- -	- -
Unknown Semi-volatile 8	UNKNOWNSVOA8	--	- -	- -
Unknown Semi-volatile 9	UNKNOWNSVOA9	--	- -	- -
Unknown Semi-volatile 10	UNKNOWNSVOA10	--	- -	- -
Unknown Semi-volatile 11	UNKNOWNSVOA11	--	- -	- -
Unknown Semi-volatile 12	UNKNOWNSVOA12	--	- -	- -
Unknown Semi-volatile 13	UNKNOWNSVOA13	--	- -	- -
Unknown Semi-volatile 14	UNKNOWNSVOA14	--	- -	- -
Unknown Semi-volatile 15	UNKNOWNSVOA15	--	- -	- -
Unknown Semi-volatile 16	UNKNOWNSVOA16	--	- -	- -
Unknown Semi-volatile 17	UNKNOWNSVOA17	--	- -	- -
Unknown Semi-volatile 18	UNKNOWNSVOA18	--	- -	- -
Unknown Semi-volatile 19	UNKNOWNSVOA19	--	- -	- -
Unknown Semi-volatile 20	UNKNOWNSVOA20	--	- -	- -

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
N = The analyte is a Tentatively Identified Compound.
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 3-10c
Groundwater Sampling Results - Background Metals
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-06	MW-20
Sample ID			MW-06-050712	MW-20-042712
Sample Date	CAS#	TOGS 1.1.1 GA*	5/7/2012	4/27/2012
Analyte				
Metals (ug/L)				
Aluminum	7429-90-5	--	50 U	**116**
Antimony	7440-36-0	3	2.5 U	0.5 U
Arsenic	7440-38-2	25	**4.25 J**	**0.628 J**
Barium	7440-39-3	1000	**69.2**	**59.6**
Beryllium	7440-41-7	3	0.5 U	0.5 U
Cadmium	7440-43-9	5	0.25 U	0.25 U
Calcium	7440-70-2	--	**128000**	**114000**
Chromium	7440-47-3	50	2.5 U	**2.97 J**
Cobalt	7440-48-4	--	2.5 U	2.5 U
Copper	7440-50-8	200	5 U	5 U
Iron	7439-89-6	300	**45.7 J**	**82.5 J**
Lead	7439-92-1	25	2.5 U	0.5 U
Magnesium	7439-95-4	35000	**29900**	**32000**
Manganese	7439-96-5	300	**45.7**	**47.6**
Mercury	7439-97-6	0.7	0.1 U	0.1 U
Nickel	7440-02-0	100	5 U	5 U
Potassium	7440-09-7	--	**1710**	**3230**
Selenium	7782-49-2	10	5 U	**5.11**
Silver	7440-22-4	50	5 U	5 U
Sodium	7440-23-5	20000	**40700**	**32900**
Thallium	7440-28-0	0.5	0.5 U	0.1 U
Vanadium	7440-62-2	--	5 U	**5.81 J**
Zinc	7440-66-6	2000	5 U	5 U
Metals, Dissolved (ug/L)				
Aluminum, Dissolved	7429-90-5_D	--	50 U	50 U
Antimony, Dissolved	7440-36-0_D	3	0.5 U	0.5 U
Arsenic, Dissolved	7440-38-2_D	25	**0.863 J**	**0.595 J**
Barium, Dissolved	7440-39-3_D	1000	**64.2**	**65.4**
Beryllium, Dissolved	7440-41-7_D	3	0.5 U	0.5 U
Cadmium, Dissolved	7440-43-9_D	5	0.25 U	0.25 U
Calcium, Dissolved	7440-70-2_D	--	**126000**	**118000**
Chromium, Dissolved	7440-47-3_D	50	2.5 U	2.5 U
Cobalt, Dissolved	7440-48-4_D	--	2.5 U	2.5 U
Copper, Dissolved	7440-50-8_D	200	5 U	5 U
Iron, Dissolved	7439-89-6_D	300	**49.7 J**	25 U
Lead, Dissolved	7439-92-1_D	25	0.5 U	0.5 U
Magnesium, Dissolved	7439-95-4_D	35000	**28700**	**27500**
Manganese, Dissolved	7439-96-5_D	300	**83.1**	5 U
Mercury, Dissolved	7439-97-6_D	0.7	0.1 U	0.1 U
Nickel, Dissolved	7440-02-0_D	100	5 U	5 U
Potassium, Dissolved	7440-09-7_D	--	**1570**	**4460**
Selenium, Dissolved	7782-49-2_D	10	**1.67**	**6.39**
Silver, Dissolved	7440-22-4_D	50	5 U	5 U
Sodium, Dissolved	7440-23-5_D	20000	**39100**	**22800**
Thallium, Dissolved	7440-28-0_D	0.5	**0.104 J**	0.1 U
Vanadium, Dissolved	7440-62-2_D	--	5 U	**5.82 J**
Zinc, Dissolved	7440-66-6_D	2000	5 U	5 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
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 3-10d
Groundwater Sampling Results - Background General Chemistry
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-06	MW-20
Sample ID			MW-06-050712	MW-20-042712
Sample Date	**CAS#**	**TOGS 1.1.1 GA***	5/7/2012	4/27/2012
Analyte				
WCHEM (ug/L)				
Alkalinity	ALK	--	**418000**	**396000**
Nitrate	14797-55-8	--	**111**	**834**
Phosphorus	7723-14-0	--	100 U	100 U
Sulfate	14808-79-8	250000	**20400**	**46600**
Total Organic Carbon	TOC	--	**7160**	**3420**
Dissolved Gases (ug/L)				
Carbon Dioxide	124-38-9	--	**50000**	**50000**
Methane	74-82-8	--	1 U	1 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
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
ug/L = Micrograms per Liter
During the April 2010 and April 2011 groundwater sampling events a Hach Kit was used to measure Ferrous Iron

Table 3-11
Groundwater Sampling Results for Methylmercury and Hexavalent Chromium in Select Monitoring Wells
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			MW-02		MW-03	MW-08	MW-09R		MW-21	MW-23	MW-32	EB-042512-GW
Sample ID			MW-02-050712	Dup-GW-050712	MW-03-050712	MW-08-050912	MW-09R-050912	DUP-GW-050912	MW-21-042512	MW-23-042512	MW-32-042512	EB-042512-GW
Sample Date			5/7/2012	5/7/2012	5/7/2012	5/9/2012	5/9/2012	5/9/2012	4/25/2012	4/25/2012	4/25/2012	4/25/2012
Analyte	**CAS#**	**TOGS 1.1.1 GA***										
Methylmercury (ng/L)	22967-92-6	0.7 [1]	NR	NR	NR	**0.2 JB**	**2.8 JB**	**0.39 B**	**14 B**	**0.35 B**	**0.7 B**	**0.07 B**
Hexavalent Chromium (ug/L)	18540-29-9	50	11.3 UH	11.3 UH	11.3 UH	NR	NR	NR	**4.3 JH**	**0.74 JH**	1.1 UH	0.56 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.
1 = There is no TOGS Class GA standard for methylmercury. Surface water standard for total mercury (0.7 ng/L) was used for comparison.
Bold indicates the analyte was detected
Shading indicates the result exceeded screening criteria
J = The analyte was positively identified; the associated numerical value is the approximate concentration.
B = Compound was found in the blank
H = Sample was prepped or analyzed beyond the specified holding time
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
ng/l = nanogram per liter
ug/L = microgram per liter
NR - Sample collection was not required; only five samples were collected for methyl mercury and hexavalent chromium.

Table 3-12a
Equipment Blanks and Trip Blanks - Volatile Organic Compounds
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location																
Sample ID			EB-042512-GW	EB-043012-GW	EB-050212-GW	EB-050812-GW	TB-042412	TB-042512	TB-042612	TB-043012	TB-050112	TB-050212	TB-050312	TB-050412	TB-050712	TB-050812	TB-050912
Sample Date		**TOGS 1.1.1**	4/25/2012	4/30/2012	5/2/2012	5/8/2012	4/24/2012	4/25/2012	4/26/2012	4/30/2012	5/1/2012	5/2/2012	5/3/2012	5/4/2012	5/7/2012	5/8/2012	5/9/2012
Analyte	**CAS#**	**GA***															
Volatile Organic Compounds (ug/L)																	
1,1,1-Trichloroethane	71-55-6	5	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,1,2,2-Tetrachloroethane	79-34-5	5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1,2-Trichloroethane	79-00-5	1	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,1-Dichloroethane	75-34-3	5	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U
1,1-Dichloroethene	75-35-4	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichlorobenzene	87-61-6	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene	120-82-1	5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2-Dibromo-3-chloropropane	96-12-8	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dibromoethane	106-93-4	--	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2-Dichlorobenzene	95-50-1	3	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U
1,2-Dichloroethane	107-06-2	0.6	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2-Dichloroethene, cis-	156-59-2	5	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2-Dichloroethene, trans-	156-60-5	5	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2-Dichloropropane	78-87-5	1	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,3-Dichlorobenzene	541-73-1	3	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,3-Dichloropropene, cis-	10061-01-5	0.4	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,3-Dichloropropene, trans-	10061-02-6	0.4	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,4-Dichlorobenzene	106-46-7	3	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U
2-Butanone	78-93-3	50	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
2-Hexanone	591-78-6	50	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
4-Methyl-2-pentanone	108-10-1	50	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Acetone	67-64-1	50	2.5 U	9.9 J	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Benzene	71-43-2	1	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U
Bromochloromethane	74-97-5	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Bromodichloromethane	75-27-4	50	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Bromoform	75-25-2	50	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromomethane	74-83-9	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon Disulfide	75-15-0	60	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.579 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon tetrachloride	56-23-5	5	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Chlorobenzene	108-90-7	5	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U
Chloroethane	75-00-3	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	67-66-3	7	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U
Chloromethane	74-87-3	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Cyclohexane	110-82-7	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dibromochloromethane	124-48-1	50	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Dichlorodifluoromethane	75-71-8	--	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Epichlorohydrin	106-89-8	5	UN	0 UN	0 N	0 N	0 N	0 N	N	0 N	0 UN	0 N	0 UN	N	0 N	0 N	0 UN
Ethylbenzene	100-41-4	5	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Isopropylbenzene	98-82-8	--	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Methyl Acetate	79-20-9	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methylcyclohexane	108-87-2	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methylene chloride	75-09-2	5	0.25 U	11	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Styrene	100-42-5	5	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U
tert-Butyl Methyl Ether	1634-04-4	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethene	127-18-4	5	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Toluene	108-88-3	5	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Trichloroethene	79-01-6	5	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Trichlorofluoromethane	75-69-4	--	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Trichlorotrifluoroethane	76-13-1	--	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U

Table 3-12a
Equipment Blanks and Trip Blanks - Volatile Organic Compounds
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location																
Sample ID		**TOGS 1.1.1**	EB-042512-GW	EB-043012-GW	EB-050212-GW	EB-050812-GW	TB-042412	TB-042512	TB-042612	TB-043012	TB-050112	TB-050212	TB-050312	TB-050412	TB-050712	TB-050812	TB-050912
Sample Date			4/25/2012	4/30/2012	5/2/2012	5/8/2012	4/24/2012	4/25/2012	4/26/2012	4/30/2012	5/1/2012	5/2/2012	5/3/2012	5/4/2012	5/7/2012	5/8/2012	5/9/2012
Analyte	**CAS#**	**GA***															
Volatile Organic Compounds (ug/L)																	
Vinyl chloride	75-01-4	2	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Xylene, m,p-	108-38-3/1	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Xylene, o-	95-47-6	--	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 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
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 3-12b
Equipment Blanks - Semi-volatile Organic Compounds
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location											
Sample ID			EB-042512-GW		EB-043012-GW		EB-050212-GW		EB-050812-GW	
Sample Date	**CAS#**	**TOGS 1.1.1 GA***	4/25/2012		4/30/2012		5/9/2012		5/8/2012	
Analyte										
Semi-volatile Organic Compounds (ug/L)										
1,3,5-Trinitrobenzene	99-35-4	--	2.55	U	2.81	U	2.66	U	2.75	U
1,3-Dinitrobenzene	99-65-0	--	2.55	U	2.81	U	2.66	U	2.75	U
1,4-Dioxane	123-91-1	--	5.1	U	5.62	U	5.32	U	5.49	U
2,4,5-Trichlorophenol	95-95-4	--	2.55	U	2.81	U	2.66	U	2.75	U
2,4,6-Trichlorophenol	88-06-2	--	2.55	U	2.81	U	2.66	U	2.75	U
2,4-Dichlorophenol	120-83-2	5	2.55	U	2.81	U	2.66	U	2.75	U
2,4-Dimethylphenol	105-67-9	50	2.55	U	2.81	U	2.66	U	2.75	U
2,4-Dinitrophenol	51-28-5	1	12.8	U	14	U	13.3	U	13.7	U
2,4-Dinitrotoluene	121-14-2	5	2.55	U	2.81	U	2.66	U	2.75	U
2,6-Dinitrotoluene	606-20-2	5	2.55	U	2.81	U	2.66	U	2.75	U
2-Chloronaphthalene	91-58-7	10	2.55	U	2.81	U	2.66	U	2.75	U
2-Chlorophenol	95-57-8	--	2.55	U	2.81	U	2.66	U	2.75	U
2-Methylnaphthalene	91-57-6	--	0.0255	U	0.0272	U	0.0275	U	0.0275	U
2-Methylphenol	95-48-7	--	2.55	U	2.81	U	2.66	U	2.75	U
2-Nitroaniline	88-74-4	5	12.8	U	14	U	13.3	U	13.7	U
2-Nitrophenol	88-75-5	--	2.55	U	2.81	U	2.66	U	2.75	U
3,3'-Dichlorobenzidine	91-94-1	5	2.55	U	2.81	U	2.66	U	2.75	U
3-Nitroaniline	99-09-2	5	12.8	U	14	U	13.3	U	13.7	U
4-Bromophenyl phenyl ether	101-55-3	--	2.55	U	2.81	U	2.66	U	2.75	U
4-Chloroaniline	106-47-8	5	2.55	U	2.81	U	2.66	U	2.75	U
4-Methylphenol	106-44-5	--	2.55	U	2.81	U	2.66	U	2.75	U
4-Nitrophenol	100-02-7	--	12.8	U	14	U	13.3	U	13.7	U
Acenaphthene	83-32-9	20	0.0255	U	0.0272	U	0.0275	U	0.0275	U
Acenaphthylene	208-96-8	--	0.0255	U	0.0272	U	0.0275	U	0.0275	U
Anthracene	120-12-7	50	0.0255	U	0.0272	U	0.0275	U	0.0275	U
Benzo(a)anthracene	56-55-3	0.002	0.0255	U	0.0272	U	0.0275	U	0.0275	U
Benzo(a)pyrene	50-32-8	0.002	0.0255	U	0.0272	U	0.0275	U	0.0275	U
Benzo(b)fluoranthene	205-99-2	0.002	0.0255	U	0.0272	U	0.0275	U	0.0275	U

Table 3-12b
Equipment Blanks - Semi-volatile Organic Compounds
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location											
Sample ID			EB-042512-GW		EB-043012-GW		EB-050212-GW		EB-050812-GW		
Sample Date	**CAS#**	**TOGS 1.1.1 GA***	4/25/2012		4/30/2012		5/9/2012		5/8/2012		
Analyte											
Semi-volatile Organic Compounds (ug/L)											
Benzo(g,h,i)perylene	191-24-2	--	0.0255	U	0.0272	U	0.0275	U	0.0275	U	
Benzo(k)fluoranthene	207-08-9	0.002	0.0255	U	0.0272	U	0.0275	U	0.0275	U	
Benzoic Acid	65-85-0	--	10.2	U	11.2	U	10.6	U	11	U	
Benzyl Alcohol	100-51-6	--	2.55	U	2.81	U	2.66	U	2.75	U	
Biphenyl (diphenyl)	92-52-4	--	2.55	U	2.81	U	2.66	U	2.75	U	
Bis (2-chloroethoxy) methane	111-91-1	5	2.55	U	2.81	U	2.66	U	2.75	U	
Bis (2-chloroethyl) ether	111-44-4	1	2.55	U	2.81	U	2.66	U	2.75	U	
Bis (2-ethylhexyl) phthalate	117-81-7	5	2.55	U	2.81	U	2.66	U	2.75	U	
Butyl benzylphthalate	85-68-7	50	2.55	U	2.81	U	2.66	U	2.75	U	
Carbazole	86-74-8	--	2.55	U	2.81	U	2.66	U	2.75	U	
Chrysene	218-01-9	0.002	0.0255	U	0.0272	U	0.0275	U	0.0275	U	
Di-n-butylphthalate	84-74-2	50	2.55	U	2.81	U	2.66	U	2.75	U	
Di-n-octylphthalate	117-84-0	50	2.55	U	2.81	U	2.66	U	2.75	U	
Dibenzo (a,h) anthracene	53-70-3	--	0.0255	U	0.0272	U	0.0275	U	0.0275	U	
Dibenzofuran	132-64-9	--	2.55	U	2.81	U	2.66	U	2.75	U	
Diethyl phthalate	84-66-2	50	2.55	U	2.81	U	2.66	U	2.75	U	
Dimethyl phthalate	131-11-3	50	2.55	U	2.81	U	2.66	U	2.75	U	
Fluoranthene	206-44-0	50	0.0255	U	0.0272	U	0.0275	U	0.0275	U	
Fluorene	86-73-7	50	0.0255	U	0.0272	U	0.0275	U	0.0275	U	
Hexachlorobenzene	118-74-1	0.04	2.55	U	2.81	U	2.66	U	2.75	U	
Hexachlorobutadiene	87-68-3	0.5	2.55	U	2.81	U	2.66	U	2.75	U	
Hexachlorocyclopentadiene	77-47-4	5	2.55	U	2.81	U	2.66	U	2.75	U	
Hexachloroethane	67-72-1	5	2.55	U	2.81	U	2.66	U	2.75	U	
Indeno (1,2,3-c,d) pyrene	193-39-5	0.002	0.0255	U	0.0272	U	0.0275	U	0.0275	U	
Isophorone	78-59-1	50	2.55	U	2.81	U	2.66	U	2.75	U	
n-Nitrosodiphenylamine	86-30-6	50	2.55	U	2.81	U	2.66	U	2.75	U	
Naphthalene	91-20-3	10	0.0255	U	0.0272	U	0.0275	U	0.0275	U	
Nitrobenzene	98-95-3	0.4	2.55	U	2.81	U	2.66	U	2.75	U	

Table 3-12b
Equipment Blanks - Semi-volatile Organic Compounds
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location											
Sample ID			EB-042512-GW		EB-043012-GW		EB-050212-GW		EB-050812-GW		
Sample Date	**CAS#**	**TOGS 1.1.1 GA***	4/25/2012		4/30/2012		5/9/2012		5/8/2012		
Analyte											
Semi-volatile Organic Compounds (ug/L)											
Pentachlorophenol	87-86-5	1	12.8	U	14	U	13.3	U	13.7	U	
Phenanthrene	85-01-8	50	0.0255	U	0.0272	U	0.0275	U	0.0275	U	
Phenol	108-95-2	1	2.55	U	2.81	U	2.66	U	2.75	U	
Pyrene	129-00-0	50	0.0255	U	0.0272	U	0.0275	U	0.0275	U	
Semivolatile Organic Compounds, TIC (ug/L)											
[1,4,5]Oxadithiepane	3886-40-6	--	--		--		--		--		
1,1,2,2-Tetrachloroethane, TIC	79-34-5_TIC-SV	--	--		--		--		--		
1,1,2-Trichloroethane, TIC	79-00-5_TIC-SV	--	--		--		--		--		
1,2,4,5-Tetrathiane	291-22-5	--	--		--		--		--		
1,2,4,6-Tetrathiepane	292-45-5	--	--		--		--		--		
1,4,7,10,13,16-Hexaoxanonadeca	1000163-64-0	--	--		--		--		--		
1,4-Oxathiane	15980-15-1	--	--		--		--		--		
108-11-2	108-11-2	--	--		--		--		--		
2-Hexanol	626-93-7	--	--		--		--		--		
2-Propanone, 1-chloro-	78-95-5	--	--		--		--		--		
2615-15-8	2615-15-8	--	--		--		--		--		
291-21-4	291-21-4	--	--		--		--		--		
3-Mercaptopropionic acid	107-96-0	--	--		--		--		--		
4-Methyl-2-pentanone, TIC	108-10-1_TIC-SV	--	--		--		--		--		
590-90-9	590-90-9	--	--		--		--		33.8	TI	
60-24-2	60-24-2	--	--		--		--		--		
96-27-5	96-27-5	--	--		--		--		--		
Acetic acid, mercapto-	68-11-1	--	--		--		--		--		
Acetic acid, mercapto-, methyl est	2365-48-2	--	--		--		--		--		
Benzene, TIC	71-43-2_TIC-SV	--	--		--		--		--		
Benzenepropanoic acid	501-52-0	--	--		--		--		--		
Cyclic octaatomic sulfur	10544-50-0	--	--		--		--		--		
Dimethyl sulfone	67-71-0	--	--		--		--		--		

Table 3-12b
Equipment Blanks - Semi-volatile Organic Compounds
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location													
Sample ID			EB-042512-GW		EB-043012-GW		EB-050212-GW		EB-050812-GW				
Sample Date	**CAS#**	**TOGS 1.1.1 GA***	4/25/2012		4/30/2012		5/9/2012		5/8/2012				
Analyte													
Semi-volatile Organic Compounds (ug/L)													
Dimethyl trisulfide, TIC	3658-80-8_TIC-SV	--	--		--		--		--				
Dodecanoic acid	143-07-7	--	--		--		--		--				
Heptaethylene glycol	5617-32-3	--	--		--		--		--				
Hexadecenoic acid, Z-11-	2416-20-8	--	--		--		--		--				
Methyl isobutenyl ketone	141-79-7	--	--		--		--		--				
Morpholine	110-91-8	--	--		--		--		--				
N,N-Diethyl-2-aminoethanol	100-37-8	--	--		--		--		--				
Octadecanoic acid	57-11-4	--	--		--		--		--				
Octaethylene glycol	1000289-34-2	--	--		--		--		--				
Palmitic acid	57-10-3	--	--		--		--		--				
Pentane, 1,1'-oxybis-	693-65-2	--	--		--		--		--				
Propionic Acid	79-09-4	--	--		--		--		--				
Sulfur	13798-23-7	--	--		--		--		--				
tert-Amyl methyl ether	994-05-8	--	--		--		73.6	N	--				
Unknown Semi-volatile 1	UNKNOWNSVOA1	--	4.95	N	--		--		--				
Unknown Semi-volatile 2	UNKNOWNSVOA2	--	--		6.61	N	4.47	N			11.7	TI	
Unknown Semi-volatile 3	UNKNOWNSVOA3	--	--		8.27	N	13.7	N	--				
Unknown Semi-volatile 4	UNKNOWNSVOA4	--	--		9.26	N	5.29	N	--				
Unknown Semi-volatile 5	UNKNOWNSVOA5	--	--		5.8	N	7.74	N	--				
Unknown Semi-volatile 6	UNKNOWNSVOA6	--	--		8.19	N	11.2	N	--				
Unknown Semi-volatile 7	UNKNOWNSVOA7	--	--		4.54	N	6.51	N	--				
Unknown Semi-volatile 8	UNKNOWNSVOA8	--	--		5.09	N	8.05	N	--				
Unknown Semi-volatile 9	UNKNOWNSVOA9	--	--		5.6	N	8.03	N	--				
Unknown Semi-volatile 10	UNKNOWNSVOA10	--	--		--		6.2	N	--				
Unknown Semi-volatile 11	UNKNOWNSVOA11	--	--		--		--		--				
Unknown Semi-volatile 12	UNKNOWNSVOA12	--	--		--		--		--				
Unknown Semi-volatile 13	UNKNOWNSVOA13	--	--		--		--		--				
Unknown Semi-volatile 14	UNKNOWNSVOA14	--	--		--		--		--				

Table 3-12b
Equipment Blanks - Semi-volatile Organic Compounds
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location						
Sample ID			EB-042512-GW	EB-043012-GW	EB-050212-GW	EB-050812-GW
Sample Date	**CAS#**	**TOGS 1.1.1 GA***	4/25/2012	4/30/2012	5/9/2012	5/8/2012
Analyte						
Semi-volatile Organic Compounds (ug/L)						
Unknown Semi-volatile 15	UNKNOWNSVOA15	--	--	--	--	--
Unknown Semi-volatile 16	UNKNOWNSVOA16	--	--	--	--	--
Unknown Semi-volatile 17	UNKNOWNSVOA17	--	--	--	--	--
Unknown Semi-volatile 18	UNKNOWNSVOA18	--	--	--	--	--
Unknown Semi-volatile 19	UNKNOWNSVOA19	--	--	--	--	--
Unknown Semi-volatile 20	UNKNOWNSVOA20	--	--	--	--	--

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
N = The analyte is a Tentatively Identified Compound.
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
ug/L = micrograms per liter

Table 3-12c
Equipment Blanks - Total Metals
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location								
Sample ID			EB-042512-GW		EB-043012-GW		EB-050212-GW	EB-050812-GW
Sample Date	**CAS#**	**TOGS 1.1.1 GA***	4/25/2012		4/30/2012		5/9/2012	5/8/2012
Analyte								
Aluminum	7429-90-5	--	0.05	U	0.05	U	0.05 U	0.05 U
Antimony	7440-36-0	3	0.0005	U	0.0005	U	0.0005 U	0.0005 U
Arsenic	7440-38-2	25	0.0005	U	0.0005	U	0.0005 U	0.0005 U
Barium	7440-39-3	1000	0.0025	U	0.0025	U	0.0025 U	0.0025 U
Beryllium	7440-41-7	3	0.0005	U	0.0005	U	0.0005 U	0.0005 U
Cadmium	7440-43-9	5	0.00025	U	0.000325	J	0.00025 U	0.00025 U
Calcium	7440-70-2	--	0.1	U	0.263		0.135 J	0.176 J
Chromium	7440-47-3	50	0.0025	U	0.0025	U	0.0025 U	0.0025 U
Cobalt	7440-48-4	--	0.0025	U	0.0025	U	0.0025 U	0.0025 U
Copper	7440-50-8	200	0.005	U	0.005	U	0.005 U	0.005 U
Iron	7439-89-6	300	0.025	U	0.025	U	0.025 U	0.025 U
Lead	7439-92-1	25	0.0005	U	0.0005	U	0.0005 U	0.0005 U
Magnesium	7439-95-4	35000	0.25	U	0.25	U	0.25 U	0.25 U
Manganese	7439-96-5	300	0.005	U	0.005	U	0.005 U	0.005 U
Mercury	7439-97-6	0.7	0.0001	U	0.0001	U	0.0001 U	0.0001 U
Nickel	7440-02-0	100	0.005	U	0.005	U	0.005 U	0.005 U
Potassium	7440-09-7	--	0.25	U	0.25	U	0.25 U	0.25 U
Selenium	7782-49-2	10	0.0005	U	0.0005	U	0.0005 U	0.0005 U
Silver	7440-22-4	50	0.005	U	0.005	U	0.005 U	0.005 U
Sodium	7440-23-5	20000	0.294	J	0.753		0.269 J	0.251 J
Thallium	7440-28-0	0.5	0.0001	U	0.0001	U	0.0001 U	0.0001 U
Vanadium	7440-62-2	--	0.005	U	0.00845	J	0.005 U	0.005 U
Zinc	7440-66-6	2000	0.005	U	0.0068	J	0.005 U	0.005 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
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 3-13
Equipment Blanks - Methylmercury and Hexavalent Chromium
April 2012
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Location			
Sample ID			EB-042512-GW
Sample Date	**CAS#**	**TOGS 1.1.1 GA***	4/25/2012
Analyte			
Methylmercury (ng/L)	22967-92-6	0.7 [1]	**0.07 B**
Hexavalent Chromium (ug/L)	18540-29-9	50	0.56 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.

1 = There is no TOGS Class GA standard for methylmercury. Surface water standard for total mercury (0.7 ng/L) was used for comparison.

Bold indicates the analyte was detected

B = Compound was found in the blank

U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

ug/L = micrograms per liter

ng/l = nanogram per liter

Figures

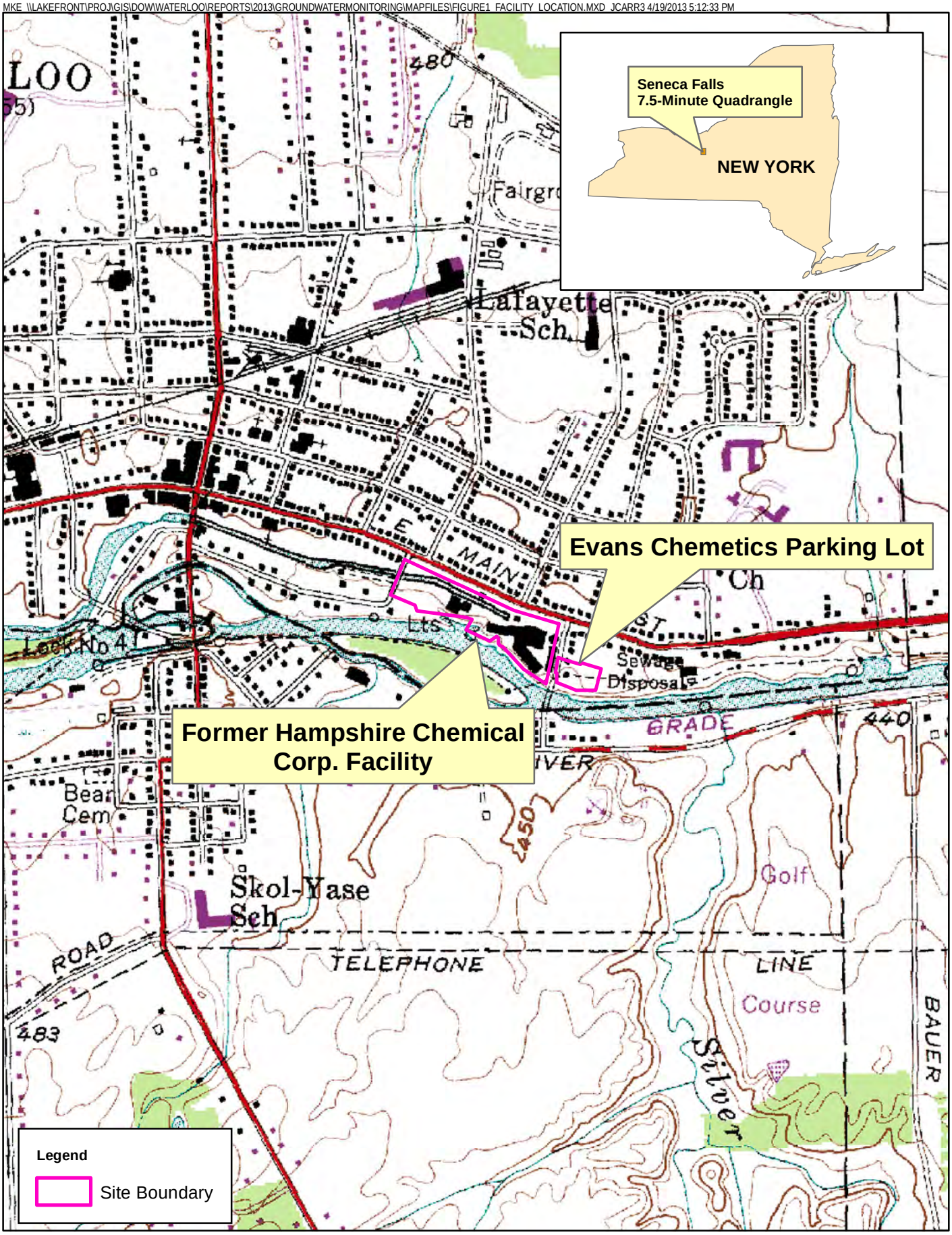


Figure 1-1 Facility Location Map
Groundwater Monitoring Results Report - April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility
Waterloo, New York

CH2MHILL

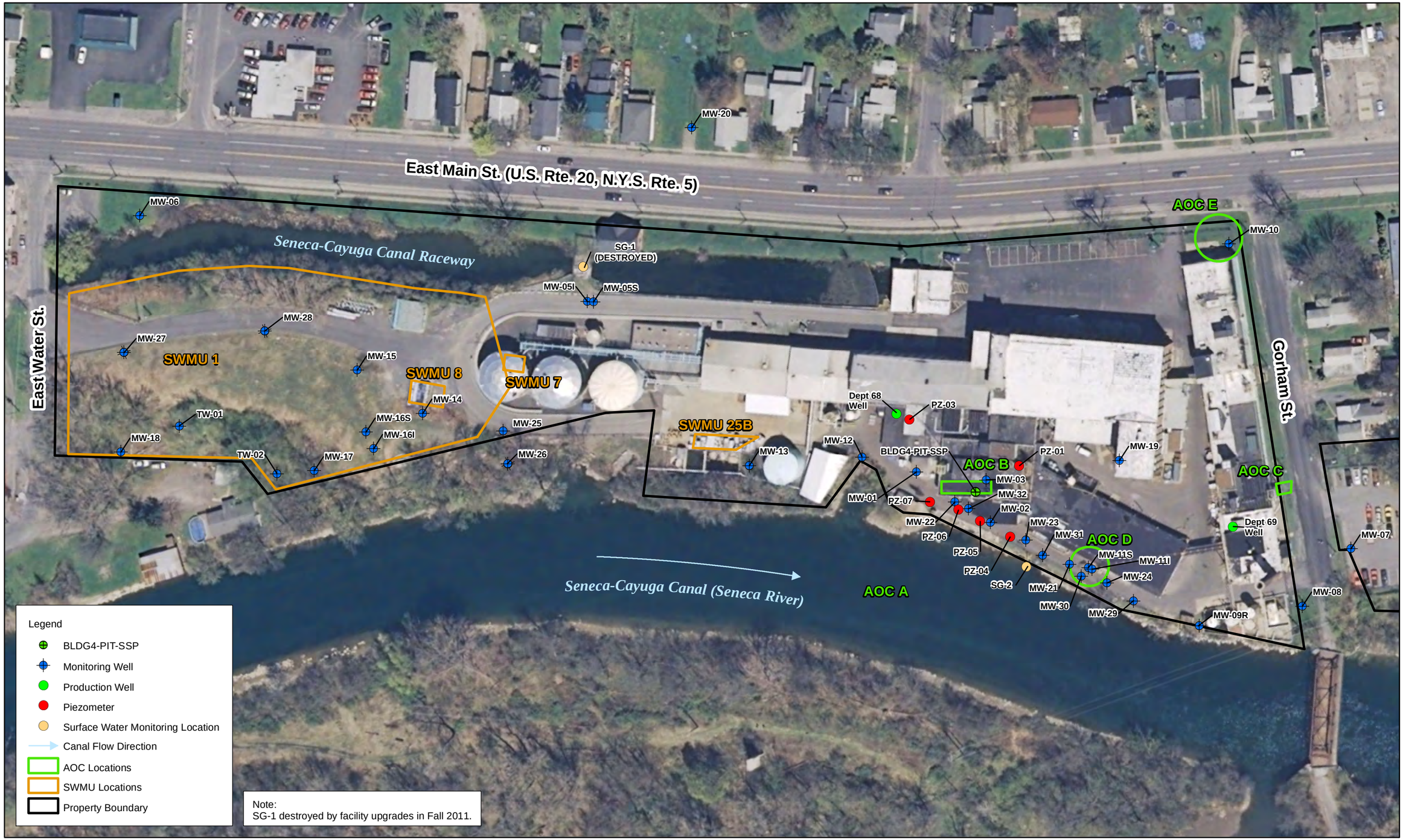


Figure 1-2
Site Layout
Groundwater Monitoring Results Report - April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility
Waterloo, New York

CH2MHILL

MKE \\LAKEFRONT\PROJ\GIS\DOW\WATERLOO\REPORTS\2013\GROUNDWATERMONITORING\MAPFILES\FIGURE2_SITE_LAYOUT.MXD JCARR3 4/19/2013 5:20:14 PM

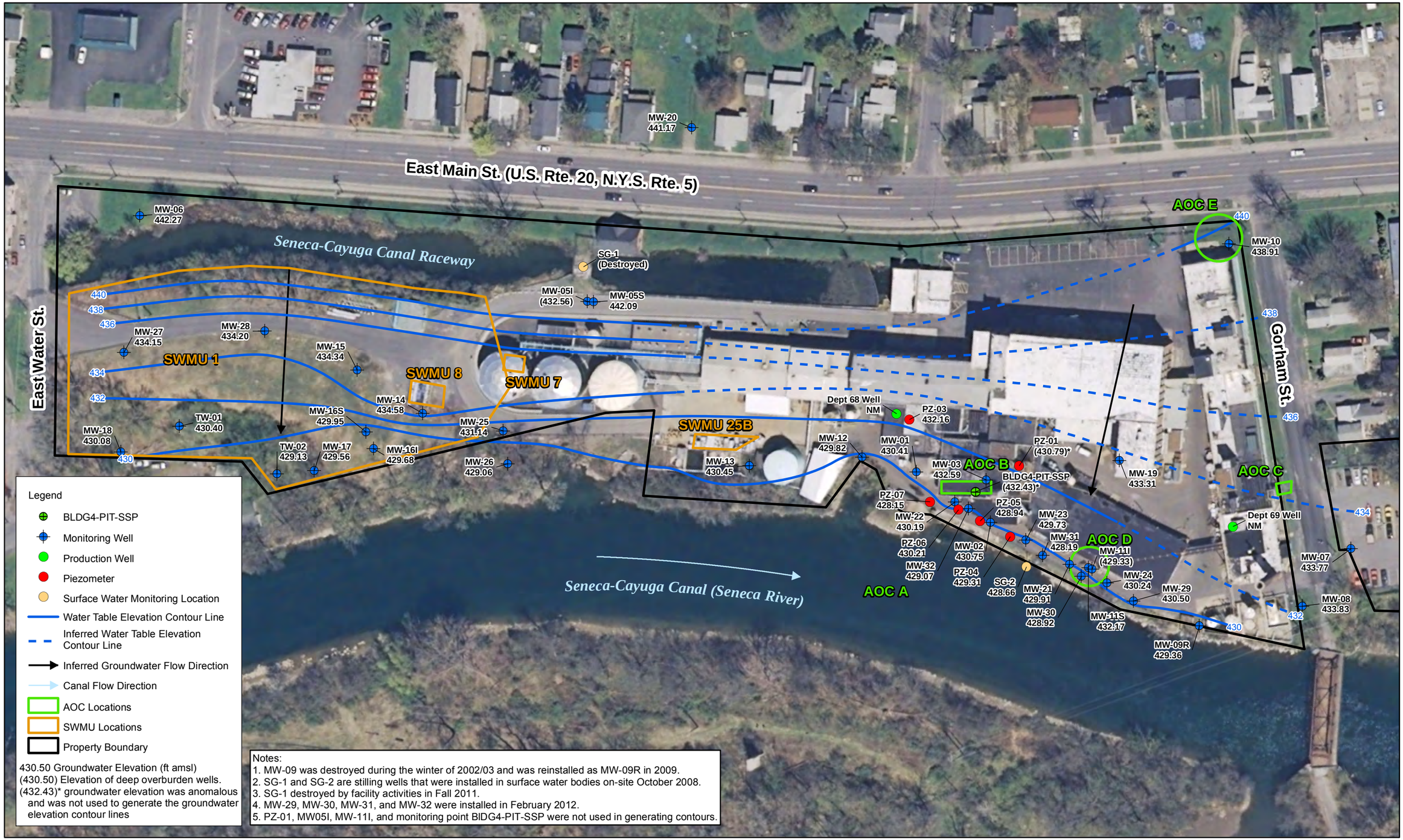


Figure 3-1
Groundwater Elevation Contour Map - April 2012
Groundwater Monitoring Results Report - April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility
Waterloo, New York

CH2MHILL

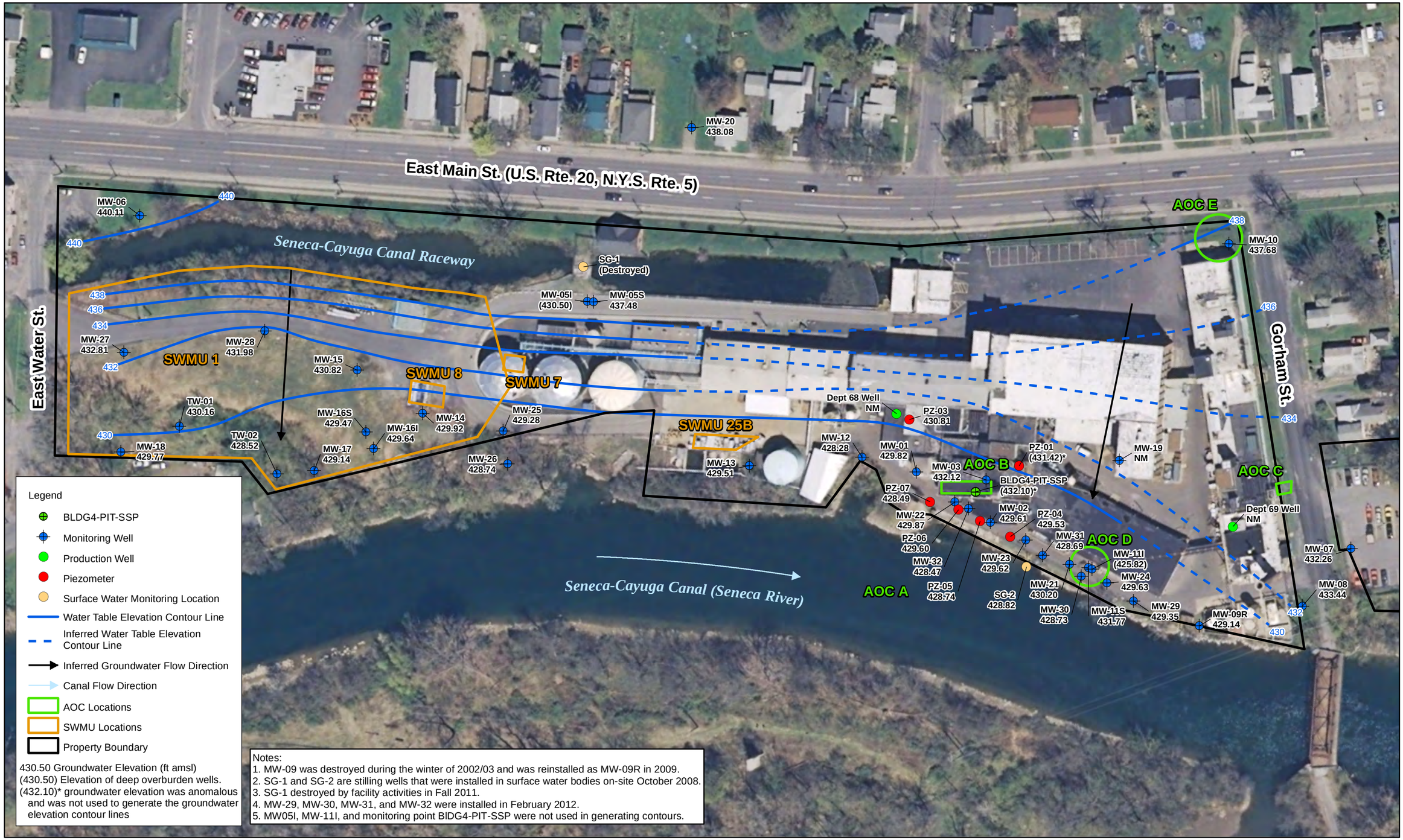
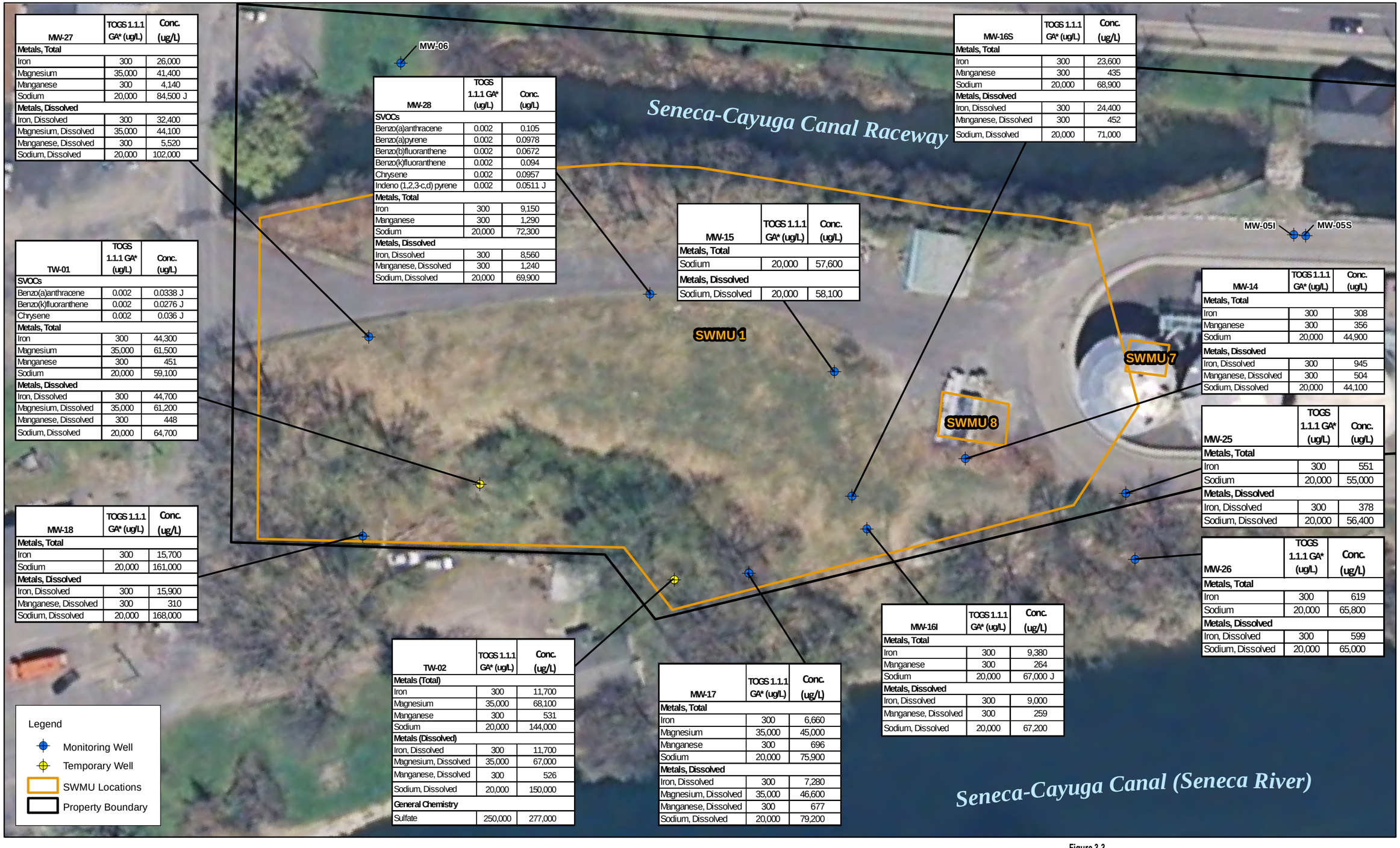


Figure 3-2
Groundwater Elevation Contour Map - October 2012
Groundwater Monitoring Results Report - April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility
Waterloo, New York

CH2MHILL

MKE \\LAKEFRONT\PROJ\GIS\DOW\WATERLOO\REPORTS\2013\GROUNDWATERMONITORING\MAPFILES\FIGURE3-2_GROUNDWATERELEVATION_OCTOBER2012.MXD JCARR3 4/19/2013 5:31:54 PM



MW-27	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
Metals, Total		
Iron	300	26,000
Magnesium	35,000	41,400
Manganese	300	4,140
Sodium	20,000	84,500 J
Metals, Dissolved		
Iron, Dissolved	300	32,400
Magnesium, Dissolved	35,000	44,100
Manganese, Dissolved	300	5,520
Sodium, Dissolved	20,000	102,000

MW-28	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
SVOCs		
Benzo(a)anthracene	0.002	0.105
Benzo(a)pyrene	0.002	0.0978
Benzo(b)fluoranthene	0.002	0.0672
Benzo(k)fluoranthene	0.002	0.094
Chrysene	0.002	0.0957
Indeno (1,2,3-c,d) pyrene	0.002	0.0511 J
Metals, Total		
Iron	300	9,150
Manganese	300	1,290
Sodium	20,000	72,300
Metals, Dissolved		
Iron, Dissolved	300	8,560
Manganese, Dissolved	300	1,240
Sodium, Dissolved	20,000	69,900

MW-16S	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
Metals, Total		
Iron	300	23,600
Manganese	300	435
Sodium	20,000	68,900
Metals, Dissolved		
Iron, Dissolved	300	24,400
Manganese, Dissolved	300	452
Sodium, Dissolved	20,000	71,000

MW-15	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
Metals, Total		
Sodium	20,000	57,600
Metals, Dissolved		
Sodium, Dissolved	20,000	58,100

MW-14	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
Metals, Total		
Iron	300	308
Manganese	300	356
Sodium	20,000	44,900
Metals, Dissolved		
Iron, Dissolved	300	945
Manganese, Dissolved	300	504
Sodium, Dissolved	20,000	44,100

TW-01	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
SVOCs		
Benzo(a)anthracene	0.002	0.0338 J
Benzo(k)fluoranthene	0.002	0.0276 J
Chrysene	0.002	0.036 J
Metals, Total		
Iron	300	44,300
Magnesium	35,000	61,500
Manganese	300	451
Sodium	20,000	59,100
Metals, Dissolved		
Iron, Dissolved	300	44,700
Magnesium, Dissolved	35,000	61,200
Manganese, Dissolved	300	448
Sodium, Dissolved	20,000	64,700

MW-25	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
Metals, Total		
Iron	300	551
Sodium	20,000	55,000
Metals, Dissolved		
Iron, Dissolved	300	378
Sodium, Dissolved	20,000	56,400

MW-18	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
Metals, Total		
Iron	300	15,700
Sodium	20,000	161,000
Metals, Dissolved		
Iron, Dissolved	300	15,900
Manganese, Dissolved	300	310
Sodium, Dissolved	20,000	168,000

MW-26	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
Metals, Total		
Iron	300	619
Sodium	20,000	65,800
Metals, Dissolved		
Iron, Dissolved	300	599
Sodium, Dissolved	20,000	65,000

TW-02	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
Metals (Total)		
Iron	300	11,700
Magnesium	35,000	68,100
Manganese	300	531
Sodium	20,000	144,000
Metals (Dissolved)		
Iron, Dissolved	300	11,700
Magnesium, Dissolved	35,000	67,000
Manganese, Dissolved	300	526
Sodium, Dissolved	20,000	150,000
General Chemistry		
Sulfate	250,000	277,000

MW-17	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
Metals, Total		
Iron	300	6,660
Magnesium	35,000	45,000
Manganese	300	696
Sodium	20,000	75,900
Metals, Dissolved		
Iron, Dissolved	300	7,280
Magnesium, Dissolved	35,000	46,600
Manganese, Dissolved	300	677
Sodium, Dissolved	20,000	79,200

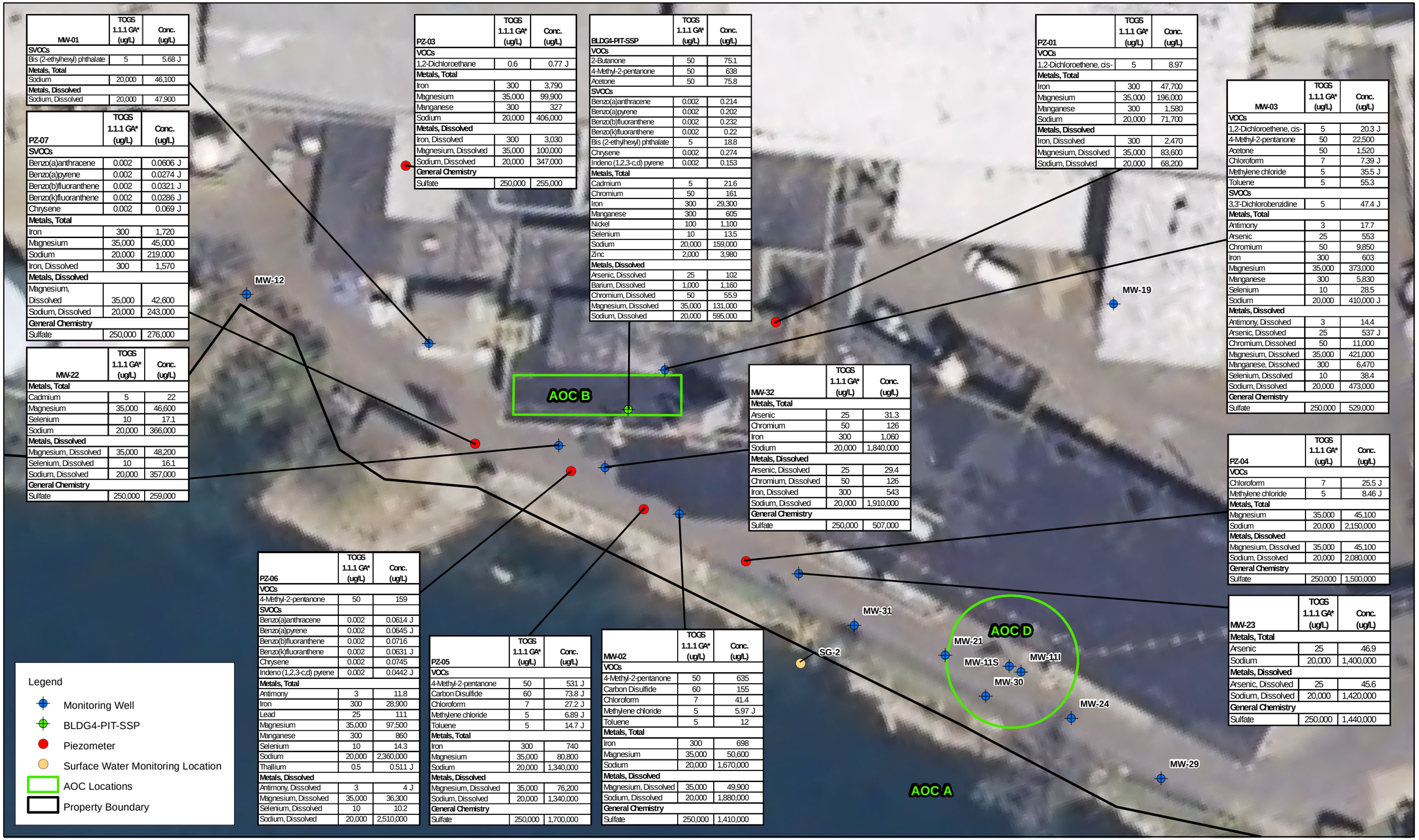
MW-16I	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
Metals, Total		
Iron	300	9,380
Manganese	300	264
Sodium	20,000	67,000 J
Metals, Dissolved		
Iron, Dissolved	300	9,000
Manganese, Dissolved	300	259
Sodium, Dissolved	20,000	67,200

Notes:
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
SVOC – Semi Volatile Organic Compounds
ug/L – micrograms per liter

J – the constituent compound was estimated
NYSDEC TOGS 1.1.1 GA values for total metals were used as screening criteria for dissolved metal concentrations

Figure 3-3
Groundwater Analytical Exceedances at SWMU 1and SWMU 7 - April 2012
Groundwater Monitoring Results Report - April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility
Waterloo, New York

CH2MHILL



MW-01	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
SVOCs		
Bis (2-ethylhexyl) phthalate	5	5.68 J
Metals, Total		
Sodium	20,000	46,100
Metals, Dissolved		
Sodium, Dissolved	20,000	47,900

PZ-07	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
SVOCs		
Benzo(a)anthracene	0.002	0.0606 J
Benzo(a)pyrene	0.002	0.0274 J
Benzo(b)fluoranthene	0.002	0.0321 J
Benzo(k)fluoranthene	0.002	0.0286 J
Chrysene	0.002	0.069 J
Metals, Total		
Iron	300	1,720
Magnesium	35,000	45,000
Sodium	20,000	219,000
Iron, Dissolved	300	1,570
Metals, Dissolved		
Magnesium, Dissolved	35,000	42,600
Sodium, Dissolved	20,000	243,000
General Chemistry		
Sulfate	250,000	276,000

MW-22	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
Metals, Total		
Cadmium	5	22
Magnesium	35,000	46,600
Selenium	10	17.1
Sodium	20,000	366,000
Metals, Dissolved		
Magnesium, Dissolved	35,000	48,200
Selenium, Dissolved	10	16.1
Sodium, Dissolved	20,000	357,000
General Chemistry		
Sulfate	250,000	259,000

PZ-03	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
VOCs		
1,2-Dichloroethane	0.6	0.77 J
Metals, Total		
Iron	300	3,790
Magnesium	35,000	99,900
Manganese	300	327
Sodium	20,000	406,000
Metals, Dissolved		
Iron, Dissolved	300	3,030
Magnesium, Dissolved	35,000	100,000
Sodium, Dissolved	20,000	347,000
General Chemistry		
Sulfate	250,000	255,000

BLDG4-PIT-SSP	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
VOCs		
2-Butanone	50	75.1
4-Methyl-2-pentanone	50	638
Acetone	50	75.8
SVOCs		
Benzo(a)anthracene	0.002	0.214
Benzo(a)pyrene	0.002	0.202
Benzo(b)fluoranthene	0.002	0.232
Benzo(k)fluoranthene	0.002	0.22
Bis (2-ethylhexyl) phthalate	5	18.8
Chrysene	0.002	0.274
Indeno (1,2,3-c,d) pyrene	0.002	0.153
Metals, Total		
Cadmium	5	21.6
Chromium	50	161
Iron	300	29,300
Manganese	300	605
Nickel	100	1,100
Selenium	10	13.5
Sodium	20,000	159,000
Zinc	2,000	3,980
Metals, Dissolved		
Arsenic, Dissolved	25	102
Barium, Dissolved	1,000	1,160
Chromium, Dissolved	50	55.9
Magnesium, Dissolved	35,000	131,000
Sodium, Dissolved	20,000	595,000

PZ-01	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
VOCs		
1,2-Dichloroethene, cis-	5	8.97
Metals, Total		
Iron	300	47,700
Magnesium	35,000	196,000
Manganese	300	1,580
Sodium	20,000	71,700
Metals, Dissolved		
Iron, Dissolved	300	2,470
Magnesium, Dissolved	35,000	83,600
Sodium, Dissolved	20,000	68,200

MW-03	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
VOCs		
1,2-Dichloroethene, cis-	5	20.3 J
4-Methyl-2-pentanone	50	22,500
Acetone	50	1,520
Chloroform	7	7.39 J
Methylene chloride	5	35.5 J
Toluene	5	55.3
SVOCs		
3,3'-Dichlorobenzidine	5	47.4 J
Metals, Total		
Antimony	3	17.7
Arsenic	25	553
Chromium	50	9,850
Iron	300	603
Magnesium	35,000	373,000
Manganese	300	5,830
Selenium	10	28.5
Sodium	20,000	410,000 J
Metals, Dissolved		
Antimony, Dissolved	3	14.4
Arsenic, Dissolved	25	537 J
Chromium, Dissolved	50	11,000
Magnesium, Dissolved	35,000	421,000
Manganese, Dissolved	300	6,470
Selenium, Dissolved	10	38.4
Sodium, Dissolved	20,000	473,000
General Chemistry		
Sulfate	250,000	529,000

MW-32	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
Metals, Total		
Arsenic	25	31.3
Chromium	50	126
Iron	300	1,060
Sodium	20,000	1,840,000
Metals, Dissolved		
Arsenic, Dissolved	25	29.4
Chromium, Dissolved	50	126
Iron, Dissolved	300	543
Sodium, Dissolved	20,000	1,910,000
General Chemistry		
Sulfate	250,000	507,000

PZ-04	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
VOCs		
Chloroform	7	25.5 J
Methylene chloride	5	8.46 J
Metals, Total		
Magnesium	35,000	45,100
Sodium	20,000	2,150,000
Metals, Dissolved		
Magnesium, Dissolved	35,000	45,100
Sodium, Dissolved	20,000	2,080,000
General Chemistry		
Sulfate	250,000	1,500,000

MW-23	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
Metals, Total		
Arsenic	25	46.9
Sodium	20,000	1,400,000
Metals, Dissolved		
Arsenic, Dissolved	25	45.6
Sodium, Dissolved	20,000	1,420,000
General Chemistry		
Sulfate	250,000	1,440,000

PZ-06	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
VOCs		
4-Methyl-2-pentanone	50	159
SVOCs		
Benzo(a)anthracene	0.002	0.0614 J
Benzo(a)pyrene	0.002	0.0645 J
Benzo(b)fluoranthene	0.002	0.0716
Benzo(k)fluoranthene	0.002	0.0631 J
Chrysene	0.002	0.0745
Indeno (1,2,3-c,d) pyrene	0.002	0.0442 J
Metals, Total		
Antimony	3	11.8
Iron	300	28,900
Lead	25	111
Magnesium	35,000	97,500
Manganese	300	860
Selenium	10	14.3
Sodium	20,000	2,360,000
Thallium	0.5	0.511 J
Metals, Dissolved		
Antimony, Dissolved	3	4 J
Magnesium, Dissolved	35,000	36,300
Selenium, Dissolved	10	10.2
Sodium, Dissolved	20,000	2,510,000

PZ-05	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
VOCs		
4-Methyl-2-pentanone	50	531 J
Carbon Disulfide	60	73.8 J
Chloroform	7	27.2 J
Methylene chloride	5	6.89 J
Toluene	5	14.7 J
Metals, Total		
Iron	300	740
Magnesium	35,000	80,800
Sodium	20,000	1,340,000
Metals, Dissolved		
Magnesium, Dissolved	35,000	76,200
Sodium, Dissolved	20,000	1,340,000
General Chemistry		
Sulfate	250,000	1,700,000

MW-02	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
VOCs		
4-Methyl-2-pentanone	50	635
Carbon Disulfide	60	155
Chloroform	7	41.4
Methylene chloride	5	5.97 J
Toluene	5	12
Metals, Total		
Iron	300	698
Magnesium	35,000	50,600
Sodium	20,000	1,670,000
Metals, Dissolved		
Magnesium, Dissolved	35,000	49,900
Sodium, Dissolved	20,000	1,880,000
General Chemistry		
Sulfate	250,000	1,410,000

0 30 60
Feet

Notes:
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
SVOC – Semi Volatile Organic Compounds
ug/L – micrograms per liter
J – the constituent compound was estimated

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 MIBK. Per the NYSDEC (2005), the MIBK 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 3-4
Groundwater Analytical Exceedances at AOC B - April 2012
Groundwater Monitoring Results Report - April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility
Waterloo, New York

CH2MHILL

MW-07	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
Metals, Total		
Selenium	10	10.4
Sodium	20,000	558,000
Metals, Dissolved		
Selenium, Dissolved	10	11.4
Sodium, Dissolved	20,000	584,000

MW-08	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
Metals, Total		
Sodium	20,000	189,000
Metals, Dissolved		
Sodium, Dissolved	20,000	180,000
General Chemistry		
Sulfate	250,000	321,000

0 30 60
Feet

Notes:
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
ug/L – micrograms per liter

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 - AOC C - April 2012
Groundwater Monitoring Results Report -
April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility
Waterloo, New York

CH2MHILL

MKE \\LAKEFRONT\PROJ\GIS\DOW\WATERLOO\REPORTS\2013\GROUNDWATERMONITORING\MAPFILES\FIGURE3-5_GROUNDWATEREXCEEDANCES_AOC-C.MXD JCARR3 4/19/2013 6:13:20 PM

MW-21	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
Metals, Total		
Antimony	3	133
Arsenic	25	24,000
Cadmium	5	21.5
Chromium	50	73.7
Iron	300	447
Nickel	100	219
Sodium	20,000	7,610,000
Metals, Dissolved		
Antimony, Dissolved	3	129
Arsenic, Dissolved	25	21,800
Cadmium, Dissolved	5	32.5
Chromium, Dissolved	50	75.1
Nickel, Dissolved	100	205
Sodium, Dissolved	20,000	7,750,000
General Chemistry		
Sulfate	250,000	736,000

MW-11I	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
Metals, Total		
Iron	300	2,920
Magnesium	35,000	64,300
Sodium	20,000	244,000
Metals, Dissolved		
Iron, Dissolved	300	2,670
Magnesium, Dissolved	35,000	63,900
Sodium, Dissolved	20,000	249,000
General Chemistry		
Sulfate	250,000	555,000

MW-24	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
Metals, Total		
Iron	300	11,800
Magnesium	35,000	57,800
Manganese	300	636
Sodium	20,000	723,000
Metals, Dissolved		
Iron, Dissolved	300	6,790
Magnesium, Dissolved	35,000	52,500
Manganese, Dissolved	300	619
Sodium, Dissolved	20,000	703,000
General Chemistry		
Sulfate	250,000	265,000

MW-31	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
VOCs		
Acetone	50	58.2 J
SVOCs		
Benzo(a)anthracene	0.002	0.0414 J
Chrysene	0.002	0.066 J
Metals, Total		
Antimony	3	17.5
Arsenic	25	53.6
Cadmium	5	135
Chromium	50	655
Copper	200	380
Iron	300	49,500
Lead	25	3,500
Manganese	300	484
Mercury	0.7	4.01
Nickel	100	104
Sodium	20,000	1,850,000
Thallium	0.5	1.02
Zinc	2,000	7,700
Metals, Dissolved		
Antimony, Dissolved	3	18.4
Arsenic, Dissolved	25	51.4
Cadmium, Dissolved	5	102
Chromium, Dissolved	50	587
Copper, Dissolved	200	288
Iron, Dissolved	300	38,400
Lead, Dissolved	25	2,940
Manganese, Dissolved	300	389
Mercury, Dissolved	0.7	5.23
Selenium, Dissolved	10	10.6
Sodium, Dissolved	20,000	1,760,000
Thallium, Dissolved	0.5	0.873
Zinc, Dissolved	2,000	5,950
General Chemistry		
Sulfate	250,000	829,000

MW-11S	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
SVOCs		
Chrysene	0.002	0.0281 J
Metals, Total		
Arsenic	25	872
Cadmium	5	7.9
Sodium	20,000	1,410,000
Metals, Dissolved		
Arsenic, Dissolved	25	813
Cadmium, Dissolved	5	7.66
Sodium, Dissolved	20,000	1,200,000

MW-30	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
Metals, Total		
Iron	300	498
Sodium	20,000	660,000
Metals, Dissolved		
Iron, Dissolved	300	410
Sodium, Dissolved	20,000	691,000
General Chemistry		
Sulfate	250,000	258,000

MW-29	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
Metals, Total		
Iron	300	1,580
Magnesium	35,000	44,100 J
Manganese	300	327
Sodium	20,000	1,090,000
Metals, Dissolved		
Iron, Dissolved	300	1,190
Magnesium, Dissolved	35,000	43,800
Manganese, Dissolved	300	307
Sodium, Dissolved	20,000	1,110,000
General Chemistry		
Sulfate	250,000	459,000

Notes:
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
VOA – Volatile Organic Compounds
SVOA – Semi Volatile Organic Compounds
ug/L – micrograms per liter

J – the constituent compound was estimated
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 - AOC D - April 2012
Groundwater Monitoring Results Report -
April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility
Waterloo, New York

CH2MHILL

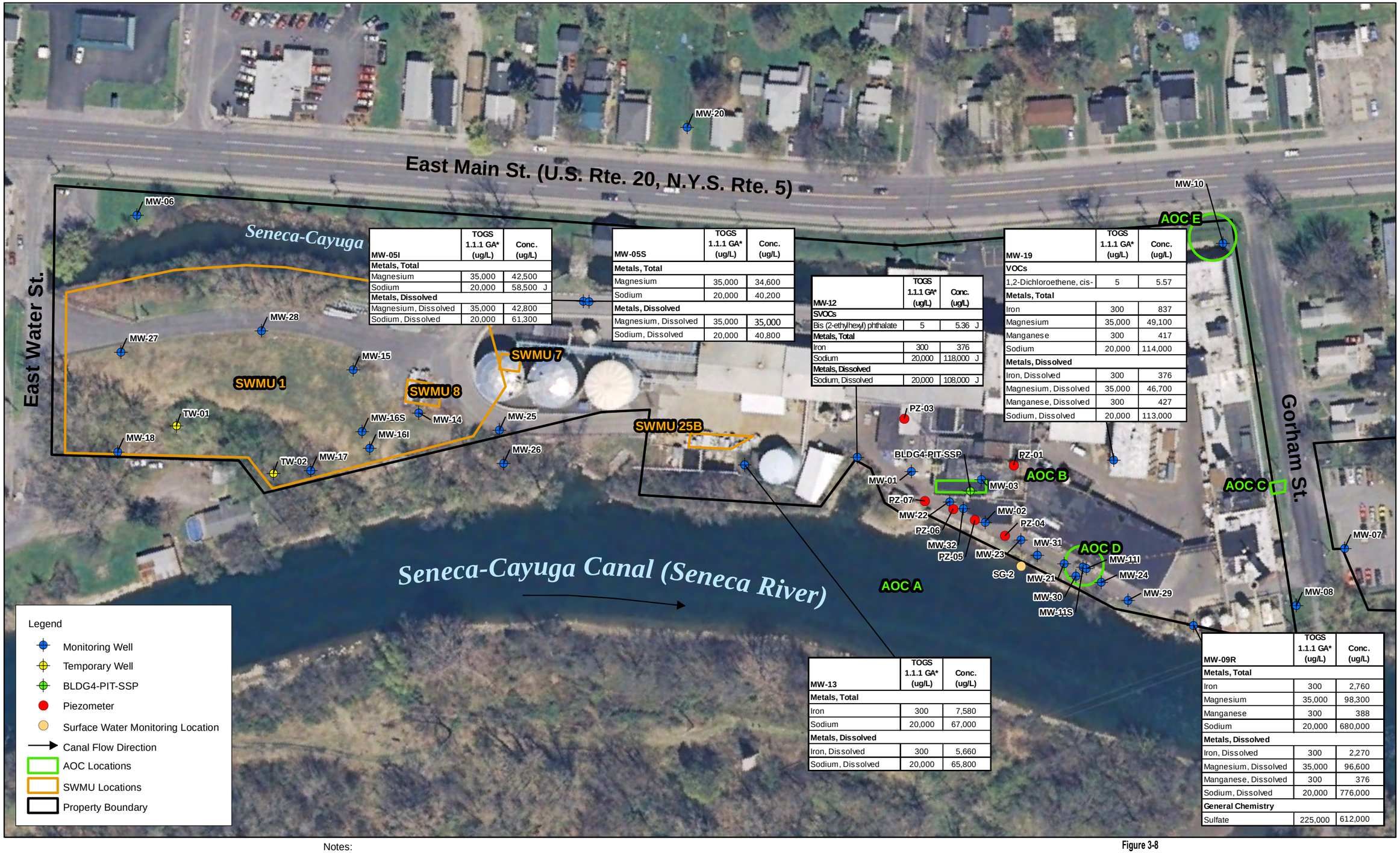
Notes:
TOGS 1.1.1 GA – Technical and Operational Guidance Series, New York State Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, June 2004
ug/L – micrograms per liter

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 - AOC E - April 2012
Groundwater Monitoring Results Report -
April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility
Waterloo, New York

CH2MHILL

MKE \\LAKEFRONT\PROJ\GIS\DOW\WATERLOO\REPORTS\2013\GROUNDWATERMONITORING\MAPFILES\FIGURE3-7_GROUNDWATEREXCEEDANCES_AOC-E.MXD MPETERSH 4/22/2013 2:11:43 PM



MW-05I	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
Metals, Total		
Magnesium	35,000	42,500
Sodium	20,000	58,500 J
Metals, Dissolved		
Magnesium, Dissolved	35,000	42,800
Sodium, Dissolved	20,000	61,300

MW-05S	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
Metals, Total		
Magnesium	35,000	34,600
Sodium	20,000	40,200
Metals, Dissolved		
Magnesium, Dissolved	35,000	35,000
Sodium, Dissolved	20,000	40,800

MW-12	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
SVOCs		
Bis (2-ethylhexyl) phthalate	5	5.36 J
Metals, Total		
Iron	300	376
Sodium	20,000	118,000 J
Metals, Dissolved		
Sodium, Dissolved	20,000	108,000 J

MW-19	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
VOCs		
1,2-Dichloroethene, cis-	5	5.57
Metals, Total		
Iron	300	837
Magnesium	35,000	49,100
Manganese	300	417
Sodium	20,000	114,000
Metals, Dissolved		
Iron, Dissolved	300	376
Magnesium, Dissolved	35,000	46,700
Manganese, Dissolved	300	427
Sodium, Dissolved	20,000	113,000

MW-13	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
Metals, Total		
Iron	300	7,580
Sodium	20,000	67,000
Metals, Dissolved		
Iron, Dissolved	300	5,660
Sodium, Dissolved	20,000	65,800

MW-09R	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
Metals, Total		
Iron	300	2,760
Magnesium	35,000	98,300
Manganese	300	388
Sodium	20,000	680,000
Metals, Dissolved		
Iron, Dissolved	300	2,270
Magnesium, Dissolved	35,000	96,600
Manganese, Dissolved	300	376
Sodium, Dissolved	20,000	776,000
General Chemistry		
Sulfate	225,000	612,000

0 100 200
Feet

Notes:
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
SVOC – Semi Volatile Organic Compounds
VOC - Volatile Organic Compounds
ug/L – micrograms per liter

J – the constituent compound was estimated
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 - Sitewide - April 2012
Groundwater Monitoring Results Report -
April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility
Waterloo, New York

CH2MHILL

MKE \\LAKEFRONT\PROJ\GIS\DOW\WATERLOO\REPORTS\2013\GROUNDWATERMONITORING\MAPFILES\FIGURE3-8_GROUNDWATEREXCEEDANCES_SITEWIDE.MXD MPETERSH 2/13/2013 3:09:39 PM

MW-06	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
Metals, Total		
Sodium	20,000	40,700
Metals, Dissolved		
Sodium, Dissolved	20,000	39,100

MW-20	TOGS 1.1.1 GA* (ug/L)	Conc. (ug/L)
Metals, Total		
Sodium	20,000	32,900
Metals, Dissolved		
Sodium, Dissolved	20,000	22,800

East Main St. (U.S. Rte. 20, N.Y.S. Rte. 5)

Seneca-Cayuga Canal Raceway

East Water St.

Gorham St.

Seneca-Cayuga Canal (Seneca River)

SG-1

MW-05I

MW-05S

MW-28

MW-27

MW-15

SWMU 1

SWMU 8

SWMU 7

SWMU 25B

TW-01

MW-18

MW-16S

MW-16I

MW-14

MW-25

MW-26

TW-02

MW-17

MW-13

MW-12

PZ-03

BLDG4-PIT-SSP

PZ-01

MW-19

MW-01

MW-03

AOC B

AOC C

AOC E

MW-10

PZ-07

MW-22

PZ-06

MW-02

PZ-04

MW-32

PZ-05

MW-23

MW-31

AOC D

MW-11I

MW-24

SG-2

MW-21

MW-30

MW-11S

MW-29

MW-07

MW-08

MW-09R

AOC A

Legend

- Monitoring Well
- Temporary Well
- BLDG4-PIT-SSP
- Piezometer
- Surface Water Monitoring Location
- Canal Flow Direction
- AOC Locations
- SWMU Locations
- Property Boundary

N

0 100 200

Feet

Notes:
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
ug/L – micrograms per liter

NYSDEC TOGS 1.1.1 GA values for total metals were used as screening criteria for dissolved metal concentrations

Figure 3-9
Groundwater Analytical Exceedances - Background - April 2012
Groundwater Monitoring Results Report -
April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility
Waterloo, New York

CH2MHILL

MKE \\LAKEFRONT\PROJ\GIS\DOW\WATERLOO\REPORTS\2013\GROUNDWATERMONITORING\MAPFILES\FIGURE3-9_GROUNDWATEREXCEEDANCES_BACKGROUND.MXD MPETERSH 4/24/2013 3:48:00 PM

Appendix A
Well Construction Diagrams

PROJECT NUMBER	BORING NUMBER		
431872	MW-29	SHEET 1	OF 1

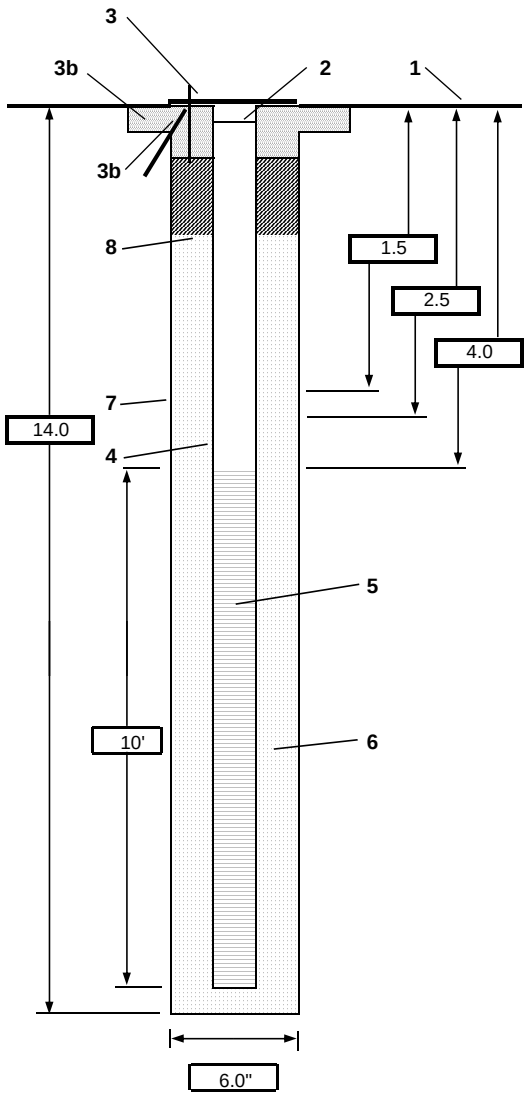
WELL COMPLETION DIAGRAM

PROJECT : February 2012 Uplands Investigation — LOCATION : 228 East Main Street, Waterloo, New York

ELEVATION : 434.27 ft amsl (ground) — DRILLING CONTRACTOR : Parratt Wolff, Inc.

DRILLING METHOD AND EQUIPMENT USED : Truck mounted HSA Rig: 4.25" ID HSAs

WATER LEVELS : 4.32 ft TIC — Date: START : 2/10/2012 END : 2/10/2012 LOGGER : A. Watson



1- Ground elevation at well: 434.27 ft amsl

2- Top of casing elevation: 433.87 ft amsl
   a) vent hole?

3- Wellhead protection cover type: Flushmount
   a) weep hole?: None
   b) concrete pad dimensions: 2 ft diameter

4- Diameter/type of well casing: 2" Schedule 40 PVC

5- Type/slot size of screen: 10 slot: 0.010 in

6- Type screen filter: "# 0" QUARTZ/SILICA SAND - (7) 50 lb bags
   a) Quantity used

7- Type of seal: Bentonite Hole Plug
   a) Quantity used: unk

8- Grout
   a) Grout mix used: Quick Crete
   b) Method of placement: Top Pour
   c) Quantity of well casing grout: Unk

Development method: surge/purge

Development time: 1 hr: 30 Mins @ 0.5-1 gal/min

Estimated purge volume: 52 Gals

Comments

PROJECT NUMBER	BORING NUMBER		
431872	MW-30	SHEET 1	OF 1

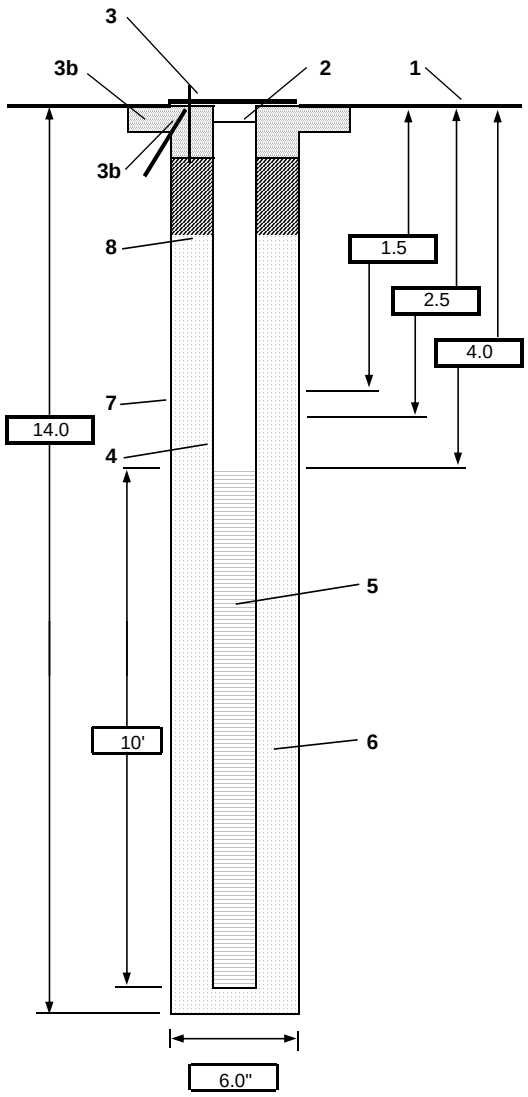
WELL COMPLETION DIAGRAM

PROJECT : February 2012 Uplands Investigation — LOCATION : 228 East Main Street, Waterloo, New York

ELEVATION : 433.83 ft amsl (ground) — DRILLING CONTRACTOR : Parratt Wolff, Inc.

DRILLING METHOD AND EQUIPMENT USED : Truck mounted HSA Rig: 4.25" ID HSAs

WATER LEVELS : 4.89 ft TIC — Date: START : 2/9/2012 — END : 2/09/2012 — LOGGER : A. Watson



1- Ground elevation at well: 433.86 ft amsl

2- Top of casing elevation: 433.42 ft amsl
   a) vent hole?

3- Wellhead protection cover type: Flushmount
   a) weep hole?: None
   b) concrete pad dimensions: 2 ft diameter

4- Diameter/type of well casing: 2" Schedule 40 PVC

5- Type/slot size of screen: 10 slot: 0.010 in

6- Type screen filter: "# 0" QUARTZ/SILICA SAND
   a) Quantity used: Unk

7- Type of seal: Bentonite Hole Plug
   a) Quantity used: unk

8- Grout
   a) Grout mix used: Quick Crete
   b) Method of placement: Top Pour
   c) Quantity of well casing grout: Unk

Development method: surge/purge

Development time: 33 Mins @ 1-1.5 gal/min

Estimated purge volume: 44 Gals

Comments

PROJECT NUMBER	BORING NUMBER		
431872	MW-31	SHEET 1	OF 1

CH2MHILL

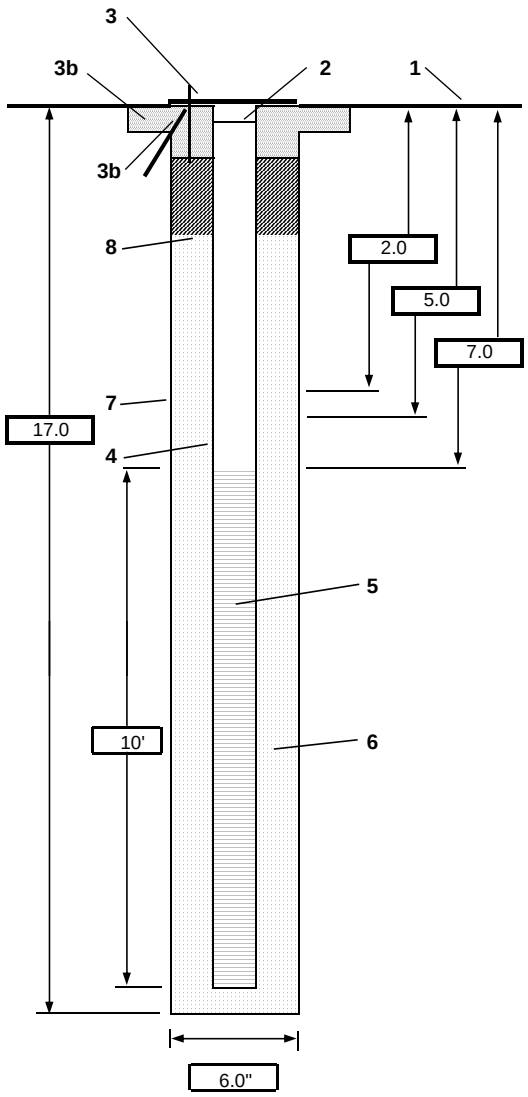
WELL COMPLETION DIAGRAM

PROJECT : February 2012 Uplands Investigation — LOCATION : 228 East Main Street, Waterloo, New York

ELEVATION : 433.21 ft amsl (ground) — DRILLING CONTRACTOR : Parratt Wolff, Inc.

DRILLING METHOD AND EQUIPMENT USED : Truck mounted HSA Rig: 4.25" ID HSAs

WATER LEVELS : NM — Date: START : 2/8/2012 — END : 2/9/2012 — LOGGER : A. Watson



1- Ground elevation at well: 433.21 ft amsl

2- Top of casing elevation: 432.72 ft amsl
   a) vent hole?

3- Wellhead protection cover type: Flushmount
   a) weep hole?: None
   b) concrete pad dimensions: 2 ft diameter

4- Diameter/type of well casing: 2" Schedule 40 PVC

5- Type/slot size of screen: 10 slot: 0.010 in

6- Type screen filter: "# 0" QUARTZ/SILICA SAND
   a) Quantity used: 4 50 lbs bags

7- Type of seal: Bentonite Hole Plug
   a) Quantity used: unk

8- Grout
   a) Grout mix used: Quick Crete
   b) Method of placement: Top Pour
   c) Quantity of well casing grout: Unk

Development method: surge/purge

Development time: 2 hr 8 Mins @ <0.5 gal/min

Estimated purge volume: 2.5 Gals

Comments: Extremely Low Recovery
Well does not fully recharge after 24-48 hrs

PROJECT NUMBER	BORING NUMBER		
431872	MW-32	SHEET 1	OF 1

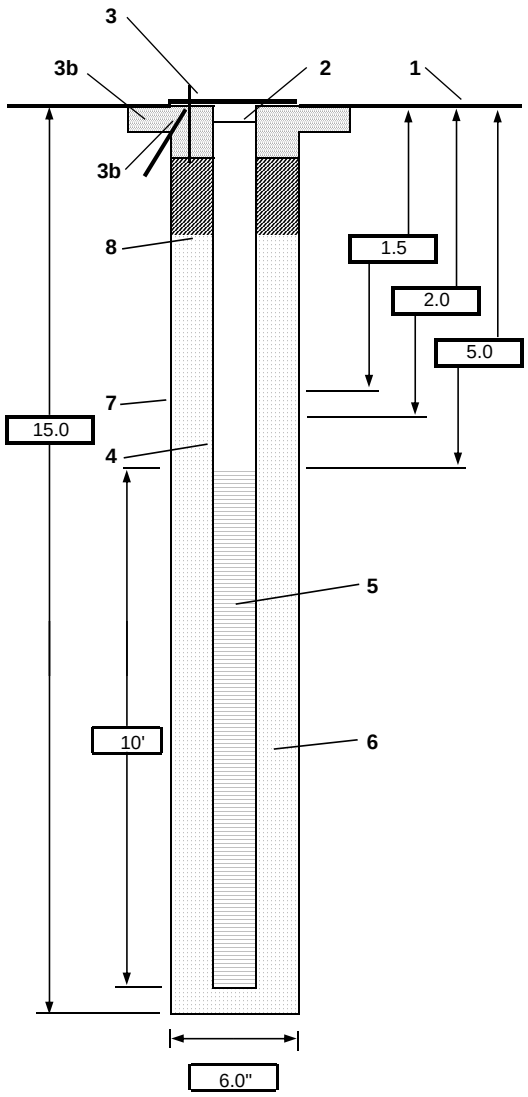
WELL COMPLETION DIAGRAM

PROJECT : February 2012 Uplands Investigation — LOCATION : 228 East Main Street, Waterloo, New York

ELEVATION : 433.37 ft amsl (ground) — DRILLING CONTRACTOR : Parratt Wolff, Inc.

DRILLING METHOD AND EQUIPMENT USED : Truck mounted HSA Rig: 4.25" ID HSAs

WATER LEVELS : 4.7 — Date: START : 2/7/2012 — END : 2/7/2012 — LOGGER : A. Watson



1- Ground elevation at well: 433.37 ft amsl

2- Top of casing elevation: 433.22 ft amsl
   a) vent hole?

3- Wellhead protection cover type: Flushmount
   a) weep hole?: None
   b) concrete pad dimensions: 2 ft diameter

4- Diameter/type of well casing: 2" Schedule 40 PVC

5- Type/slot size of screen: 10 slot: 0.010 in

6- Type screen filter: "# 0" QUARTZ/SILICA SAND
   a) Quantity used: 6 50 lbs bags

7- Type of seal: Bentonite Hole Plug
   a) Quantity used: < 1 lb bags

8- Grout
   a) Grout mix used: Quick Crete
   b) Method of placement: Top Pour
   c) Quantity of well casing grout: Unk

Development method: surge/purge

Development time: 3 hr 30 Mins @ <0.5 gal/min

Estimated purge volume: 7 Gals

Comments: Extremely Low Recovery

Appendix B
Well Sampling Parameters

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: MW-01 | **Site:** Former Hampshire Corp Site

Field Crew: **James Balas** | **Date: May 1, 2012** | **Project #: 434426.01.GW.FI**

Well Depth (ft.): **16.11**
DTW (ft.): **4.10**
Water Column (ft.): **12.01**
Well Diameter (in.): **2**
Gal. per ft.: **0.163**
Well Volume (gal.): **1.95**
Depth of Screen (ft.): **3.0 - 16.5**

Purge Methodology: Low Flow Sampling Procedures with Bladder Pump

Water Quality Meter: Horiba U52 / LaMotte 2020

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	11:10	4.75	200	0.3	7.24	0.760	35.0	4.04	12.39	53	Clear / None
	11:20	5.05	200	0.50	7.24	0.747	26.5	4.26	11.64	85	Clear / None
	11:30	5.19	200	1.0	7.25	0.740	20.8	4.15	11.53	86	Clear / None
	11:35	5.28	150	1.25	7.28	0.730	8.86	4.06	11.46	77	Clear / None
	11:40	5.35	150	1.50	7.30	0.702	5.39	3.91	11.49	66	Clear / None
	11:45	5.38	150	1.75	7.32	0.682	3.29	3.80	11.50	54	Clear / None
	11:50	5.38	150	2.0	7.32	0.670	4.45	3.76	11.49	49	Clear / None
	11:55	5.42	150	2.25	7.36	0.648	2.76	3.70	11.47	40	Clear / None
	12:00	5.46	150	2.50	7.39	0.636	1.46	3.66	11.47	34	Clear / None
	12:05	5.48	150	2.75	7.39	0.626	1.63	3.65	11.46	30	Clear / None
final	12:43	5.5	150	2.75	7.47	0.605	2.35	3.76	11.88	42	Clear / None

Remarks: Pump Intake Depth: **9.5 ft** Control Box Setting: Refill: Discharge: PSI: 10

Ferrous Iron = 0.03 mg/L

PID: 0.0 ppm at well head space and breathing zone

SAMPLING

Depth to Water Before Sampling: **5.48 ft**

Sample Methodology: Low Flow Sampling Procedures with Bladder Pump

Sample ID: **MW-01-050112** QC Sample: **None**

Sample Date/Time: **May 1, 2012 @ 1215** Filtered Metals: Yes Filter Size: 0.45µm

Sampler / Signature: Alex Crane

Sample Observations:

Parameters: VOC, SVOC + PAH, Dissolved Gasses, Alkalinity, Phosphorus, Total Organic Carbon, NO3, NO2, Sulfates, Metals, Dissolved Metals

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: MW-02 | **Site:** Former Hampshire Corp Site

Field Crew: **Alex Crane** | **Date: May 7, 2012** | **Project #: 434426.01.GW.FI**

Well Depth (ft.): **16.10**
DTW (ft.): **3.82**
Water Column (ft.): **12.28**
Well Diameter (in.): **2**
Gal. per ft.: **0.163**
Well Volume (gal.):
Depth of Screen (ft.):

Purge Methodology: Low Flow Sampling Procedures with Bladder

Water Quality Meter: Horiba U52

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	13:30	3.91	300	0.25	6.84	11.00	23.8	5.78	18.50	-352	Cloudy / Sulfur-like
	13:40	4.03	300	0.75	6.77	8.84	15.1	4.39	16.83	-395	Cloudy / Sulfur-like
	13:50	4.12	300	1.25	6.78	8.12	8.06	2.02	16.08	-399	Cloudy / Sulfur-like
	14:00	4.15	300	2.0	6.79	7.87	9.05	2.08	16.16	-401	Cloudy / Sulfur-like
	14:10	4.20	300	3.0	6.80	7.96	9.43	2.18	16.01	-402	Cloudy / Sulfur-like
	14:15	4.25	300	3.5	6.80	8.04	13.3	2.17	16.07	-404	Clear / Sulfur-like
	14:20	4.27	300	4.0	6.80	8.11	8.85	2.18	16.00	-405	Clear / Sulfur-like
	14:25	4.27	300	5.0	6.80	8.24	6.48	2.07	15.97	-405	Clear / Sulfur-like
	14:30	4.30	300	5.5	6.80	8.20	5.92	2.24	15.90	-405	Clear / Sulfur-like
final	15:25	4.42	300	5.5	6.81	8.51	8.74	1.33	16.22	-397	Green/ Sulfur-like

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

Ferrous Iron = 0.05 mg/L
PID: 0.0 ppm at well head space and breathing zone
Sheen observed during purging

SAMPLING

Depth to Water Before Sampling: **4.3 ft**
Sample Methodology: Low Flow Sampling Procedures with bladder pump
Sample ID: **MW-02-050712** QC Sample: **DUP-GW-050712 @15:30**
Sample Date/Time: **May 7, 2012 @ 1435** Filtered Metals: Yes Filter Size: 0.45µm
Sampler / Signature: Alex Crfane
Sample Observations:
Parameters: VOC, SVOC + PAH, Dissolved Gasses, Alkalinity, Phosphorus, Total Organic Carbon, NO3, NO2, Sulfates, Metals, Dissolved Metals

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: MW-03 | **Site:** Former Hampshire Corp Site

Field Crew: **Alex Crane** | **Date: May 7, 2012** | **Project #: 434426.01.GW.FI**

Well Depth (ft.): **16.17**
DTW (ft.): **2.08**
Water Column (ft.): **14.09**
Well Diameter (in.): **2**
Gal. per ft.: **0.163**
Well Volume (gal.): **2.29**
Depth of Screen (ft.): **3.0 - 16.5**

Purge Methodology: Low Flow Sampling Procedures with Bladder

Water Quality Meter: Horiba U52, LaMotte 2020

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	10:35	2.3	300	0.10	6.16	22.20	3.92	4.22	17.77	-353	Gray / Sulfur-like
	10:45	3.0	200	0.75	6.15	21.80	4.52	4.18	17.33	-362	Gray / Sulfur-like
	10:55	3.35	200	1.25	6.19	20.90	11.4	4.22	17.79	-370	Gray / Sulfur-like
	11:05	4.23	150	2.00	6.20	20.40	13.4	4.15	18.28	-371	Gray / Sulfur-like
	11:15	4.49	150	2.25	6.19	20.10	13.4	4.09	18.21	-373	Gray / Sulfur-like
	11:25	4.70	100	3.00	6.18	19.20	11.8	4.02	18.27	-372	Gray / Sulfur-like
	11:35	4.40	100	3.25	6.12	19.70	9.88	3.90	18.53	-370	Green / Sulfur-like
	11:45	4.45	100	4.00	6.16	17.50	8.39	4.03	18.32	-369	Green / Sulfur-like
	11:50	4.60	150	4.25	6.16	17.40	8.53	3.92	18.24	-372	Green / Sulfur-like
	11:55	4.60	150	4.50	6.14	18.60	7.91	3.78	18.38	-371	Green / Sulfur-like
final	12:50	4.51	150	4.5	6.15	18.4	6.7	2.67	19.07		Green/ Sulfur-like

Remarks: Pump Intake Depth: **14 ft** Control Box Setting: Refill: Discharge: PSI: **10**

Ferrous Iron = 0.20 mg/L

PID: 4.2 ppm at well head space and 0.2 ppm at breathing zone

SAMPLING

Depth to Water Before Sampling: **4.6 ft**
Sample Methodology: Low Flow Sampling Procedures with bladder pump
Sample ID: **MW-03-050712** QC Sample: **None**
Sample Date/Time: **May 7, 2012 @ 1200** Filtered Metals: Yes Filter Size: 0.45µm
Sampler / Signature: Alex Crane
Sample Observations:
Parameters: VOC, SVOC + PAH, Dissolved Gasses, Alkalinity, Phosphorus, Total Organic Carbon, NO3, NO2, Sulfates, Metals, Dissolved Metals

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: MW-05I | **Site:** Former Hampshire Corp Site

Field Crew: **G. Sharkey** | **Date: May 1, 2012** | **Project #: 434426.01.GW.FS**

Well Depth (ft.): **29.8**
DTW (ft.): **12.32**
Water Column (ft.): **17.5**
Well Diameter (in.): **2**
Gal. per ft.: **0.163**
Well Volume (gal.): **2.85**
Depth of Screen (ft.):

Purge Methodology: Low Flow Sampling Procedures with Bladder Pump

Water Quality Meter: Horiba U52 / LaMotte 2020

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	9:45	13.22	300	1.0	7.29	0.898	95.6	11.30	12.21	78	Clear / None
	9:55	15.47	300	1.7	7.40	0.742	61.0	10.97	11.97	71	Clear / None
	10:05	17.70	300	2.4	6.86	0.737	33.7	10.34	11.94	106	Clear / None
	10:15	16.79	200	3.0	6.73	0.799	22.4	9.84	12.03	109	Clear / None
	10:25	16.75	200	3.4	6.25	0.889	8.9	8.74	12.03	5	Clear / None
	10:35	16.65	200	3.8	6.12	0.905	5.9	7.89	12.05	-28	Clear / None
	10:45	16.57	200	4.2	6.01	0.975	3.7	6.93	12.01	-38	Clear / None
	10:55	16.50	200	4.6	5.97	0.991	3.3	6.01	12.04	-42	Clear / None
	11:00	16.47	200	4.8	5.96	1.02	2.7	5.85	12.06	-44	Clear / None
	11:05	16.39	200	5.0	5.97	1.02	1.9	5.61	12.07	-45	Clear / None
	Flow rate reduced to < 200 mL/min due to drawdown										
	PID: 0.0 ppm at well head space and breathing zone										
final	11:57	16.8	200	5.5	5.97	1.03	5.6	0.50	12.07	-31	

Remarks: Pump Intake Depth: **27.5 ft** Control Box Setting: Refill: Discharge: PSI:

Ferrous Iron = 0.05 mg/L

SAMPLING

Depth to Water Before Sampling: **16.39 ft**
Sample Methodology: Low Flow Sampling Procedures with Bladder Pump
Sample ID: **MW-05I-050112** QC Sample: **None**
Sample Date/Time: **May 1, 2012 @ 11:37** Filtered Metals: Yes Filter Size: 0.45µm
Sampler / Signature: Graham Sharkey
Sample Observations:
Parameters: VOC, SVOC + PAH, Dissolved Gasses, Alkalinity, Phosphorus, Total Organic Carbon, NO3, NO2, Sulfates, Metals, Dissolved Metals

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: MW-5S | **Site:** Former Hampshire Corp Site

Field Crew: **Graham Sharkey** | **Date: May 1, 2012** | **Project #: 434426.01.GW.FS**

Well Depth (ft.): **13.1**
DTW (ft.): **6.23**
Water Column (ft.): **6.9**
Well Diameter (in.): **2**
Gal. per ft.: **0.163**
Well Volume (gal.): **1.12**
Depth of Screen (ft.): **3.0 - 13.0**

Purge Methodology: Low Flow Sampling Procedures with Bladder Pump

Water Quality Meter: Horiba U52 / LaMotte 2020

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	6.70	350	0.5	5.83	1.07	31.7	3.56	11.37	19	Clear / None
	12:00	7.70	350	1.4	5.82	1.07	17.0	5.19	11.01	46	Clear / None
	12:10	7.80	250	2.2	5.83	1.07	3.9	6.89	10.83	71	Clear / None
	12:20	8.70	250	2.9	5.85	1.06	3.3	6.60	10.75	72	Clear / None
	12:25	9.04	250	3.2	5.84	1.05	3.0	6.59	10.80	65	Clear / None
	12:30	9.21	250	3.6	5.84	1.04	2.1	6.71	10.81	62	Clear / None
	12:35	9.38	200	3.9	5.84	1.03	1.7	6.50	10.87	63	Clear / None
	12:40	9.70	175	4.2	5.83	1.02	1.0	6.30	10.90	64	Clear / None
	12:45	9.89	175	4.5	5.82	1.02	0.0	6.10	10.94	64	Clear / None
	12:50	10.18	150	4.7	5.82	1.01	0.0	6.02	10.95	64	Clear / None
	12:55	10.20	150	4.9	5.82	1.01	0.0	5.97	10.95	63	Clear / None
final	13:55	10.9	150	4.9	5.91	1.01	0	6.05	13.7	82	Clear / None

Remarks: Pump Intake Depth: **11.5 ft** Control Box Setting: Refill: Discharge: PSI: 17

Ferrous Iron = 0.06 mg/L
Flow rate reduced to < 300 mL/min due to drawdown
PID: 0.0 ppm at well head space and breathing zone

SAMPLING

Depth to Water Before Sampling: **10.2 ft**
Sample Methodology: Low Flow Sampling Procedures with Bladder Pump
Sample ID: **MW-5S-050112** QC Sample: **None**
Sample Date/Time: **May 1, 2012 @ 1333**
Sampler / Signature: Graham Sharkey Filtered Metals: Yes Filter Size: 0.45µm
Sample Observations:
Parameters: VOC, SVOC + PAH, Dissolved Gasses, Alkalinity, Phosphorus, Total Organic Carbon, NO3, NO2, Sulfates, Metals, Dissolved Metals

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: MW-06 | **Site:** Former Hampshire Corp Site

Field Crew: **M. Murphy** | **Date: May 7, 2012** | **Project #: 434426.01.GW.FS**

Well Depth (ft.): **13.25**
DTW (ft.): 4.60
Water Column (ft.): 8.65
Well Diameter (in.): **2**
Gal. per ft.: **0.163**
Well Volume (gal.): 1.4
Depth of Screen (ft.): 4.0 - 14.0

Purge Methodology: Low Flow Sampling Procedures with Bladder Pump

Water Quality Meter: Horiba U52, LaMotte 2020

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

8.65
1.40995

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	12:05	3.70	300	-	5.44	1.01	36.8	2.95	11.20	170	Cloudy/Odorless
	12:10	4.20	300	0.5	5.49	1.01	24.5	1.53	10.54	152	Cloudy/Odorless
	12:15	4.55	300	1.0	5.54	1.00	10.21	3.20	10.51	146	Cloudy/Odorless
	12:20	5.05	300	1.5	5.57	0.967	6.16	5.74	10.38	145	Clear / Odorless
	12:25	5.35	200	1.8	5.59	0.968	5.54	5.07	10.43	147	Clear / Odorless
	12:30	5.60	200	2.0	5.59	0.981	5.01	3.29	10.39	144	Clear / Odorless
	12:35	5.72	180	2.1	5.62	0.989	4.50	2.32	10.62	134	Clear / Odorless
	12:40	5.80	180	2.2	5.63	0.99	3.83	2.06	10.69	108	Clear / Odorless
	12:45	5.91	180	2.3	5.64	1.01	3.21	1.47	10.71	74	Clear / Odorless
	12:50	6.05	180	2.4	5.65	1.02	2.82	1.38	10.72	59	Clear / Odorless
	12:55	6.12	150	2.5	5.68	1.02	2.44	1.36	10.99	39	Clear / Odorless
	13:00	6.15	150	2.6	5.68	1.02	2.02	1.17	11.14	24	Clear / Odorless
	13:05	6.18	150	2.7	5.68	1.03	2.01	1.08	11.20	19	Clear / Odorless
	13:10	6.24	150	2.8	5.69	1.04	1.85	1.03	11.26	13	Clear / Odorless
	13:15	6.28	150	2.9	5.70	1.04	1.56	1.04	11.35	10	Clear / Odorless
	13:20	6.33	150	3.0	5.70	1.05	1.71	1.05	11.25	8	Clear / Odorless
	13:25	6.39	150	3.1	5.71	1.05	1.55	1.02	11.26	8	Clear / Odorless
final	14:50	7.41	150	-	5.89	1.08	0.88	1.50	14,32	18	Clear / Odorless

Remarks: Pump Intake Depth: **9 ft** Control Box Setting: Refill: **10 sec** Discharge: 5 secs PSI:

Ferrous Iron = 0.06 mg/L
PID: 0.0 ppm at well head space and breathing zone

SAMPLING

Depth to Water Before Sampling: **6.39 ft**
Sample Methodology: Low Flow Sampling Procedures with bladder pump
Sample ID: **MW-06-050712** QC Sample: **None**
Sample Date/Time: **May 7, 2012 @ 1330** Filtered Metals: Yes Filter Size: 0.45µm
Sampler / Signature: M Murphy
Sample Observations:
Parameters: VOC, SVOC + PAH, Dissolved Gasses, Alkalinity, Phosphorus, Total Organic Carbon, NO3, NO2, Sulfates, Metals, Dissolved Metals

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: MW-07 | **Site:** Former Hampshire Corp Site

Field Crew: **M. Murphy** | **Date: April 24, 2012** | **Project #: 434426.01.GW.FS**

Well Depth (ft.): **13**
DTW (ft.): **4.24**
Water Column (ft.):
Well Diameter (in.): **2**
Gal. per ft.: **0.163**
Well Volume (gal.):
Depth of Screen (ft.): 3.0-13.0

Purge Methodology: Low Flow Sampling Procedures with Bladder Pump

Water Quality Meter: Horiba U52 / LaMotte 2020

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	11:23	4.75	300	0.2	5.51	1.54	87.6	5.41	11.83	195	Cloudy/Odorless
	11:28	5.00	300	0.6	5.49	1.43	57.0	5.63	11.71	198	Cloudy/Odorless
	11:38	5.8	300	1.4	5.63	1.65	43.1	5.08	11.67	198	Cloudy/Odorless
	11:43	5.7	150	1.6	5.66	1.61	38.0	4.85	11.37	199	Cloudy/Odorless
	11:48	5.7	150	1.8	5.67	1.58	36.2	4.76	11.36	198	Clear / Odorless
	11:53	5.7	150	2.0	5.69	1.54	33.8	4.66	11.38	198	Clear / Odorless
	11:58	5.7	150	2.2	5.70	1.54	25.7	4.22	11.38	197	Clear / Odorless
	12:03	5.7	150	2.4	5.72	1.64	22.7	4.03	11.39	194	Clear / Odorless
	12:08	5.7	150	2.6	5.73	1.76	22.2	3.98	11.41	192	Clear / Odorless
	12:13	5.65	150	2.8	5.74	1.86	19.0	3.93	11.48	191	Clear / Odorless
	12:18	5.60	150	3.0	5.76	1.89	16.6	3.90	11.55	189	Clear / Odorless
	12:23	5.55	150	3.2	5.77	2.13	15.3	3.82	11.67	186	Clear / Odorless
	12:28	5.55	150	3.4	5.78	2.18	15.4	3.84	11.57	185	Clear / Odorless
	12:38	5.50	150	3.6	5.79	2.30	14.2	3.86	11.62	182	Clear / Odorless
	12:43	5.48	150	3.8	5.80	2.41	13.7	3.86	11.66	179	Clear / Odorless
	13:03	5.50	150	4.5	5.81	2.94	9.59	4.19	11.42	179	Clear / Odorless
	13:08	5.50	150	4.7	5.80	2.97	8.58	4.18	11.36	179	Clear / Odorless
	13:13	5.50	150	4.9	5.80	3.01	7.90	4.18	11.42	179	Clear / Odorless
final	14:15	5.60	150	4.9	5.8	3.31	6.5	4.05	11.52	169	Clear / Odorless

Remarks: Pump Intake Depth: **11 ft** Control Box Setting: Refill: **10 sec** Discharge: 10 secs PSI:

Ferrous Iron = 0.03 mg/L
PID: 0.0 ppm at well head space and breathing zone

SAMPLING

Depth to Water Before Sampling:	**5.5 ft**
Sample Methodology:	Low Flow Sampling Procedures with bladder pump
Sample ID:	**MW-07-042412** QC Sample: **None**
Sample Date/Time:	**April 24, 2012 @ 1315** Filtered Metals: Yes Filter Size: 0.45µm
Sampler / Signature:	Michael Murphy
Sample Observations:	Clear No Odor
Parameters:	VOC, SVOC + PAH, Dissolved Gasses, Alkalinity, Phosphorus, Total Organic Carbon, NO3, NO2, Sulfates, Metals, Dissolved Metals

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: MW-08 | **Site:** Former Hampshire Corp Site

Field Crew: **M. Murphy** | **Date: May 9, 2012** | **Project #: 434426.01.GW.FS**

Well Depth (ft.):
DTW (ft.): **6.31**
Water Column (ft.):
Well Diameter (in.): **2**
Gal. per ft.: **0.163**
Well Volume (gal.):
Depth of Screen (ft.):

Purge Methodology: Low Flow Sampling Procedures with bladder pump

Water Quality Meter: Horiba U52, LaMotte 2020

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	8:45	6.4	320	-	7.00	1.98	96.6	4.39	12.58	-96	Brown, cloudy/ Odorless
	8:50	6.35	320	0.5	7.02	1.88	50.8	4.02	12.68	-83	Brown, cloudy / Odorless
	8:55	6.35	320	1.0	7.02	1.71	16.0	4.26	12.83	-36	Clear / Odorless
	9:00	6.35	320	1.5	6.97	1.63	5.02	4.35	12.81	-11	Clear / Odorless
	9:05	6.35	320	2.0	6.83	1.61	4.44	4.37	12.79	-4	Clear / Odorless
	9:10	6.35	320	2.5	6.95	1.60	3.22	4.36	12.77	-5	Clear / Odorless
				3.0	6.97	1.59	2.03	4.36	12.77	-5	Clear / Odorless
final	10:40	6.35	250	4.0	7.07	1.58	1.14	5.3	13.80	-11	Clear / Odorless

Remarks: Pump Intake Depth: **10 ft** Control Box Setting: Refill: **5 secs** Discharge: 10 secs PSI: **15**

Ferrous Iron = 0.21 mg/L
PID: 0.0 ppm at well head space and breathing zone

SAMPLING

Depth to Water Before Sampling: **6.35 ft**
Sample Methodology: Low Flow Sampling Procedures with bladder pump
Sample ID: **MW-08-050912** QC Sample: **MW08-050912-MS** **MW08-050912-MSD**
Sample Date/Time: **May 9, 2012, 2011 @ 0920** Filtered Metals: Yes Filter Size: 0.45µm
Sampler / Signature: Michael Murphy
Sample Observations:
Parameters: VOC, SVOC + PAH, Dissolved Gasses, Alkalinity, Phosphorus, Total Organic Carbon, NO3, NO2, Sulfates, Metals, Dissolved Metals

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: MW-09R | **Site:** Former Hampshire Corp Site

Field Crew: **A. Crane** | **Date: May 9, 2012** | **Project #: 434426.01.GW.FS**

Well Depth (ft.): **15.03**
DTW (ft.): **5.23**
Water Column (ft.): **9.8**
Well Diameter (in.): **2**
Gal. per ft.: **0.163**
Well Volume (gal.): **1.59**
Depth of Screen (ft.): **6.0 - 16.0**

Purge Methodology: Low Flow Sampling Procedures with bladder pump

Water Quality Meter:
Horiba U52
LaMotte 2020

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	5.33	200	0	5.18	4.95	26.4	1.13	12.23	-48	clear/odorless
	9:05	5.76	200	0.25	5.32	4.77	9.69	0.40	11.69	-104	clear/odorless
	9:30	5.97	150	0.30	5.43	4.52	7.65	1.04	12.87	-132	clear/odorless
	9:40	6.44	100	1.0	5.41	4.68	4.01	0.56	11.58	-132	clear/odorless
	9:50	6.41	100	1.2	5.40	5.39	2.83	0.55	11.66	-133	clear/odorless
	10:10	6.52	100	1.3	5.44	5.44	2.02	0.59	13.00	-130	clear/odorless
	10:15	6.61	100	1.4	5.42	4.83	2.23	0.65	12.95	-125	clear/odorless
	10:20	6.71	100	1.5	5.41	4.90	2.19	0.50	12.56	-124	clear/odorless
	10:25	6.80	100	1.6	5.41	4.90	1.46	0.40	12.44	-126	clear/odorless
	10:30	6.80	100	1.7	5.41	4.85	1.27	0.37	12.52	-128	clear/odorless
	12:20	7.75	100	1.8	5.58	3.90	5.27	0.60	20.34	-96	clear/odorless
final											

Remarks: Pump Intake Depth: **12 ft** Control Box Setting: Refill: Discharge: PSI: **13**

Ferrous Iron greater than max detection limit (>3.30)
Battery malfunction prevented purge for 15 min
PID: 0.0 ppm at well head space and breathing zone

SAMPLING

Depth to Water Before Sampling: **6.85 ft**
Sample Methodology: Low Flow Sampling Procedures with a bladder pump
Sample ID: **MW-09R-050912** QC Sample: **DUP-GW-050912** @ 9:00
Sample Date/Time: **May 9, 2012 @ 10:35** Filtered Metals: Yes Filter Size: 0.45µm
Sampler / Signature: Alex Crane
Sample Observations: Black particles in purge water
Parameters: VOC, SVOC + PAH, Dissolved Gasses, Alkalinity, Phosphorus, Total Organic Carbon, NO3, NO2, Sulfates, Metals, Dissolved Metals

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: MW-10 | **Site:** Former Hampshire Corp Site

Field Crew: **M. Murphy** | **Date: April 26, 2012** | **Project #: 434426.01.GW.FS**

Well Depth (ft.): **12.70**
DTW (ft.): **6.25**
Water Column (ft.): **6.45**
Well Diameter (in.): **2**
Gal. per ft.: **0.163**
Well Volume (gal.): **1.05**
Depth of Screen (ft.): 4.0 - 14.0

Purge Methodology: Low Flow Sampling Procedures with bladder pump

Water Quality Meter: Horiba U52 / LaMotte 2020

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)	Turbidity - Lamotte (NTU)	Color/Odor
	Stabilization	< 0.3'	300 - 500		+/- 0.1	+/- 3 %	+/- 10%	+/- 10 %		+/- 10 mV	+/- 10%	
Initial	10:13	6.50	250	0	5.18	2.11	58.2	11.82	11.50	-29		Clear/Odorless
	10:18	6.82	250	0.3	5.31	1.21	73.6	10.27	11.04	-33		Cloudy/Odorless
	10:23	7.30	250	0.6	5.38	0.806	65.6	10.13	10.75	17		Cloudy/Odorless
	10:28	7.40	150	0.75	5.39	0.811	58.8	10.16	10.73	22		Cloudy/Odorless
	10:33	7.50	150	0.90	5.43	0.849	49.3	10.07	10.85	21		Cloudy/Odorless
	10:38	7.60	150	1.1	5.47	0.893	31.6	10.87	10.88	9		Clear/Odorless
	11:05	7.55	70	1.2	5.53	1.05	24.9	8.97	13.20	3		Clear / Odorless
	11:10	7.65	70	1.3	5.54	1.02	22.5	8.92	13.20	-5		Clear / Odorless
	11:15	7.70	70	1.35	5.55	0.998	21.0	8.85	13.00	-8		Clear / Odorless
	11:20	7.75	70	1.40	5.55	0.941	18.9	8.68	13.37	-7		Clear / Odorless
	11:25	7.80	70	1.45	5.56	0.938	17	8.70	12.22	-6		Clear / Odorless
	11:30	7.30	70	1.50	5.56	0.924	12.7	8.47	12.27	-2		Clear / Odorless
	11:35	7.90	70	1.60	5.57	0.937	5.54	8.49	12.10	-3		Clear / Odorless
	11:40	7.95	70	1.65	5.58	0.972	8.90	8.23	12.21	-2		Clear / Odorless
	11:45	8.00	70	1.7	5.59	0.980	8.50	8.13	12.30	-2		Clear / Odorless
	11:50	8.00	70	1.75	5.60	1.01	7.65	7.87	12.62	-5		Clear / Odorless
	11:55	8.05	70	1.80	5.61	1.01	6.42	7.79	12.70	-6		Clear / Odorless
	12:00	8.10	70	1.85	5.62	1.02	5.50	7.56	12.85	-8		Clear / Odorless
final	14:10	8.50	70	1.85	5.76	1.05	4.11	4.32	12.68	31		Clear / Odorless

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

Ferrous Iron = 0.26 mg/L
PID: 0.0 ppm at well head space and breathing zone

SAMPLING

Depth to Water Before Sampling: **8.1 ft**
Sample Methodology: Low Flow Sampling Procedures with Bladder Pump
Sample ID: **MW-10-040711** QC Sample: **None**
Sample Date/Time: **April 26, 2012 @ 1205** Filtered Metals: Yes Filter Size: 0.45µm
Sampler / Signature: Michael Murphy
Sample Observations: Suspected particulates observed at beginning of purge
Parameters: VOC, SVOC + PAH, Dissolved Gasses, Alkalinity, Phosphorus, Total Organic Carbon, NO3, NO2, Sulfates, Metals, Dissolved Metals

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: MW-11I | **Site:** Former Hampshire Corp Site

Field Crew: **M. Murphy** | **Date: May 9, 2012** | **Project #: 434426.01.GW.FS**

Well Depth (ft.): **~27'**
DTW (ft.): **3.83**
Water Column (ft.):
Well Diameter (in.): **2**
Gal. per ft.: **0.163**
Well Volume (gal.):
Depth of Screen (ft.):

Purge Methodology: Low Flow Sampling Procedures with bladder pump

Water Quality Meter: Horiba U52 / LaMotte 2020

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	11:26	3.80	400	-	7.15	2.27	100.5	5.88	15.26	-96	Cloudy/Odorless
	11:31	3.80	400	0.5	7.13	2.30	54.5	4.48	14.93	-97	Cloudy/Odorless
	11:36	3.80	400	1.0	7.17	2.30	26.6	4.05	14.91	-101	Clear / Odorless
	11:41	3.80	400	1.5	7.23	2.31	20	3.89	14.80	-105	Clear / Odorless
	11:51	3.80	400	2.5	7.26	2.32	15.3	3.20	14.88	-109	Clear / Odorless
	11:56	3.80	400	3.0	7.28	2.32	9.76	3.21	14.89	-111	Clear / Odorless
	12:01	3.80	250	3.5	7.27	2.32	8.82	3.21	14.86	-112	Clear / Odorless
	12:06	3.80	250	4.0	7.28	2.32	7.65	3.22	14.88	-113	Clear / Odorless
final	12:44	3.30	250	4	7.23	2.290	5.01	5.06	15.81	-112	Clear / Odorless

Remarks: Pump Intake Depth: **25 ft** Control Box Setting: Refill: **10** Discharge: 10 PSI: 20

Ferrous Iron = 2.35 mg/L
PID: 0.0 ppm at well head space and breathing zone

SAMPLING

Depth to Water Before Sampling:	**3.8 ft**		
Sample Methodology:	Low Flow Sampling Procedures with Bladder Pump		
Sample ID:	**MW-11I-050912**	QC Sample:	**None**
Sample Date/Time:	**May 9, 1012 @ 12:10**	Filtered Metals: Yes	Filter Size: 0.45µm
Sampler / Signature:	Michael Murphy		
Sample Observations:	Clear, No odor		
Parameters:	VOC, SVOC + PAH, Dissolved Gasses, Alkalinity, Phosphorus, Total Organic Carbon, NO3, NO2, Sulfates, Metals, Dissolved Metals		

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: MW-11S | **Site:** Former Hampshire Corp Site

Field Crew: **M. Murphy** | **Date: May 9, 2012** | **Project #: 434426.01.GW.FS**

Well Depth (ft.): ~14'
DTW (ft.): **1.35**
Water Column (ft.): **12.05**
Well Diameter (in.): **2**
Gal. per ft.: **0.163**
Well Volume (gal.): **1.96**
Depth of Screen (ft.): 4.0 - 14.0

Purge Methodology: Low Flow Sampling Procedures with bladder pump

Water Quality Meter: Horiba U52 / LaMotte 2020

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	13:10	1.7	75	-	9.47	5.97	18.8	5.14	17.74	-165	Clear/No odor
	13:35	2.5	70	.25	9.82	7.73	26.9	4.52	17.43	-223	Clear/No odor
	13:40	2.58	70	.30	9.83	7.64	27.4	4.29	17.49	-223	Clear/No odor
	13:45	2.69	70	.35	9.85	7.40	28.2	4.12	17.37	-225	Clear/No odor
	13:50	2.82	70	.40	9.86	7.11	21.8	4.02	17.25	-227	Clear/No odor
	13:55	2.90	70	.45	9.88	6.91	20.5	3.97	17.21	-230	Clear/No odor
	14:00	3.0	70	.50	9.88	6.82	19.0	3.86	17.15	-230	Clear/No odor
	14:05	3.10	70	.55	9.88	6.69	17.5	3.90	16.85	-230	Clear/No odor
	14:10	3.15	70	.60	9.86	6.51	16.0	3.88	16.85	-227	Clear/No odor
	14:15	3.15	70	.65	9.84	6.35	14.1	3.86	16.90	-224	Clear/No odor
	14:20	3.15	70	.70	9.81	6.21	13.00	3.88	16.98	-222	Clear/No odor
	14:25	3.15	70	.75	9.79	6.02	11.3	3.86	17.02	-220	Clear/No odor
	14:30	3.15	70	.80	9.77	5.85	8.84	3.87	17.13	-218	Clear/No odor
	14:35	3.15	70	.85	9.76	5.79	9.69	3.89	17.11	-217	Clear/No odor
	14:40	3.15	70	.90	9.75	5.69	8.21	3.90	17.06	-215	Clear/No odor
final	15:55	3.25	70	-	9.79	18.18	5.83	-204	4.15	4.85	Clear/No Odor

Remarks: Pump Intake Depth: **11 ft** Control Box Setting: Refill: **10** Discharge: PSI: **10**

Ferrous Iron = 0.0 mg/L
PID: 0.0 ppm at well head space and breathing zone

SAMPLING

Depth to Water Before Sampling:	**3.15 ft**		
Sample Methodology:	Low Flow Sampling Procedures with bladder pump		
Sample ID:	**MW-11S-050912**	QC Sample:	**None**
Sample Date/Time:	**May 9, 2012 @ 1445**	Filtered Metals: Yes	Filter Size: 0.45µm
Sampler / Signature:	Michael Murphy		
Sample Observations:	Clear, No odor		
Parameters:	VOC, SVOC + PAH, Dissolved Gasses, Alkalinity, Phosphorus, Total Organic Carbon, NO3, NO2, Sulfates, Metals, Dissolved Metals		

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: MW-12 | **Site:** Former Hampshire Corp Site

Field Crew: **Alex Crane** | **Date: May 4, 2012** | **Project #: 434426.01.GW.FS**

Well Depth (ft.): 12.06
DTW (ft.): **4.03**
Water Column (ft.): 8.03
Well Diameter (in.): **2**
Gal. per ft.: **0.163**
Well Volume (gal.): **1.30**
Depth of Screen (ft.): **4.0 - 12.0**

Purge Methodology: Low Flow Sampling Procedures with bladder pump

Water Quality Meter: Horiba U52

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	4.29	300	0	5.69	1.62	29.0	0.87	15.30	-13	Clear/none
	9:40	4.40	300	.5	5.80	1.58	20.5	0.61	14.16	-63	Clear/none
	9:50	4.40	300	1.0	5.91	1.55	11.8	0.53	13.74	-110	Clear/none
	10:00	4.55	300	1.5	5.92	1.55	6.80	0.45	13.22	-126	Clear/none
	10:10	4.47	200	2.0	5.96	1.45	4.21	0.33	13.40	-148	Clear/none
	10:15	4.45	200	2.5	5.98	1.44	3.49	0.31	13.59	-160	Clear/none
	10:20	4.45	200	3.0	6.00	1.42	3.64	0.29	13.58	-166	Clear/none
	10:25	4.45	200	3.25	6.00	1.41	4.03	0.28	13.73	-172	Clear/none
final	12:30	4.2	200	-	6.27	1.25	3.87	0.54	16.56	-148	Clear/none

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

Ferrous Iron = 0.23 mg/L

SAMPLING

Depth to Water Before Sampling: **4.43 ft**
Sample Methodology: Low Flow Sampling Procedures with bladder pump
Sample ID: **MW-12-050412** QC Sample: **None**
Sample Date/Time: **May 4, 2012 @ 1030** Filtered Metals: Yes Filter Size: 0.45µm
Sampler / Signature: Alex Crane
Sample Observations:
Parameters: VOC, SVOC + PAH, Dissolved Gasses, Alkalinity, Phosphorus, Total Organic Carbon, NO3, NO2, Sulfates, Metals, Dissolved Metals

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: MW-13 | **Site:** Former Hampshire Corp Site

Field Crew: **Graham Sharkey** | **Date: May 2, 2012** | **Project #: 434426.01.GW.FS**

Well Depth (ft.): **15.77**
DTW (ft.): **3.17**
Water Column (ft.): **12.60**
Well Diameter (in.): **2**
Gal. per ft.: **0.163**
Well Volume (gal.): **2.05**
Depth of Screen (ft.): **6.0 - 16.0**

Purge Methodology: Low Flow Sampling Procedures with Bladder Pump

Water Quality Meter: Horiba U52 / LaMotte 2020

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	10:35	3.17	320	0.5	6.88	0.938	210	4.86	12.61	-109	Gray / None
	10:45	3.17	320	1.4	6.85	0.942	101	4.20	12.09	-127	Gray / None
	10:55	3.17	320	2.2	6.81	0.949	7.0	3.99	11.86	-149	Gray / None
	11:05	3.17	320	3.0	6.78	0.956	4.0	4.00	11.83	-152	Gray / None
	11:10	3.17	320	3.5	6.79	0.954	3.3	4.00	11.85	-154	Clear / None
	11:15	3.17	320	3.9	6.79	0.953	2.9	4.00	11.86	-155	Clear / None
final	12:08	3.17	200	3.9	6.83	0.963	7.9	4.39	13.24	-102	Clear / none

Remarks: Pump Intake Depth: **10.5 ft** Control Box Setting: Refill: Discharge: PSI:

Ferrous Iron > 3.30 mg/L (Ferrous Iron above insturment detection limit.)
PID: 0.0 ppm at well head space and breathing zone

SAMPLING

Depth to Water Before Sampling: **3.17 ft**
Sample Methodology: Low Flow Sampling Procedures with Bladder Pump
Sample ID: **MW-13-050212** QC Sample: **None**
Sample Date/Time: **May 2, 2012 @ 11:30** Filtered Metals: Yes Filter Size: 0.45µm
Sampler / Signature: Graham Sharkey
Sample Observations:
Parameters: VOC, SVOC + PAH, Dissolved Gasses, Alkalinity, Phosphorus, Total Organic Carbon, NO3, NO2, Sulfates, Metals, Dissolved Metals

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: MW-14 | **Site:** Former Hampshire Corp Site

Field Crew: **Graham Sharkey** | **Date: April 27, 2012** | **Project #: 434426.01.GW.FS**

Well Depth (ft.): **16.53**
DTW (ft.): **10.54**
Water Column (ft.): 6.0
Well Diameter (in.): **2**
Gal. per ft.: **0.163**
Well Volume (gal.): **0.975**
Depth of Screen (ft.): 6.0 - 16.0

Purge Methodology: Low Flow Sampling Procedures with Bladder Pump

Water Quality Meter: Horiba U52 / LaMotte 2020

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	9:05	11.27	300	1.0	4.09	0.254	57.1	6.17	15.24	-577	Light brownish / Odorless
	9:15	11.85	200	1.7	6.93	0.833	12.7	3.97	10.36	-150	Clear / Odorless
	9:25	12.49	200	2.2	6.92	0.777	7.65	3.81	10.34	-136	Clear / Odorless
	9:35	13.44	150	2.6	6.95	0.803	5.5	3.30	10.46	-104	Clear / Odorless
	9:45	13.30	150	3.0	6.95	0.820	5.7	3.14	9.10	-91	Clear / Odorless
	9:50	13.28	150	3.2	6.95	0.830	4.7	3.17	8.91	-80	Clear / Odorless
	9:55	13.27	150	3.4	6.96	0.837	4.2	3.21	8.81	-64	Clear / Odorless
	10:00	13.25	150	3.5	6.96	0.841	4.9	4.09	8.95	-55	Clear / Odorless
	10:05	13.25	150	3.7	6.96	0.849	3.3	4.09	8.96	-49	Clear / Odorless
	10:10	13.25	150	3.9	6.96	0.855	3.1	4.19	8.84	-44	Clear / Odorless
	10:15	13.25	150	4.1	6.96	0.870	3.0	4.27	8.79	-39	Clear / Odorless
final	11:34	13.84	150	4.1	6.98	0.887	2.1	5.67	7.51	25	Clear / Odorless

Remarks: Pump Intake Depth: **14 ft** Control Box Setting: Refill: **10** Discharge: PSI: **10**

Ferrous Iron = 0.13 mg/L
PID: 0.0 ppm at well head space and breathing zone

SAMPLING

Depth to Water Before Sampling: **14 ft**
Sample Methodology: Low Flow Sampling Procedures with Bladder Pump
Sample ID: **MW-14-042712** QC Sample: **None**
Sample Date/Time: **April 27, 2012 @ 1107** Filtered Metals: Yes Filter Size: 0.45µm
Sampler / Signature: Graham Sharkey / *G Sharkey*
Sample Observations:
Parameters: VOC, SVOC + PAH, Dissolved Gasses, Alkalinity, Phosphorus, Total Organic Carbon, NO3, NO2, Sulfates, Metals, Dissolved Metals

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: MW-15 | **Site:** Former Hampshire Corp Site

Field Crew: **Graham Sharkey** | **Date: May 3, 2012** | **Project #: 434426.01.GW.FS**

Well Depth (ft.): **15.16**
DTW (ft.): **9.71**
Water Column (ft.): 5.45
Well Diameter (in.): **2**
Gal. per ft.: **0.163**
Well Volume (gal.): **0.88**
Depth of Screen (ft.): 6.0 - 16.0

Purge Methodology: Low Flow Sampling Procedures utilizing a bladder pump

Water Quality Meter: Horiba U52 / LaMotte 2020

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)	Turbidity - Lamotte (NTU)	Color/Odor
	Stabilization	< 0.3'	300 - 500		+/- 0.1	+/- 3 %	+/- 10%	+/- 10 %		+/- 10 mV	+/- 10%	
Initial	9:55	9.76	200	.2	5.21	.765	13.5	4.51	14.51	173		Clear / Odorless
	10:05	9.8	300	.5	5.35	.755	9.96	5.21	11.57	164		Clear / Odorless
	10:15	9.8	300	1.25	5.40	.760	3.85	5.76	11.03	172		Clear / Odorless
	10:25	9.74	300	2.50	5.43	.758	2.38	5.77	10.98	175		Clear / Odorless
	10:35	9.79	300	4.0	5.49	.748	4.10	5.72	11.03	178		Clear / Odorless
	10:40	9.76	300	4.5	5.50	.746	2.73	5.79	10.96	179		Clear / Odorless
final	11:07	9.78	300	5	5.58	0.745	0.42	5.94	11.26	180		Clear / Odorless

Remarks: Pump Intake Depth: **13 ft** Control Box Setting: Refill: Discharge: PSI:

Ferrous Iron = 0.00 mg/L

PID: 0.0 ppm at well head space and breathing zone

SAMPLING

Depth to Water Before Sampling: **9.78 ft**

Sample Methodology: Low Flow Sampling Procedures with bladder pump

Sample ID: **MW-15-050312** QC Sample: **None**

Sample Date/Time: **May 3, 2012 @ 1045** Filtered Metals: Yes Filter Size: 0.45µm

Sampler / Signature: MC Crane

Sample Observations:

Parameters: VOC, SVOC + PAH, Dissolved Gasses, Alkalinity, Phosphorus, Total Organic Carbon, NO3, NO2, Sulfates, Metals, Dissolved Metals

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: MW-16I | **Site:** Former Hampshire Corp Site

Field Crew: **A. Crane** | **Date: April 24, 2012** | **Project #: 434426.01.GW.FS**

Well Depth (ft.): **32.35**
DTW (ft.): **23.08**
Water Column (ft.): **9.27**
Well Diameter (in.): **2**
Gal. per ft.: **0.163**
Well Volume (gal.):
Depth of Screen (ft.):

Purge Methodology: Low Flow Sampling Procedures with Bladder Pump

Water Quality Meter: Horiba U52, LaMotte 2020

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	11:15	23.20	250	0.5	6.74	1.31	23.7	5.67	12.28	-54	clear / odorless
	11:30	23.25	350	1.5	6.63	1.26	14.0	5.57	12.38	-56	clear / odorless
	11:40	23.30	360	3.0	6.58	1.21	9.43	5.60	12.37	-46	clear / odorless
	11:50	23.32	360	4.0	6.67	1.18	5.82	5.84	12.32	-48	clear / odorless
	12:00	23.35	360	5.0	6.84	1.17	3.47	5.72	12.40	-64	clear / odorless
	12:10	23.36	360	5.5	6.86	1.15	3.02	5.81	12.57	-52	clear / odorless
	12:20	23.38	360	6.0	6.87	1.15	2.67	5.4	12.60	-49	clear / odorless
final	13:15	23.15	300	6.2	6.82	1.13	3.09	7.78	13.02	-60	Clear / Odorless

Remarks: Pump Intake Depth: **29 ft** Control Box Setting: Refill: Discharge: PSI: **25**

Ferrous Iron = 3.30 mg/L
PID: 0.0 ppm at well head space and breathing zone

SAMPLING

Depth to Water Before Sampling: **23.38 ft**
Sample Methodology: Low Flow Sampling Procedures with Bladder Pump
Sample ID: **MW-16I-042412** QC Sample: **None**
Sample Date/Time: **April 24, 2012 @ 1235** Filtered Metals: Yes Filter Size: 0.45µm
Sampler / Signature: Alex Crane
Sample Observations:
Parameters: VOC, SVOC + PAH, Dissolved Gasses, Alkalinity, Phosphorus, Total Organic Carbon, NO3, NO2, Sulfates, Metals, Dissolved Metals

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: MW-16S | **Site:** Former Hampshire Corp Site

Field Crew: **Graham Sharkey** | **Date: April 24, 2012** | **Project #: 434426.01.GW.FS**

Well Depth (ft.): **34.05**
DTW (ft.): **23.16**
Water Column (ft.): **10.89**
Well Diameter (in.): **2**
Gal. per ft.: **0.163**
Well Volume (gal.): **1.78**
Depth of Screen (ft.): 22.0 - 32.0

Purge Methodology: Low Flow Sampling Procedures with Bladder Pump

Water Quality Meter: Horiba U52 / LaMotte 2020

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	11:35	23.20	250	0.5	6.74	1.22	27.2	2.70	13.05	-94	clear / odorless
	11:45	23.30	450	1.7	6.82	1.22	11.7	1.28	12.99	-114	Clear / Odorless
	11:55	23.30	450	2.8	6.86	1.21	2.8	1.00	12.95	-122	Clear / Odorless
	12:00	23.30	450	3.3	6.85	1.21	1.5	0.96	12.93	-122	Clear / Odorless
	12:05	23.30	450	3.9	6.85	1.21	0.8	0.92	12.99	-123	Clear / Odorless
final	12:59	23.30	200	4.5	6.88	1.23	0.9	1.75	12.99	-122	Clear / Odorless

Remarks: Pump Intake Depth: **30 ft** Control Box Setting: Refill: Discharge: PSI: **22**

Ferrous Iron >3.30 mg/L over machines limit
PID: 0.0 ppm at well head space and breathing zone

SAMPLING

Depth to Water Before Sampling: **23.3 ft**
Sample Methodology: Low Flow Sampling Procedures with Bladder Pump
Sample ID: **MW-16S-042412** QC Sample: **None**
Sample Date/Time: **April 24, 2012 @ 1237** Filtered Metals: Yes Filter Size: 0.45µm
Sampler / Signature: Graham Sharkey
Sample Observations:
Parameters: VOC, SVOC + PAH, Dissolved Gasses, Alkalinity, Phosphorus, Total Organic Carbon, NO3, NO2, Sulfates, Metals, Dissolved Metals

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: MW-17 | **Site:** Former Hampshire Corp Site

Field Crew: **Graham Sharkey** | **Date: May 3, 2012** | **Project #: 434426.01.GW.FS**

Well Depth (ft.): **14.79**
DTW (ft.): **11.59**
Water Column (ft.): **3.20**
Well Diameter (in.): **2**
Gal. per ft.: **0.163**
Well Volume (gal.): **0.50**
Depth of Screen (ft.): 4.5 - 14.5

Purge Methodology: Low Flow Sampling Procedures wiyh Bladder Pump

Water Quality Meter: Horiba U52 / LaMotte 2020

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	10:15	11.86	150	0.5	6.70	1.71	92	7.66	14.66	56	Brownish / Odorless
	10:25	11.94	150	0.8	6.66	1.73	139	6.52	13.28	66	Clear / Odorless
	10:35	12.12	200	1.2	6.63	1.73	2.5	5.92	12.85	14	Clear / Odorless
	10:45	12.20	200	1.7	6.64	1.73	1.7	5.49	12.63	-19	Clear / Odorless
	10:55	12.20	200	2.1	6.63	1.72	1.1	5.37	12.54	-27	Clear / Odorless
	11:05	12.20	200	2.5	6.65	1.71	0.0	5.30	12.59	-39	Clear / Odorless
	11:10	12.20	200	2.7	6.65	1.70	0.0	5.21	12.61	-42	Clear / Odorless
	11:15	12.20	200	3.0	6.66	1.70	0.0	5.17	12.63	-45	Clear / Odorless
final	11:55	12.29	200	3.5	6.68	1.74	0	8.14	11.92	-55	Clear / Odorless

Remarks: Pump Intake Depth: **14 ft** Control Box Setting: Refill: Discharge: PSI:

Ferrous Iron >3.30 mg/L (concentration above the range of the insturment)
Flow rate below 300 mL/min due to low well volume
PID: 0.0 ppm at well head space and breathing zone

SAMPLING

Depth to Water Before Sampling: **12.2 ft**
Sample Methodology: Low Flow Sampling Procedures with Bladder Pump
Sample ID: **MW-17-050312** QC Sample: **None**
Sample Date/Time: **May 3, 2012 @ 1130** Filtered Metals: Yes Filter Size: 0.45µm
Sampler / Signature: Graham Sharkey / *G Sharkey*
Sample Observations:
Parameters: VOC, SVOC + PAH, Dissolved Gasses, Alkalinity, Phosphorus, Total Organic Carbon, NO3, NO2, Sulfates, Metals, Dissolved Metals

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: MW-18 | **Site:** Former Hampshire Corp Site

Field Crew: **M. Murphy** | **Date: May 8, 2012** | **Project #: 434426.01.GW.FS**

Well Depth (ft.):
DTW (ft.): **10.50**
Water Column (ft.):
Well Diameter (in.): **2**
Gal. per ft.: **0.163**
Well Volume (gal.):
Depth of Screen (ft.):

Purge Methodology: Low Flow Sampling Procedures using a bladder pump

Water Quality Meter: Horiba U52, LaMotte 2020

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	10.6	45	0	6.67	1.79	87.5	7.21	12.14	-5	suspended solids, clear / none
	9:43	10.65	45	0.05	6.81	1.79	78.6	6.11	11.80	-37	suspended solids, clear / none
	9:48	10.65	45	0.10	6.87	1.79	53.1	6.13	11.71	-55	suspended solids, clear / none
	9:58	10.65	45	0.20	6.93	1.80	36.9	6.22	11.42	-78	suspended solids, clear / none
	10:03	10.65	45	0.25	6.95	1.80	30.6	6.29	11.39	-84	Clear / None
	10:08	10.65	45	0.30	6.95	1.80	25.3	6.36	11.36	-88	Clear / None
	10:13	10.65	45	0.35	6.95	1.81	16.2	6.36	11.39	-89	Clear / None
	10:18	10.65	45	0.40	6.96	1.81	16.0	6.53	11.40	-91	Clear / None
	10:23	10.65	45	0.45	6.96	1.81	15.8	6.35	11.35	-91	Clear / None
	10:33	10.65	45	0.50	6.96	1.81	13.3	6.25	11.24	-91	Clear / None
	10:43	10.65	45	0.60	6.87	1.82	9.44	6.31	11.11	-86	Clear / None
	10:48	10.65	45	0.65	6.86	1.82	6.72	6.30	11.16	-85	Clear / None
	10:53	10.65	45	0.70	6.87	1.82	6.18	6.37	11.16	-97	Clear / None
final	13:40	10.70	45	0.7	7.00	1.75	2.15	5.15	12.42	-106	Clear / none

Remarks: Pump Intake Depth: **12 ft** Control Box Setting: Refill: **12** Discharge: PSI: **10**

Ferrous Iron >5.11 mg/L (over the range that insturment can read)
Very slow recharge
PID: 0.0 ppm at well head space and breathing zone

SAMPLING

Depth to Water Before Sampling:	**10.65**		
Sample Methodology:	Low Flow Sampling Procedures with bladder pump		
Sample ID:	**MW-18-050812**	QC Sample:	**None**
Sample Date/Time:	**May 8, 2012 @11:00**	Filtered Metals: Yes	Filter Size: 0.45µm
Sampler / Signature:	Michael Murphy		
Sample Observations:	Clear, no odor		
Parameters:	VOC, SVOC + PAH, Dissolved Gasses, Alkalinity, Phosphorus, Total Organic Carbon, NO3, NO2, Sulfates, Metals, Dissolved Metals		

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: MW-19 | **Site:** Former Hampshire Corp Site

Field Crew: **Alex Crane** | **Date: April 26, 2012** | **Project #: 434426.01.GW.FS**

Well Depth (ft.): **16.86**
DTW (ft.): **12.35**
Water Column (ft.): **4.51**
Well Diameter (in.): **2**
Gal. per ft.: **0.163**
Well Volume (gal.): **0.74**
Depth of Screen (ft.): **8.0 - 18.0**

Purge Methodology: Low Flow Sampling Procedures with Bladder Pump

Water Quality Meter: Horiba U52 / LaMotte 2020

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	9:20	12.25	300	0.25	6.64	1.61	6.91	6.23	14.00	-133	Clear / None
	9:30	13.35	300	1.75	6.65	1.61	2.73	5.84	14.18	-156	Clear / None
	9:40	13.78	300	1.50	6.67	1.60	3.80	5.66	14.22	-161	Clear / None
	9:50	14.56	200	2.0	6.68	1.56	1.29	5.45	14.36	-166	Clear / None
	10:00	15.08	200	2.5	6.70	1.56	0.50	5.27	14.37	-168	Clear / None
	10:05	15.41	100	3.0	6.68	1.57	10.0	5.07	14.21	-156	Clear / None
	10:20	15.59	100	3.10	6.69	1.57	17.5	4.11	13.26	-129	Clear / None
	9/27/2012										
	9:00	12.72	150	3.20	6.46	1.67	93.9	2.13	12.61	-26	Clear / None
	9:10	12.98	100	3.40	6.69	1.64	49.9	1.55	12.41	-18	Clear / None
final	10:55	13.95	100	3.40	6.82	1.67	12.4	2.35	9.97	-2	Clear / none

Remarks: Pump Intake Depth: **15.5 ft** Control Box Setting: Refill: Discharge: PSI:

PID: 0.0 ppm at well head space and breathing zone
Ferrous Iron = 0.00 mg/L
Lowered pump due to withdrawal
Pump well dry
Sampled on 4/27/2012

SAMPLING

Depth to Water Before Sampling:	**13.2 ft**		
Sample Methodology:	Low Flow Sampling Procedures with Bladder Pump		
Sample ID:	**MW-19-042612**	QC Sample:	**None**
Sample Date/Time:	**April 27, 2012 @ 0930**	Filtered Metals: Yes	Filter Size: 0.45µm
Sampler / Signature:	Alex Crane		
Sample Observations:	Pump well dry on 4/26/12 sample on 4/27/12		
Parameters:	VOC, SVOC + PAH, Dissolved Gasses, Alkalinity, Phosphorus, Total Organic Carbon, NO3, NO2, Sulfates, Metals, Dissolved Metals		

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: MW-20 | **Site:** Former Hampshire Corp Site

Field Crew: **Graham Sharkey** | **Date: April 27, 2012** | **Project #: 434426.01.GW.FS**

Well Depth (ft.): **15.99**
DTW (ft.): 7.1
Water Column (ft.): **8.89**
Well Diameter (in.): **2**
Gal. per ft.: **0.163**
Well Volume (gal.): **1.45**
Depth of Screen (ft.): 6.0 - 16.0

Purge Methodology: Low Flow Sampling Procedures with Bladder Pump

Water Quality Meter: Horiba U52 / LaMotte 2020

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	8:33	7.55	300	0	5.70	0.759	23.6	10.87	10.31	154	Clear / Odorless
	8:38	7.95	300	0.3	5.79	0.766	13.4	10.60	9.33	151	Clear / Odorless
	8:43	8.40	300	0.6	5.89	0.768	8.84	10.34	9.76	151	Clear / Odorless
	8:48	8.60	160	0.8	5.89	0.771	6.60	10.13	9.49	154	Clear / Odorless
	8:53	8.82	160	1.0	5.90	0.795	5.79	9.99	9.35	155	Clear / Odorless
	8:58	9.05	160	1.2	5.94	0.831	5.05	9.24	9.60	156	Clear / Odorless
	9:08	9.10	100	1.4	5.93	0.850	4.01	9.05	8.73	157	Clear / Odorless
	9:13	9.15	100	1.5	5.95	0.858	3.55	8.69	8.49	155	Clear / Odorless
	9:18	9.18	100	1.6	5.96	0.862	2.20	8.47	8.38	155	Clear / Odorless
final	10:24	10.20	100	1.6	5.97	0.867	3.14	4.80	6.89	152	Clear / Odorless

Remarks: Pump Intake Depth: **12 ft** Control Box Setting: Refill: **10** Discharge: 10 PSI: **15**

Ferrous Iron = 0.04 mg/L
PID: 0.0 ppm at well head space and breathing zone

SAMPLING

Depth to Water Before Sampling: **10.2 ft**
Sample Methodology: Low Flow Sampling Procedures with Bladder Pump
Sample ID: **MW-20-042712** QC Sample: **None**
Sample Date/Time: **April 27, 2012 @ 0923** Filtered Metals: Yes Filter Size: 0.45µm
Sampler / Signature: Michael Murphy
Sample Observations:
Parameters: VOC, SVOC + PAH, Dissolved Gasses, Alkalinity, Phosphorus, Total Organic Carbon, NO3, NO2, Sulfates, Metals, Dissolved Metals

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: MW-21 | **Site:** Former Hampshire Corp Site

Field Crew: **James Balas** | **Date: April 25, 2012** | **Project #: 434426.01.GW.FS**

Well Depth (ft.): **14**
DTW (ft.): **3.78**
Water Column (ft.):
Well Diameter (in.): **2**
Gal. per ft.: **0.163**
Well Volume (gal.):
Depth of Screen (ft.): **4.0 - 14.0**

Purge Methodology: Low Flow Sampling Procedures with Bladder Pump

Water Quality Meter: Horiba U52 / LaMotte 2020

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	12:05	3.85	200	0	10.38	27.7	5.56	4.97	10.53	-410	
	12:10	4.90	200	0.4	10.50	27.7	5.00	4.98	12.40	-431	
	12:15	5.05	100	0.5	10.48	27.6	3.62	4.95	12.32	-438	
	12:20	5.05	100	0.6	10.44	27.6	3.61	4.92	12.19	-437	
	12:30	5.00	100	0.8	10.36	27.0	1.82	4.75	12.09	-433	
	12:35	5.00	100	0.9	10.33	26.8	1.66	4.69	12.13	-434	
	12:40	5.05	100	1.0	10.28	26.3	1.66	4.59	12.26	-433	
final	14:24	5.05	75	1.0	10.29	26.1	0.70	3.87	11.44	-463	Tan / Sulfur-like

Remarks: Pump Intake Depth: **11 ft** Control Box Setting: Refill: **10** Discharge: 10 PSI: **12**

Ferrous Iron = 0.42 mg/L

PID: 0.0 ppm at well head space and breathing zone

SAMPLING

Depth to Water Before Sampling: 5.05 ft
Sample Methodology: Low Flow Sampling Procedures with Bladder Pump
Sample ID: **MW-21-042512** QC Sample: **None**
Sample Date/Time: **April 25, 2012 @ 1245** Filtered Metals: Yes Filter Size: 0.45µm
Sampler / Signature: Mike Murphy
Sample Observations: Brown, sulfur-like odor
Parameters: VOC, SVOC + PAH, Dissolved Gasses, Alkalinity, Phosphorus, Total Organic Carbon, NO3, NO2, Sulfates, Metals, Dissolved Metals

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: MW-22 | **Site:** Former Hampshire Corp Site

Field Crew: **Graham Sharkey** | **Date: April 25, 2012** | **Project #: 434426.01.GW.FS**

Well Depth (ft.): **12.72**
DTW (ft.): **3.71**
Water Column (ft.): **9.01**
Well Diameter (in.): **2**
Gal. per ft.: **0.163**
Well Volume (gal.): **1.5**
Depth of Screen (ft.): 3.0 - 13.0

Purge Methodology: Low Flow Sampling Procedures with Bladder Pump

Water Quality Meter: Horiba U52 / LaMotte 2020

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	9:27	4.55	200	0.5	6.47	2.90	27.7	11.34	13.66	191	Clear / Odorless
	9:32	4.75	200	0.8	6.80	2.91	21.3	10.47	13.38	180	Clear / Odorless
	9:37	4.97	200	1.0	6.85	2.91	19.7	10.22	13.35	177	Clear / Odorless
	9:47	5.48	200	1.4	6.91	2.91	10.1	9.49	13.24	174	Clear / Odorless
	9:52	5.60	200	1.6	6.91	2.88	9.2	9.42	13.27	173	Clear / Odorless
	9:57	5.75	200	1.8	6.92	2.83	6.0	9.21	13.27	12	Clear / Odorless
	10:02	5.90	200	2.0	6.92	2.73	3.9	9.03	13.26	171	Clear / Odorless
	10:07	6.11	200	2.2	6.93	2.63	4.7	8.63	13.21	164	Clear / Odorless
	10:12	6.26	200	2.4	6.93	2.56	2.9	8.40	13.23	159	Clear / Odorless
final	11:07	8.71	200	3.0	7.07	2.61	5.1	8.92	12.44	-78	Clear / Odorless

Remarks: Pump Intake Depth: **11 ft** Control Box Setting: Refill: Discharge: PSI: 12

Ferrous Iron = 0.00 mg/L
PID: 0.0 ppm at well head space and breathing zone

SAMPLING

Depth to Water Before Sampling: **6.26 ft**
Sample Methodology: Low Flow Sampling Procedures with Bladder Pump
Sample ID: **MW-22-042512** QC Sample: **None**
Sample Date/Time: **April 25, 2012 @ 1007** Filtered Metals: Yes Filter Size: 0.45µm
Sampler / Signature: Graham Sharkey / *G Sharkey*
Sample Observations:
Parameters: VOC, SVOC + PAH, Dissolved Gasses, Alkalinity, Phosphorus, Total Organic Carbon, NO3, NO2, Sulfates, Metals, Dissolved Metals

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: MW-23 | **Site:** Former Hampshire Corp Site

Field Crew: **James Balas** | **Date: April 25, 2012** | **Project #: 434426.01.GW.FS**

Well Depth (ft.): **12.18**
DTW (ft.): **3.30**
Water Column (ft.): **8.88**
Well Diameter (in.): **2**
Gal. per ft.: **0.163**
Well Volume (gal.): **1.45**
Depth of Screen (ft.): **3.0 - 13.0**

Purge Methodology: Low Flow Sampling Procedures with Bladder Pump

Water Quality Meter: Horiba U52 / LaMotte 2020

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	12:40	3.41	350	1.0	7.06	18.5	89.2	6.11	12.27	-249	Clear / Sulfur-like
	12:50	3.41	325	1.75	6.97	8.00	29.9	5.52	12.54	-277	Clear/ Sulfur-like
	12:55	3.42	300	2.25	6.81	6.85	11.8	4.63	12.75	-290	Clear/ Sulfur-like
	13:00	3.41	300	2.75	6.77	6.66	5.93	4.04	12.82	-301	Clear/ Sulfur-like
	13:10	3.41	300	3.25	6.75	6.73	3.55	3.46	12.80	-316	Clear/ Sulfur-like
	13:15	3.41	300	3.75	6.74	6.71	1.85	3.19	12.85	-324	Clear/ Sulfur-like
	13:20	3.41	300	4.50	6.72	6.68	0.92	2.83	12.81	-331	Clear/ Sulfur-like
	13:25	3.46	300	5.00	6.71	6.63	0.32	2.59	12.84	-337	Clear/ Sulfur-like
final	14:20	3.46	300	5	6.61	6.18	0.80	0.90	12.85	-265	

Remarks: Pump Intake Depth: **8 ft** Control Box Setting: Refill: Discharge: PSI: **10**

Ferrous Iron = 0.0 mg/L

PID: 0.0 ppm at well head space and breathing zone

SAMPLING

Depth to Water Before Sampling: **3.44 ft**
Sample Methodology: Low Flow Sampling Procedures with Bladder Pump
Sample ID: **MW-25-042512** QC Sample: **None**
Sample Date/Time: **April 25, 2012 @ 1330** Filtered Metals: Yes Filter Size: 0.45µm
Sampler / Signature: Alex Crane
Sample Observations:
Parameters: VOC, SVOC + PAH, Dissolved Gasses, Alkalinity, Phosphorus, Total Organic Carbon, NO3, NO2, Sulfates, Metals, Dissolved Metals

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: MW-24 | **Site:** Former Hampshire Corp Site

Field Crew: **A. Crane** | **Date: April 30, 2012** | **Project #: 434426.01.GW.FS**

Well Depth (ft.): **13.72**
DTW (ft.): **4.53**
Water Column (ft.): **9.19**
Well Diameter (in.): **2**
Gal. per ft.: **0.163**
Well Volume (gal.): **1.5**
Depth of Screen (ft.): **4.0 - 14.0**

Purge Methodology: Low Flow Sampling Procedures with Bladder Pump

Water Quality Meter:
Horiba U52
LaMotte 2020

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)	Turbidity - Lamotte (NTU)	Color/Odor
	Stabilization	< 0.3'	300 - 500		+/- 0.1	+/- 3 %	+/- 10%	+/- 10 %		+/- 10 mV	+/- 10%	
Initial	11:55	5.45	350	0.75	6.38	5.23	162	0.75	15.28	-95		Brown Cloudy/ None
	12:05	6.55	300	1.25	6.36	4.71	81.4	0.81	14.99	-93		Brown Cloudy / None
	12:15	9.09	200	1.75	6.37	4.79	50.6	1.47	15.21	-96		Brown Cloudy / None
	12:25	10.62	150	2.25	6.40	4.87	38.7	2.03	15.36	-93		Brown Cloudy / None
	12:35	12.10	100	3.0	6.46	4.94	49.3	3.97	16.25	-74		Brown Cloudy / None
	12:45	12.39	60	3.25	6.48	4.98	68.8	3.81	16.62	-71		Brown Cloudy / None
	5/1/2012											Brown Cloudy / None
	8:55	5.12	100	0.10	6.90	4.89	1060	4.56	13.68	-18		Brown Cloudy / None
	9:05	5.70	100	0.30	6.88	5.07	214	4.10	13.37	-12		Brown Cloudy / None
	9:15	6.10	100	0.60	6.87	5.03	187	3.71	13.27	-18		Brown Cloudy / None
final	10:20	11.8	100	1	6.95	4.87	59.7	4.66	13.60	-52		

Remarks: Pump Intake Depth: **12.5 ft** Control Box Setting: Refill: Discharge: PSI: **8**

Ferrous Iron = 3.30 mg/L
Pump to dry, sample on 5/1/12
PID: 0.0 ppm at well head space and breathing zone

SAMPLING

Depth to Water Before Sampling: **6.10 ft**
Sample Methodology: Low Flow Sampling Procedures with Bladder Pump
Sample ID: **MW-24-050112** QC Sample: **None**
Sample Date/Time: **May 1, 2012 @ 0930** Filtered Metals: Yes Filter Size: 0.45µm
Sampler / Signature: Alex Crane
Sample Observations:
Parameters: VOC, SVOC + PAH, Dissolved Gasses, Alkalinity, Phosphorus, Total Organic Carbon, NO3, NO2, Sulfates, Metals, Dissolved Metals

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: MW-25 | **Site:** Former Hampshire Corp Site

Field Crew: **Graham Sharkey** | **Date: May 2, 2012** | **Project #: 434426.01.GW.FS**

Well Depth (ft.): **15.48**
DTW (ft.): **10.45**
Water Column (ft.): **5.03**
Well Diameter (in.): **2**
Gal. per ft.: **0.163**
Well Volume (gal.): **0.85**
Depth of Screen (ft.): 5.0 - 15.0

Purge Methodology: Low Flow Sampling Procedures with Bladder Pump

Water Quality Meter: Horiba U52 / LaMotte 2020

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	13:10	10.55	200	0.25	5.48	0.673	88.1	2.99	13.36	63	Cloudy / Odorless
	13:20	10.50	300	0.50	5.38	0.712	20.3	2.51	12.92	49	Cloudy / Odorless
	13:30	10.50	300	1.0	5.35	0.715	7.17	2.69	12.08	49	Cloudy / Odorless
	13:40	10.50	300	2.0	5.37	0.713	4.54	2.79	12.04	49	Cloudy / Odorless
	13:45	10.50	300	3.0	5.38	0.709	2.00	2.88	11.98	48	Cloudy / Odorless
	13:50	10.51	300	3.5	5.38	0.707	1.43	2.91	12.02	48	Cloudy / Odorless
	14:00	10.50	300	4.0	5.38	0.706	0.97	2.97	12.01	48	Cloudy / Odorless
	14:05	10.50	300	4.5	5.38	0.704	2.20	3.07	11.95	49	Cloudy / Odorless
final	14:40	10.58	300	5	5.45	0.692	4.55	3.9	15.61	50	Clear / Odorless

Remarks: Pump Intake Depth: **13 ft** Control Box Setting: Refill: Discharge: PSI:

Ferrous Iron = 0.37 mg/L

PID: 0.0 ppm at well head space and breathing zone

SAMPLING

Depth to Water Before Sampling: **10.5 ft**
Sample Methodology: Low Flow Sampling Procedures with Bladder Pump
Sample ID: **MW-25-050212** QC Sample: **None**
Sample Date/Time: **May 2, 2012 @ 14:10** Filtered Metals: Yes Filter Size: 0.45µm
Sampler / Signature: Alex Crane
Sample Observations:
Parameters: VOC, SVOC + PAH, Dissolved Gasses, Alkalinity, Phosphorus, Total Organic Carbon, NO3, NO2, Sulfates, Metals, Dissolved Metals

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: MW-26 | **Site:** Former Hampshire Corp Site

Field Crew: **A. Crane** | **Date: May 2, 2012** | **Project #: 434426.01.GW.FS**

Well Depth (ft.): **16.04**
DTW (ft.): **10.8**
Water Column (ft.): **5.24**
Well Diameter (in.): **2**
Gal. per ft.: **0.163**
Well Volume (gal.): **0.85**
Depth of Screen (ft.): 6.0 - 16.0

Purge Methodology: Low Flow Sampling Procedures with Bladder Pump

Water Quality Meter: Horiba U52 / LaMotte 2020

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	10:05	10.79	200	0.25	5.24	0.863	12.6	1.08	15.16	109	Clear / Odorless
	10:15	10.78	200	0.50	5.31	0.863	5.22	0.62	13.77	39	Cloudy gray / Odorless
	10:25	10.78	200	0.75	5.33	0.871	2.11	0.54	13.45	24	Light gray / Odorless
	10:35	10.78	200	1.0	5.36	0.872	1.77	0.52	13.35	17	Clear / Odorless
	10:40	10.79	200	1.25	5.36	0.875	3.47	0.49	13.22	12	Clear / Odorless
	10:45	10.78	200	1.50	5.37	0.876	1.49	0.49	13.16	10	Clear / Odorless
	10:50	10.78	200	1.75	5.37	0.877	2.77	0.47	13.16	9	Clear / Odorless
final	12:40	10.78	200	1.75	5.51	0.856	4.01	1.51	18.99	23	Clear / Odorless

Remarks: Pump Intake Depth: **11 ft** Control Box Setting: Refill: Discharge: PSI:

Ferrous Iron = 0.59 mg/L

PID: 0.0 ppm at well head space and breathing zone

SAMPLING

Depth to Water Before Sampling:	**10.78 ft**		
Sample Methodology:	Low Flow Sampling Procedures with Bladder Pump		
Sample ID:	**MW-26-050212**	QC Sample:	**Dup-GW-050212-01 @ 10:05**
Sample Date/Time:	**May 2, 2012 @ 1055**	Filtered Metals: Yes	Filter Size: 0.45µm
Sampler / Signature:	Alex Crane		
Sample Observations:			
Parameters:	VOC, SVOC + PAH, Dissolved Gasses, Alkalinity, Phosphorus, Total Organic Carbon, NO3, NO2, Sulfates, Metals, Dissolved Metals		

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: MW-27 | **Site:** Former Hampshire Corp Site

Field Crew: **Graham Sharkey** | **Date: April 26, 2012** | **Project #: 434426.01.GW.FS**

Well Depth (ft.): **12.81**
DTW (ft.): **9.73**
Water Column (ft.): **3.08**
Well Diameter (in.): **2**
Gal. per ft.: **0.163**
Well Volume (gal.): 0.50
Depth of Screen (ft.): 3.0 - 13.0

Purge Methodology: Low Flow Sampling Procedures with Bladder Pump

Water Quality Meter:
Horiba U52
LaMotte 2020

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	9:35	9.90	300	0.5	6.42	2.03	20.6	5.38	11.85	-87	Grayish / No odor
	9:45	9.98	300	0.9	6.49	1.50	13.2	1.55	10.78	-95	Clear / No odor
	9:55	10.17	300	1.3	6.51	1.57	8.17	1.15	10.57	-103	Clear / No odor
	10:05	10.13	300	1.7	6.52	1.62	4.75	1.09	10.57	-107	Clear / No odor
	10:10	10.21	300	2.0	6.54	1.73	3.39	1.02	10.64	-112	Clear / No odor
	10:15	10.24	300	2.2	6.55	1.76	4.17	1.0	10.64	-115	Clear / No odor
	10:20	10.27	300	2.5	6.56	1.79	3.09	0.97	10.60	-116	Clear / No odor
	10:25	10.30	300	2.8	6.56	1.81	2.91	0.96	10.55	-117	Clear / No odor
final	13:40	>11.3	100	3.5	6.86	1.95	34.9	1.08	14.31	-91	Clear / No odor

Remarks: Pump Intake Depth: **11.5 ft** Control Box Setting: Refill: Discharge: PSI: **15**

Ferrous Iron > 3.30 mg/L iron concentration greater than insturments limit.

During sampling water level dropped below intake of pump, flow rate reduced to 100 ml/min.
PID: 0.0 ppm at well head space and breathing zone

SAMPLING

Depth to Water Before Sampling:	**10.3 ft**		
Sample Methodology:	Low Flow Sampling Procedures with Bladder Pump		
Sample ID:	**MW-27-042612**	QC Sample:	**MW-27-042612-MS** **MW-27-042612-MSD**
Sample Date/Time:	**April 26, 2012 @ 1037**	Filtered Metals: Yes	Filter Size: 0.45µm
Sampler / Signature:	Graham Sharkey		
Sample Observations:	Shreds of PVC found on pump after removal from well.		
Parameters:	VOC, SVOC + PAH, Dissolved Gasses, Alkalinity, Phosphorus, Total Organic Carbon, NO3, NO2, Sulfates, Metals, Dissolved Metals		

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: MW-28 | **Site:** Former Hampshire Corp Site

Field Crew: **A. Crane** | **Date: May 3, 2012** | **Project #: 434426.01.GW.FS**

Well Depth (ft.): **15.75**
DTW (ft.): **10.14**
Water Column (ft.): **5.61**
Well Diameter (in.): **2**
Gal. per ft.: **0.163**
Well Volume (gal.): **0.91**
Depth of Screen (ft.): 6.0 - 16.0

Purge Methodology: Low Flow Sampling Procedures with Bladder Pump

Water Quality Meter: Horiba U52 / LaMotte 2020

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	12:05	10.15	225	0.20	5.35	0.918	94.9	0.90	15.48	58	Cloudy/None
	12:15	10.17	200	0.40	5.40	1.03	113	0.51	13.96	17	Cloudy/None
	12:25	10.18	200	1.0	5.41	1.10	62.6	0.34	13.39	-5	Cloudy/None
	12:35	10.23	200	2.0	5.37	1.11	45.7	0.37	13.45	-14	Cloudy/None
	12:45	10.21	300	2.5	5.37	1.11	49.6	0.44	13.61	-19	Cloudy/None
	12:55	10.20	300	3.0	5.37	1.10	39.1	0.71	13.59	-16	Cloudy/None
	13:05	10.20	300	4.0	5.39	1.11	25.7	0.53	13.76	-18	Cloudy/None
	13:15	10.22	300	5.0	5.38	1.12	29.5	0.51	13.66	-18	Cloudy/None
	13:25	10.23	300	6.0	5.41	1.13	12.4	0.62	13.75	-22	Cloudy/None
	13:35	10.22	300	7.0	5.42	1.14	9.93	0.59	13.95	-24	Cloudy/None
	13:45	10.20	300	8.0	5.44	1.14	6.45	0.61	13.76	-27	Cloudy/None
	13:50	10.20	300	8.0	5.45	1.14	7.27	0.60	13.75	-27	Cloudy/None
	13:55	10.20	300	8.5	5.45	1.16	10.80	0.63	13.51	-26	Cloudy/None
	14:20	10.20	300	9.75	5.57	1.15	83.3	1.69	15.71	-36	Cloudy/None
	14:25	10.18	300	10.25	5.53	1.15	52.9	1.58	15.86	-39	Cloudy/None
	14:30	10.20	300	10.75	5.56	1.15	48.9	1.59	17.64	-36	Cloudy/None
	14:40	10.20	300	11.25	5.59	1.15	31.5	1.82	18.89	-33	Cloudy/None
	14:50	10.18	300	12.00	5.56	1.10	28.3	0.97	17.42	-35	Cloudy/None
	14:55	10.20	300	12.50	5.57	1.09	36.3	0.84	17.70	-35	Cloudy/None
final	15:35	10.2	300	12.5	5.86	1.11	30.1	1.76	18.64	-47	Clear / none

Remarks: Pump Intake Depth: **12.75 ft** Control Box Setting: Refill: Discharge: PSI:

Ferrous Iron > 3.30 mg/L (Ferrous Iron above insturment detection limit.)

SAMPLING

Depth to Water Before Sampling:	**10.2 ft**
Sample Methodology:	Low Flow Sampling Procedures with Bladder Pump
Sample ID:	**MW-28-050312** QC Sample: **None**
Sample Date/Time:	**May 3, 2012 @ 15:00** Filtered Metals: Yes Filter Size: 0.45µm
Sampler / Signature:	Alex Crane
Sample Observations:	Lost water pressure at start of sample collection, purged more then continued sampling.
Parameters:	VOC, SVOC + PAH, Dissolved Gasses, Alkalinity, Phosphorus, Total Organic Carbon, NO3, NO2, Sulfates, Metals, Dissolved Metals

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: MW-29 | **Site:** Former Hampshire Corp Site

Field Crew: **Graham Sharkey** | **Date: April 30, 2012** | **Project #: 434426.01.GW.FS**

Well Depth (ft.): 13.35
DTW (ft.): 3.37
Water Column (ft.): 9.98
Well Diameter (in.): 2
Gal. per ft.: 0.163
Well Volume (gal.): 1.63
Depth of Screen (ft.): 4.0 -14.0

Purge Methodology: Low Flow Sampling Procedures using bladder pump

Water Quality Meter: Horiba U52

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	11:57	4.50	350	1.0	6.92	7.09	293	9.19	12.77	-192	Greyish/ Sulfur like
	12:07	4.46	200*	1.5	6.95	6.79	84.7	7.07	13.53	-193	Greyish/ Sulfur like
	12:17	4.45	200*	2.0	6.96	6.60	73.2	5.85	13.51	-194	Greyish/ Sulfur like
	12:27	4.45	200*	2.5	6.96	6.42	47.2	5.30	13.20	-189	Greyish/ Sulfur like
	12:37	4.45	200*	3.0	6.97	6.26	26.0	4.83	13.13	-187	Greyish/ Sulfur like
	12:37	4.45	200*	3.5	6.97	6.18	19.7	4.59	13.26	-183	Clear/ Sulfur like
	12:47	4.45	200*	4.0	6.98	6.14	12.9	4.30	13.31	-181	Clear/ Sulfur like
	12:57	4.45	200*	4.2	6.98	6.10	9.8	4.15	13.40	-179	Clear/ Sulfur like
	13:02	4.45	200*	4.4	6.97	6.09	9.4	4.10	13.51	-179	Clear/ Sulfur like
	13:07	4.45	200*	4.6	6.97	6.08	8.9	3.99	13.66	-179	Clear/ Sulfur like
final	14:09	4.45	200	5	6.99	5.99	4.8	3.78	13.43	-153	Clear / Odorless

Remarks: Pump Intake Depth: **10 ft** Control Box Setting: Refill: Discharge: PSI: 15

PID: 0.0 ppm at well head space and breathing zone

Ferrous Iron = 1.26 mg/L

* Flow rate reduced to less than 300 ml/min due to draw down

SAMPLING

Depth to Water Before Sampling:
Sample Methodology: Low Flow Sampling Procedures using bladder pump.
Sample ID: **MW-29-043012** QC Sample: **DUP-GW-043012 @14:00**
Sample Date/Time: **4/30/2012 13:07** Filtered Metals: Yes Filter Size: 0.45µm
Sampler / Signature: Graham Sharkey
Sample Observations:
Parameters: VOC, SVOC + PAH, Dissolved Gasses, Alkalinity, Phosphorus, Total Organic Carbon, NO3, NO2, Sulfates, Metals, Dissolved Metals

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: MW-30 | **Site:** Former Hampshire Corp Site

Field Crew: **Michael Murphy** | **Date: April 25, 2012** | **Project #: 434426.01.GW.FS**

Well Depth (ft.):
DTW (ft.): 4.53
Water Column (ft.):
Well Diameter (in.): 2
Gal. per ft.: 0.163
Well Volume (gal.):
Depth of Screen (ft.): 4.0 - 14.0

Purge Methodology: Low Flow Sampling Procedures using bladder pump

Water Quality Meter: Horiba U52 / LaMotte 2020

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	9:31	4.50	300	0	7.80	6.25	38.5	5.62	11.71	-293	Clear Brown/ Rotten Egg Like
	9:36	4.50	300	0.5	7.66	4.73	24.1	5.52	11.83	-322	Clear Brown/Rotten Egg Like
	9:41	4.50	301	1.0	7.28	3.41	11.1	5.53	11.82	-299	Clear Tan/Rotten Egg Like
	9:46	4.50	302	1.5	7.24	3.27	5.96	5.56	11.82	-297	Clear Tan/Rotten Egg Like
	9:51	4.50	303	2.0	7.29	3.30	4.08	5.57	11.85	-301	Clear Tan/Rotten Egg Like
	9:56	4.50	304	2.5	7.35	3.36	2.52	5.59	11.85	-306	Clear Tan/Rotten Egg Like
final	10:52	4.48	250	2.5	7.45	3.36	3.91	5.21	11.06	-318	Clear / Odorless

Remarks: Pump Intake Depth: **11 ft** Control Box Setting: Refill: 10 secc Discharge: 10 PSI: 15

PID: 0.0 ppm at well head space and breathing zone

Ferrous Iron = 0.30 mg/L

SAMPLING

Depth to Water Before Sampling:	4.5
Sample Methodology:	Low Flow Sampling Procedures with bladder pump
Sample ID:	**MW30-042512** QC Sample: **DUP-GW-040512**
Sample Date/Time:	**April 25,2012 10:00** Filtered Metals: Yes Filter Size: 0.45µm
Sampler / Signature:	Michael Murphy
Sample Observations:	Slight sulfur-like odor
Parameters:	VOC, SVOC + PAH, Dissolved Gasses, Alkalinity, Phosphorus, Total Organic Carbon, NO3, NO2, Sulfates, Metals, Dissolved Metals

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: MW-31 | **Site:** Former Hampshire Corp Site

Field Crew: **A. Crane** | **Date: April 25, 2012** | **Project #: 434426.01.GW.FS**

Well Depth (ft.): 16.15
DTW (ft.): 8.10 (4/25/12), 13.12/14.25 (4/27/12)
Water Column (ft.): 8.0
Well Diameter (in.): 2
Gal. per ft.: 0.163
Well Volume (gal.): 1.3
Depth of Screen (ft.): 7.0 - 17.0

Purge Methodology: Low Flow Sampling Procedures using bladder pump

Water Quality Meter: Horiba U52

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	11:00	8.40	300	0.25	6.94	6.32	19.1	4.56	11.06	-178	Brown / Odorless
	11:15	11.00	200	0.75	6.91	6.03	18.4	3.65	10.88	-170	Brown / Odorless
	11:20	11.60	200	1.25	6.93	5.91	15.3	3.05	11.10	-178	Brown / Odorless
	11:25	12.20	200	2.00	7.00	6.09	15.5	0.53	11.23	-212	Brown / Odorless
	11:40	13.36	150	2.25	6.98	6.06	25.6	2.66	11.15	-198	Brown / Odorless
	11:50	13.76	150	2.50	6.89	6.01	26.3	1.13	9.67	-193	Brown / Odorless
	12:00	13.75	150	2.75	6.89	6.01	Well Dry	0.36	9.40	-203	Brown / Odorless
	4/26/2012										
	11:50	13.52			9.63	6.73		2.86	15.03	-332	Cloudy / Odorless
	12:20	13.70			9.64	6.77		2.73	16.15	-386	Cloudy / Odorless
	4/27/2012										
	11:35	14.68			9.53	6.07		175	8.63	-106	Cloudy / Odorless
	11:45	14.82			9.52	6.27		121	8.35	-87	Cloudy / Odorless
final	14:25	10.92			7.63	7.51	26.9	0.13	20.48	-285	Clear / Odorless

Remarks: Pump Intake Depth: **12 ft** Control Box Setting: Refill: 10 Discharge: 10 PSI:

Due to MW-31 being a low producing well it was purged 4 times and sampled during three separate purges: 4/26/12 12:30 VOC's, Methane, CO2, Metals and Dissolved metals,
4/27/12 11:45 Alkalinity, Phosphorus, Total Organic Carbon, and Nitrates
Ferrous Iron did not read, sample to turbid
PID: 0.0 ppm at well head space and breathing zone

SAMPLING

Depth to Water Before Sampling:
Sample Methodology: Low Flow Sampling Procedures utilizing a bladder pump
Sample ID: **MW-31-042612, MW-31-042712,MW-31-050912** QC Sample: **None**
Sample Date/Time: **See notes above** Filtered Metals: Yes Filter Size: 0.45µm
Sampler / Signature: Alex Crane
Sample Observations:
Parameters: VOC, SVOC + PAH, Dissolved Gasses, Alkalinity, Phosphorus, Total Organic Carbon, NO3, NO2, Sulfates, Metals, Dissolved Metals

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: MW-32 | **Site:** Former Hampshire Corp Site

Field Crew: **G Sharkey** | **Date: April 25, 2012** | **Project #: 434426.01.GW.FS**

Well Depth (ft.): 15.20
DTW (ft.): 4.22
Water Column (ft.): 10.98
Well Diameter (in.): 2
Gal. per ft.: 0.163
Well Volume (gal.): ~1.75
Depth of Screen (ft.):

Purge Methodology: Low Flow Sampling Procedures with Bladder Pump

Water Quality Meter: Horiba U52 / LaMotte 2020

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	11:55	5.29	200	1.0	8.26	7.50	2.81	1.08	11.72	-364	Copper Colored / Sulfur-Like
	12:05	5.80	150	1.5	8.19	7.73	80.2	5.93	11.89	-387	Copper Colored / Sulfur Like
	12:15	6.23	150	1.8	8.25	7.79	59.0	4.92	12.19	-401	Copper Colored / Sulfur Like
	12:25	6.61	150	2.1	8.33	7.82	54.0	4.09	12.30	-410	Copper Colored / Sulfur Like
	12:35	6.90	150	2.4	8.40	7.84	46.3	3.41	12.47	-419	Copper Colored / Sulfur Like
	12:40	6.97	150	2.7	8.42	7.85	44.0	3.17	12.53	-422	Copper Colored / Sulfur Like
	12:45	7.05	150	2.8	8.50	7.87	10.95	2.77	12.58	-427	Copper Colored / Sulfur Like
	12:50	7.12	150	3.0	8.54	7.87	9.35	2.69	12.60	-431	Copper Colored / Sulfur Like
	12:55	7.25	150	3.2	8.59	7.94	8.58	2.38	12.78	-436	Copper Colored / Sulfur Like
final	14:40	8.74	100	3.5	8.80	8.38	1.23	1.89	13.26	-422	Copper Colored / Sulfur-like

Remarks: Pump Intake Depth: **13 ft** Control Box Setting: Refill: Discharge: PSI:

PID: 18.3 ppm at well head space and 0.0 ppm at breathing zone

Ferrous Iron = 0.03 mg/L

SAMPLING

Depth to Water Before Sampling: 7.25 ft
Sample Methodology: Low Flow Sampling Procedures with bladder pump
Sample ID: **MW-32-042512** QC Sample: **None**
Sample Date/Time: **April 25, 2012 @ 13:07** Filtered Metals: Yes Filter Size: 0.45µm
Sampler / Signature: Graham Sharkey
Sample Observations:
Parameters: VOC, SVOC + PAH, Dissolved Gasses, Alkalinity, Phosphorus, Total Organic Carbon, NO3, NO2, Sulfates, Metals, Dissolved Metals

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: TW-01 | **Site:** Former Hampshire Corp Site

Field Crew: **M. Murphy** | **Date: May 8, 2012** | **Project #: 434426.01.GW.FS**

Well Depth (ft.): 20
DTW (ft.): **15.70**
Water Column (ft.): **4.23**
Well Diameter (in.): **2**
Gal. per ft.: **0.163**
Well Volume (gal.): **0.69**
Depth of Screen (ft.): **7.0 - 17.5**

Purge Methodology: Low Flow Sampling Procedures with Bladder Pump

Water Quality Meter: Horiba U52 / LaMotte 2020

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	13:57	16.0	300	0	6.84	1.67	45.2	5.80	12.42	-114	Clear / None
	14:02	16.0	300	0.5	6.84	1.70	31.4	5.13	11.65	-128	Clear / None
	14:07	16.0	300	1.0	6.92	1.71	25.1	4.95	11.37	-137	Clear / None
	14:12	16.0	300	1.5	6.94	1.72	20.4	4.93	11.30	-138	Clear / None
	14:17	16.0	300	2.0	6.96	1.73	19.9	4.96	11.18	-139	Clear / None
	14:22	16.0	300	2.5	6.83	1.73	14.7	4.90	11.13	-144	Clear / None
	14:32	16.0	300	3.5	6.88	1.74	9.80	5.03	11.13	-145	Clear / None
	14:37	16.0	300	4.0	7.01	1.74	8.24	4.87	11.11	-146	Clear / None
	14:42	16.0	300	4.5	7.02	1.73	7.65	4.98	11.10	-148	Clear / None
final	15:30	16	250	4.5	6.91	1.73	10.97	5.43	11.40	-132	Clear / none

Remarks: Pump Intake Depth: **~ 18 ft** Control Box Setting: Refill: **10** Discharge: PSI:

Ferrous Iron = 4.23 mg/L

PID: 0.0 ppm at well head space and breathing zone

SAMPLING

Depth to Water Before Sampling:	**16 ft**
Sample Methodology:	Low Flow Sampling Procedures with Bladder Pump
Sample ID:	**TW-01-050812** QC Sample: **Dup-GW-050812 15:00**
Sample Date/Time:	**May 8, 2012 @ 1450** Filtered Metals: Yes Filter Size: 0.45µm
Sampler / Signature:	Michael Murphy
Sample Observations:	
Parameters:	VOC, SVOC + PAH, Dissolved Gasses, Alkalinity, Phosphorus, Total Organic Carbon, NO3, NO2, Sulfates, Metals, Dissolved Metals

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: TW-02 | **Site:** Former Hampshire Corp Site

Field Crew: **Graham Sharkey** | **Date: May 3, 2012** | **Project #: 434426.01.GW.FS**

Well Depth (ft.): **12.43**
DTW (ft.): **10.45**
Water Column (ft.): **1.98**
Well Diameter (in.): **2**
Gal. per ft.: **0.163**
Well Volume (gal.): **0.32**
Depth of Screen (ft.): 5.5 - 10.5

Purge Methodology: Low Flow Sampling Procedures with Bladder Pump

Water Quality Meter: Horiba U52, LaMotte 2020

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	12:20	10.90	200	0.5	6.78	2.26	162	5.02	12.66	-39	Cloudy brown / Odorless
	12:30	10.95	150	0.8	6.79	2.22	1867	4.63	13.40	-54	Brown / Odorless
	12:40	10.90	150	1.2	6.79	2.82	70.7	4.62	13.14	-70	Cloudy / Odorless
	12:50	10.90	150	1.5	6.79	2.22	45.6	4.56	13.40	-76	Cloudy / Odorless
	13:00	10.90	150	1.8	6.80	2.21	17.9	4.43	13.69	-80	Clear / Odorless
	13:05	10.90	150	2.1	6.80	2.20	15.0	4.40	13.74	-80	Clear / Odorless
	13:10	10.90	150	2.4	6.80	2.20	12.7	4.39	13.87	-80	Clear / Odorless
final	14:10	10.90	150	3.0	6.91	2.2	5.7	5.34	15.78	-105	Clear / Odorless

Remarks: Pump Intake Depth: **12 ft** Control Box Setting: Refill: Discharge: PSI:

Ferrous Iron > 3.30 mg/L (Ferrous Iron above insturment detection limit.)
Flow rate < 300 mL/min due to little water column
PID: 0.0 ppm at well head space and breathing zone

SAMPLING

Depth to Water Before Sampling: **10.9 ft**
Sample Methodology: Low Flow Sampling Procedures with Bladder Pump
Sample ID: **TW-02-050312** QC Sample: **None**
Sample Date/Time: **May 3, 2012 @ 13:30** Filtered Metals: Yes Filter Size: 0.45µm
Sampler / Signature: Graham Sharkey / *G Sharkey*
Sample Observations:
Parameters: VOC, SVOC + PAH, Dissolved Gasses, Alkalinity, Phosphorus, Total Organic Carbon, NO3, NO2, Sulfates, Metals, Dissolved Metals

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: PZ-01 | **Site:** Former Hampshire Corp Site

Field Crew: **Graham Sharkey** | **Date: May 4, 2012** | **Project #: 434426.01.GW.FS**

Well Depth (ft.): **10.30**
DTW (ft.): **2.85**
Water Column (ft.): **7.45**
Well Diameter (in.): **0.75**
Gal. per ft.: **0.003**
Well Volume (gal.): **0.022**
Depth of Screen (ft.): 4.0 - 14.0

Purge Methodology: Low Flow Sampling Procedures with Peristaltic Pump

Water Quality Meter: Horiba U52 / LaMotte 2020

Diameter	Gal. Per Foot	Diameter	Gal. Per Foot
2"	.163	5"	1.020
3"	.367	6"	1.469
4"	.653	8"	2.611
1"	0.041		
0.75"	0.023		

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	10:35	4.40	250	0.5	6.80	1.90	Over Range	4.92	20.37	-119	Brown / odorous
	10:45	4.62	250	1.1	6.92	1.46	Over Range	4.42	19.25	-132	Brown/odorous
	10:55	4.80	250	1.7	6.90	1.42	Over Range	3.83	19.06	-132	Brown/odorous
	11:05	4.91	250	2.3	6.93	1.32	Over Range	3.55	19.04	-132	Brown/odorous
	11:15	5.10	250	3.0	6.93	1.24	Over Range	3.55	18.89	-131	Brown/odorous
	11:25	5.22	250	3.7	6.91	1.38	1735	3.56	18.86	-130	Brown/odorous
	11:35	5.40	250	4.3	6.92	1.39	3312	3.55	18.87	-133	Brown/odorous
	11:45	5.55	250	5.0	6.91	1.37	1355	3.52	18.80	-134	Brown/odorous
	11:55	5.71	250	5.7	6.93	1.37	1066	3.55	18.80	-137	Brown/odorous
	12:05	5.89	250	6.4	6.95	1.38	949	3.55	18.81	-138	Brown/odorous
	12:15	5.95	250	7.1	6.95	1.35	1311	3.55	18.86	-134	Brown/odorous
	12:25	6.02	250	7.8	6.98	1.36	4536	3.55	19.02	-131	Brown/odorous
	12:35	6.07	250	8.5	6.96	1.37	3997	3.55	19.03	-132	Brown/odorous
	12:45	6.10	250	9.3	6.95	1.39	Over Range	3.55	19.04	-132	Brown/odorous
final	13:35	5.42	200	10	7.02	1.28	Over Range	4.40	19.73	-126	Brown/odorous

Remarks: Pump Intake Depth: **7 ft** Control Box Setting: Refill: Discharge: PSI:

Upon opening the well cap, the mulitmeter produced the following readings:

Ferrous Iron could not be measured due to high turbidity
Dissolved Ferrous Iron = 0.89 mg/L

LEL = 40% in WH space & 1% in BZ
O2 = 20.9% in BZ & 20.5% WH space
CO = 0 ppm in WH & BZ
H2S = 0 ppm in WH & BZ

These parameters were not detected in the breathing zone while purging PZ-01.

SAMPLING

Depth to Water Before Sampling: **6.10 ft**
Sample Methodology: Low Flow Sampling Procedures with Peristaltic Pump
Sample ID: **PZ-01-050412** QC Sample: **None**
Sample Date/Time: **May 4, 2012 @ 12:07** Filtered Metals: Yes Filter Size: 0.45µm
Sampler / Signature: Graham Sharkey / *G Sharkey*
Sample Observations:
Parameters: VOC, SVOC + PAH, Dissolved Gasses, Alkalinity, Phosphorus, Total Organic Carbon, NO3, NO2, Sulfates, Metals, Dissolved Metals

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: PZ-03 | **Site:** Former Hampshire Corp Site

Field Crew: **Graham Sharkey** | **Date: May 2, 2012** | **Project #: 434426.01.GW.FS**

Well Depth (ft.): **10.95**
DTW (ft.): **3.12**
Water Column (ft.): **7.83**
Well Diameter (in.): **.75**
Gal. per ft.: **0.023**
Well Volume (gal.): **0.18**
Depth of Screen (ft.): **4.0 - 12.0**

Purge Methodology: Low Flow Sampling Procedures with Peristaltic Pump

Water Quality Meter: Horiba U52 / LaMotte 2020

Diameter	Gal. Per Foot	Diameter	Gal. Per Foot
2"	.163	5"	1.020
3"	.367	6"	1.469
4"	.653	8"	2.611
1"	0.041		
0.75"	0.023		

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	13:05	*	300	0.5	6.82	7.79	49.9	4.39	20.1	-115	Blackish/ Skunk-like
	13:15	*	200	1.2	6.85	6.60	18.7	4.33	20.20	-117	Clear / Skunk-like
	13:25	*	200	1.7	6.88	5.81	3.7	4.31	20.29	-120	Clear / Skunk-like
	13:35	*	150	2.0	6.91	4.67	5.1	4.52	20.27	-109	Clear / Skunk-like
	13:45	*	150	2.3	6.93	4.01	4.0	4.29	20.20	-120	Clear / Skunk-like
	13:55	*	150	2.6	6.95	3.35	3.67	4.18	20.10	-128	Clear / Skunk-like
	14:00	*	150	3.0	6.95	3.25	2.01	4.17	20.11	-129	Clear / Skunk-like
	14:05	*	150	3.2	6.96	3.17	2.91	4.14	20.13	-131	Clear / Skunk-like
	14:10	*	150	3.4	6.97	3.13	2.17	4.12	20.12	-133	Clear / Skunk-like
	14:15	*	150	3.6	6.97	3.05	2.00	4.11	20.14	-135	Clear / Skunk-like
final	14:59	7.7	150	4	7.01	2.72	1.6	4.13	20.61	-110	Clear / Sulfur

Remarks: Pump Intake Depth: **8 ft** Control Box Setting: Refill: Discharge: PSI:

Ferrous Iron = 2.50 mg/L

PID: 0.0 ppm at well head space and breathing zone

* - Unable to place water level meter and tubing down well together due to well diameter.

SAMPLING

Depth to Water Before Sampling: *

Sample Methodology: Low Flow Sampling Procedures with Peristaltic Pump

Sample ID: **PZ-03-050212** QC Sample: **None**

Sample Date/Time: **May 2, 2012 @ 14:30** Filtered Metals: Yes Filter Size: 0.45µm

Sampler / Signature: Graham Sharkey

Sample Observations:

Parameters: VOC, SVOC + PAH, Dissolved Gasses, Alkalinity, Phosphorus, Total Organic Carbon, NO3, NO2, Sulfates, Metals, Dissolved Metals

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: PZ-4 | **Site:** Former Hampshire Corp Site

Field Crew: **Michael Murphy** | **Date: May 9, 2012** | **Project #: 434426.01.GW.FS**

Well Depth (ft.): **9.90**
DTW (ft.): **2.89**
Water Column (ft.): **7.01**
Well Diameter (in.): **0.75**
Gal. per ft.: **0.023**
Well Volume (gal.): ~ **0.1**
Depth of Screen (ft.): 5.5 - 10.5

Purge Methodology:
Low Flow Sampling Procedures
GeoPump
Water Quality Meter:
Horiba U52
LaMotte 2020

Diameter	Gal. Per Foot	Diameter	Gal. Per Foot
2"	.163	5"	1.020
3"	.367	6"	1.469
4"	.653	8"	2.611
1"	0.041		
0.75"	0.023		

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	3.16	250	0.5	8.33	8.87	679	1.63	13.68	-374	Brown/Sulfur-like
	9:25	3.12	200	0.9	7.70	8.20	205	4.05*	13.66	-351	Tan
	9:35	3.07	200	1.4	7.38	7.92	26.7	4.45	13.66	-321	Clear
	9:45	3.39	300	2.0	7.24	7.92	57.9	0.82	13.25	-375	Yellowish
	9:55	3.42	300	2.6	7.24	8.07	46.6	0.53	13.02	-381	
	10:05	3.45	300	3.3	7.23	8.07	38.8	0.47	13.07	-382	
	10:10	3.45	300	3.6	7.23	8.09	34.0	0.47	13.05	-383	
	10:15	3.45	300	3.9	7.23	8.10	28.1	0.46	13.14	-383	
	10:20	3.45	300	4.3	7.22	8.12	22.7	0.45	13.70	-383	
	10:25	3.45	300	4.6	7.22	8.14	15.9	0.44	13.70	-383	
	10:30	3.45	300	5.0	7.21	8.14	15.2	0.45	13.51	-384	
	10:35	3.45	200	6.0	7.21	8.14	14.4	0.48	13.21	-384	Yellowish/Sulfur Like
	* Air breathing U-52 through loose tubing connection										
	PID: 0.0 ppm at well head space and breathing zone										
final	11:25	3.45	200	6	7.32	8.35	55	4.55	15.08	-362	Yellow / Sulfur odor

Remarks: Pump Intake Depth: **8 ft** Control Box Setting: Refill: **NA** Discharge: PSI: **NA**

Ferrous Iron = 0.89 mg/L
PID: 0.0 ppm at well head space and breathing zone
* Air entering U-52 through loose tubin connection

SAMPLING

Depth to Water Before Sampling: **3.45 ft**
Sample Methodology: Low Flow Sampling Procedures using a peristaltic pump with teflon lined tubing
Sample ID: **PZ-04-050912** QC Sample: **None**
Sample Date/Time: **May 9, 2012 @ 1111** Filtered Metals: Yes Filter Size: 0.45µm
Sampler / Signature: Graham Sharkey
Sample Observations:
Parameters: VOC, SVOC + PAH, Dissolved Gasses, Alkalinity, Phosphorus, Total Organic Carbon, NO3, NO2, Sulfates, Metals, Dissolved Metals

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: PZ-05 | **Site:** Former Hampshire Corp Site

Field Crew: **James Balas** | **Date: May 9, 2012** | **Project #: 434426.01.GW.FS**

Well Depth (ft.): **9.61**
DTW (ft.): **3.81**
Water Column (ft.): **5.80**
Well Diameter (in.): **0.75**
Gal. per ft.: **0.023**
Well Volume (gal.): **0.13**
Depth of Screen (ft.): **6.0 - 11.0**

Purge Methodology: Low Flow Sampling Procedures with Peristaltic

Water Quality Meter: Horiba U52 LaMotte 2020

Diameter	Gal. Per Foot	Diameter	Gal. Per Foot
2"	.163	5"	1.020
3"	.367	6"	1.469
4"	.653	8"	2.611
1"	0.041		
0.75"	0.023		

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	5.19	375	0.5	6.55	6.12	Over Range	0.42	14.75	-373	Black/Sulfur Like
	12:35	5.27	375	1.4	6.54	6.30	87.4	0.32	13.43	-372	Cloudy White/Sulfur Like
	12:45	5.54	375	2.2	6.55	6.47	46.9	0.23	14.19	-377	Clear/Sulfur Like
	12:55	5.50	375	3.0	6.53	6.59	44.8	0.25	14.21	-378	Clear/Sulfur Like
	13:05	5.63	375	3.7	6.52	6.61	29.2	0.23	14.08	-379	Clear/Sulfur Like
	13:15	5.63	375	4.6	6.51	6.63	82.9	0.23	14.08	-379	Cloudy/Sulfur Like
	13:25	5.63	375	5.5	6.51	6.66	22.8	0.22	14.05	-380	Clear/Sulfur Like
	13:35	5.60	375	6.3	6.50	6.71	30.0	0.23	14.05	-379	Clear/Sulfur Like
	13:40	5.61	375	7.0	6.51	6.71	24.0	0.23	14.05	-379	Clear/Sulfur Like
	13:45	5.60	375	7.2	6.50	6.72	31.5	0.22	13.99	-379	Clear/Sulfur Like
final	14:29	5.56	200	7.5	6.56	6.82	11.6	0.28	15.37	-378	Clear / Sulfur-like

Remarks: Pump Intake Depth: **8 ft** Control Box Setting: Refill: Discharge: PSI:

Ferriou Iron = 0.49 mg/L

PID: 0.0 ppm at well head space and breathing zone

SAMPLING

Depth to Water Before Sampling:	**5.6 ft**		
Sample Methodology:	Low Flow Sampling Procedures with peristaltic pump		
Sample ID:	**PZ-05-050912**	QC Sample:	**None**
Sample Date/Time:	**May 9, 2012 @ 13:30**	Filtered Metals: Yes	Filter Size: 0.45µm
Sampler / Signature:	Graham Sharkey		
Sample Observations:	Sheen on water surface		
Parameters:	VOC, SVOC + PAH, Dissolved Gasses, Alkalinity, Phosphorus, Total Organic Carbon, NO3, NO2, Sulfates, Metals, Dissolved Metals		

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: PZ-06 | **Site:** Former Hampshire Corp Site

Field Crew: **Graham Sharkey** | **Date: May 7, 2012** | **Project #: 434426.01.GW.FS**

Well Depth (ft.): **9.11**
DTW (ft.): **3.25**
Water Column (ft.): **5.86**
Well Diameter (in.): **0.75**
Gal. per ft.: **0.023**
Well Volume (gal.): **0.13**
Depth of Screen (ft.): **5.5 - 10.5**

Purge Methodology: Low Flow Sampling Procedures with Peristaltic Pump

Water Quality Meter: Horiba U52 / LaMotte 2020

Diameter	Gal. Per Foot	Diameter	Gal. Per Foot
2"	.163	5"	1.020
3"	.367	6"	1.469
4"	.653	8"	2.611
1"	0.041		
0.75"	0.023		

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	10:35	8.55	100	0.5	7.59	11.00	121	5.66	15.80	-152	Cloudy/Odorless
	10:45	>8.8	25	0.7	7.89	11.20	32.8	7.14	17.60	-50	Brown/None
	10:55	>8.8	20	0.8	8.18	11.10	2029	7.65	19.12	-28	Gray / None
	11:05	>8.8	20	0.9	8.10	11.10	991	7.73	19.17	-18	Gray / None
	11:15	>8.8	20	1.0	8.16	11.10	226	7.71	19.71	-11	Gray / None
	11:25	>8.8	20	1.1	8.22	11.20	125	7.84	20.10	-5	Gray / None
	11:35	>8.8	20	1.2	8.27	11.20	79.1	7.79	20.33	-5	Cloudy / None
	11:45	>8.8	20	1.3	8.30	11.20	46.8	7.77	20.54	-6	Cloudy / None
	11:55	>8.8	20	1.4	8.33	11.30	36.9	7.72	20.67	-8	Cloudy / None
	12:05	>8.8	20	1.5	8.36	11.30	51.6	7.59	20.90	-11	Cloudy / None
final											

Remarks: Pump Intake Depth: **9 ft** Control Box Setting: Refill: **NA** Discharge: PSI: **NA**

Flow rate < 300 mL/min due to well producing little water
Ferrous Iron=0.0 ppm
PID: 0.0 ppm at well head space and breathing zone

SAMPLING

Depth to Water Before Sampling: **>8.8 ft**
Sample Methodology: Low Flow Sampling Procedures with peristaltic pump
Sample ID: **PZ-06-050712** QC Sample: **None**
Sample Date/Time: **May 7, 2012 @13:07** Filtered Metals: Yes Filter Size: 0.45µm
Sampler / Signature: Graham Starkey
Sample Observations:
Parameters: VOC, SVOC + PAH, Dissolved Gasses, Alkalinity, Phosphorus, Total Organic Carbon, NO3, NO2, Sulfates, Metals, Dissolved Metals

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: PZ-07 | **Site:** Former Hampshire Corp Site

Field Crew: **A. Crane** | **Date: May 8, 2012** | **Project #: 434426.01.GW.FS**

Well Depth (ft.): **9.90**
DTW (ft.): **4.55**
Water Column (ft.): **5.35**
Well Diameter (in.): **0.75**
Gal. per ft.: **0.023**
Well Volume (gal.): **0.12**
Depth of Screen (ft.): 5.5 - 10.5

Purge Methodology: Low Flow Sampling Procedures with Geo Pump
Water Quality Meter: Horiba U52
LaMotte 2020

Diameter	Gal. Per Foot	Diameter	Gal. Per Foot
2"	.163	5"	1.020
3"	.367	6"	1.469
4"	.653	8"	2.611
1"	0.041		
0.75"	0.023		

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	9:05	4.56	350	0	5.49	1.80	7.66	1.05	13.28	-159	Clear / Odorless
	9:15	4.57	300	0.5	5.63	1.78	3.45	0.50	13.02	-198	Clear / Odorless
	9:25	4.57	300	1.0	5.68	1.78	3.37	0.46	12.99	-207	Clear / Odorless
	9:35	4.57	300	2.0	5.71	1.79	2.94	0.39	12.99	-213	Clear / Odorless
	9:45	4.57	300	3.0	5.73	1.81	2.24	0.40	12.97	-218	Clear / Odorless
	9:55	4.55	300	4.0	5.77	1.81	1.95	0.38	12.96	-224	Clear / Odorless
	10:05	4.51	300	5.0	5.78	1.81	1.70	0.34	12.96	-228	Clear / Odorless
final	10:40	4.48	350	5	5.81	1.84	1.85	0.53	12.98	-211	Clear / Odorless

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

Ferrous Iron = 1.62 mg/L

PID: 0.0 ppm at well head space and breathing zone

SAMPLING

Depth to Water Before Sampling: **4.5 ft**
Sample Methodology: Low Flow Sampling Procedures with Geo Pump
Sample ID: **PZ-07-050812** QC Sample: **None**
Sample Date/Time: **May 8, 2012 @ 1010** Filtered Metals: Yes Filter Size: 0.45µm
Sampler / Signature: Alex Crane
Sample Observations:
Parameters: VOC, SVOC + PAH, Dissolved Gasses, Alkalinity, Phosphorus, Total Organic Carbon, NO3, NO2, Sulfates, Metals, Dissolved Metals

Low-Flow Groundwater Sampling Field Data Sheet

Well Number: Building 4 Pit Sump | **Site:** Former Hampshire Corp Site

Field Crew: **Graham Sharkey** | **Date: May 8, 2012** | **Project #: 434426.01.GW.FS**

Well Depth (ft.): **7.74**
DTW (ft.): **2.08**
Water Column (ft.): **5.66**
Well Diameter (in.): **4**
Gal. per ft.: **0.653**
Well Volume (gal.): **3.70**
Depth of Screen (ft.): Unknown

Purge Methodology: Bailed

Water Quality Meter:
Horiba U52
LaMotte 2020

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)	Turbidity - Lamotte (NTU)	Color/Odor
	Stabilization	< 0.3'	300 - 500		+/- 0.1	+/- 3 %	+/- 10%	+/- 10 %		+/- 10 mV	+/- 10%	
Initial	10:17	2.09	NA	0.5	3.20	1.82	6.3	2.70	18.69	149		Clear/Sulfurlike
final	10:55	2.24	NA	0.8	6.39	3.4	79.4	0.51	18.95	-358		Light amber / Rotten egg odor

Remarks: Pump Intake Depth: **Water Surface** Control Box Setting: Refill: **NA** Discharge: **NA** PSI: **NA**

Ferrous Iron = 1.16 mg/L

SAMPLING

Depth to Water Before Sampling: **2.09 ft**
Sample Methodology: No purge, collect water with a bailer
Sample ID: **Bldg-Pit-SSP-050812** QC Sample: **None**
Sample Date/Time: **May 8, 2012 @ 1001** Filtered Metals: Yes Filter Size: 0.45µm
Sampler / Signature: Graham Sharkey / *G Sharkey*
Sample Observations:
Parameters: VOC, SVOC + PAH, Dissolved Gasses, Alkalinity, Phosphorus, Total Organic Carbon, NO3, NO2, Sulfates, Metals, Dissolved Metals

Appendix C

Data Quality Evaluation, Analytical Data Packages, ELAP Certification and EQuIS Report

Data Quality Evaluation for 2012 Groundwater Monitoring Results, Former Hampshire Chemical Corp. Facility, Waterloo, New York

PREPARED BY: CH2M HILL

DATE: September 2012

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 former Hampshire Chemical Corp. (HCC) facility in Waterloo, New York (facility). CH2M HILL collected samples April 24 through May 9, 2012. 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); *U.S. Environmental Protection Agency (USEPA) Contract Laboratory National Functional Guidelines (NFG) for Organic Data Review, October 1999;* the *USEPA Contract Laboratory NFG for Inorganic Data Review, October 2004;* individual method requirements; and, historical laboratory quality control limits.

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

Analytical Data

This DQE report covers 45 water samples, 5 field duplicates (FD), 4 equipment blanks (EB) and 12 trip blanks (TB). The samples were reported in 12 sample delivery groups identified in Table 1.

TABLE 1
Sample Delivery Groups
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

L12040844	L12050099
L12040898	L12050153
L12040928	L12050171
L12040963	L12050226
L12050011	L12050284
L12050050	L12050317

Samples were collected and delivered to Microbac Laboratory (MBLM), which is an ELAP-approved laboratory in New York State under Laboratory Identification No. 10861, in Marietta, Ohio. The samples were analyzed by one or more of the methods listed in Table 2.

TABLE 2

Analytical Parameters
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Parameter	Method	Laboratory
Volatile Organic Compounds (VOC)	SW8260B	MBLM
Semivolatile Organic Compounds (SVOC/SVOC SIM)	SW8270C/SW8270SIM/	MBLM
Polyaromatic Hydrocarbons (PAH)	SW8270 PAHL	MBLM
TAL Metals (total/dissolved)	SW6010B/SW6020/SW7470A	MBLM
Sulfate	E375.4	MBLM
Alkalinity	E310.2	MBLM
Nitrate	E353.2	MBLM
Phosphorus	E365.4	MBLM
Total Organic Carbon (TOC)	E415.1	MBLM
Methane and carbon dioxide	RSK-175	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.

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 four samples exceeded the VOC criteria of pH<2, therefore, the samples are considered unpreserved. The samples were analyzed 1-2 days past the hold 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 MW-21-042512 was received with a pH that exceeded criteria of pH<2 for nitrate. Additional preservative was added by the laboratory; however, the pH still exceeded criteria, indicating possible matrix interference. The result was qualified as an estimated non-detect and flagged "UJ" in the sample.

Calibration

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

- The percent differences (%D) for chloromethane and dichlorodifluoromethane were greater than method criteria in several VOC initial calibration verification standards (ICVS), indicating a possible high bias. In addition, the %Ds for several analytes were greater than method criteria in several VOC continuing calibration verification standards (CCV). The data were not qualified because the associated samples did not contain reportable levels of these analytes.
- The %Ds for several analytes were less than method criteria in a few VOC CCVs, indicating a possible low bias. The data were qualified as estimated non-detected results and flagged "UJ" in the associated samples.
- The %Ds for 2-chloronaphthalene, pentachlorophenol and 2,4-dichlorophenol were greater than method criteria in several ICVSs associated with the SVOC analysis, indicating a possible high bias. The data were not qualified because the associated samples did not contain reportable levels of these analytes. In addition, the %Ds for 3,3'-dichlorobenzidine and 3-nitroaniline were greater than method criteria in a few SVOC CCVs. Detected results were qualified as estimated and flagged "J" in the associated samples. Non-detected results were not qualified.
- The %Ds for benzoic acid and/or 2,4-dinitrophenol were less than the method criteria in several SVOC CCVs, 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 %Ds for nitrate and phosphorous were less than method criteria in a few CCVs, 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 %Ds for alkalinity, nitrate, phosphorous and sulfate were greater than method criteria in a few CCVs, indicating a possible high bias. Detected results were qualified as estimated and flagged "J" in the associated samples. Non-detected results were not qualified.

- The %D for phosphorus was less than method criteria in one ICVS, indicating a possible low bias. The data were qualified as estimated non-detects and flagged "UJ" in the associated samples.

- Total and/or dissolved cadmium and/or iron were detected at concentrations less than the reporting limit (RL) in a few continuing calibration blanks (CCB) 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 blank concentrations.

Method Blanks

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

- Total and dissolved thallium was detected at a concentration less than the RL in one method blank associated with the metals analysis. The data were not qualified because the associated samples did not contain reportable levels of these analytes.

- Methane was detected at a concentration less than the RL in one method blank associated with the dissolved gas analysis. The data were qualified as not detected at the concentration measured and flagged "U" when the sample concentration was less than the concentration detected in the blank.

Field Blanks

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

- Acetone, carbon disulfide and methylene chloride were detected at concentrations less than/and or greater than the RL in a few EBs/TBs associated with the VOC analysis. The data were not qualified because the samples did not contain reportable levels of these analytes.

- Total cadmium and/or total/dissolved zinc were detected at concentrations less than the RL in one EB 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 concentration detected in the blank.

Laboratory Control Samples

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

- Methyl acetate and trans-1,3-dichloropropene were recovered less than the lower control limits in a few LCS/LCSDs associated with the VOC analysis, indicating a possible low bias. The data were qualified as estimated non-detected results and flagged "UJ" in the associated samples.

- A few analytes were recovered greater than the upper control limits in a few LCS/LCSDs associated with the VOC analysis, indicating a possible high bias. The data were not qualified because the samples did not contain reportable levels of these analytes.

- Hexachlorocyclopentadiene was recovered less than the lower control limit in one LCS associated with the SVOC analysis, indicating a possible low bias. The data were qualified as estimated non-detected results and flagged "UJ" in the associated samples. In addition, benzoic acid was not recovered in a few LCSs, indicating a significant low bias. The non-detected results were rejected for project use and flagged "R" in the associated samples.

- Several analytes were recovered greater than the upper control limits in a few LCS/LCSDs associated with the SVOC analysis, indicating a possible high bias. Detected results were qualified as estimated and flagged "J" in the associated samples. Non-detected results were not qualified.
- The relative percent differences (RPD) for 1,4-dioxane and benzoic acid were greater than criteria in one LCS/LCSD associated with the SVOC analysis. The data were not qualified because the associated samples did not contain reportable levels of these analytes.

Matrix Spike

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

- Methyl acetate was recovered less than the lower control limit in several VOC MS/MSDs, indicating a possible low bias. The data were qualified as estimated non-detected results and flagged "UJ" in the respective parent samples.
- Dichlorodifluoromethane and/or vinyl chloride were recovered greater than the upper control limit in a few VOC MS/MSDs, indicating a possible high bias. The aforementioned analytes were not qualified because the respective parent samples did not contain reportable concentrations of these analytes.
- The recovery of 1,4-dioxane was less than the lower control limit in the SVOC MS/MSD for sample MW-27-042612, indicating a possible low bias. The result was qualified as an estimated non-detect and flagged "UJ" in the parent sample. In addition, benzoic acid and/or hexachlorocyclopentadiene were not recovered in the MS/MSDs for MW-27-042612, MW-08-050212 and MW-12-050412, indicating a possible significant low bias. The non-detected results were rejected for project use and flagged "R" in the respective parent samples.
- Several analytes were recovered greater the upper control limits in the SVOC MS/MSDs, indicating a possible high bias. The data were not qualified because the associated samples did not contain reportable levels of these analytes.
- Naphthalene and 2-methynaphthalene were recovered greater than the upper control limits in the PAH MS/MSD for sample MW-08-050212, indicating a possible high bias. The data were not qualified because the parent sample did not contain reportable levels of these analytes.
- Several dissolved and/or total metals were recovered less than the lower control limits in the MS/MSDs, 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 parent samples. In addition, several dissolved and/or total metals were recovered greater than the upper control limits in the MS/MSDs, indicating a possible high bias. Detected results were qualified as estimated and flagged "J" in the respective parent samples. Non-detected results were not qualified.
- Alkalinity, nitrate, phosphorous, sulfate and TOC were recovered less than the lower control limits in several of the MS/MSDs, indicating a possible low bias. The data were qualified as estimate detected and non-detected results and flagged "J" and "UJ", respectively, in the parent samples. In addition, methane, nitrate and TOC were recovered greater than the upper control limits in the MS/MSD for sample MW-27-042612, indicating a possible high bias. Detected

results were qualified as estimated and flagged "J" in the parent sample. Non-detected results were not qualified.

- The RPD exceeded criteria for multiple analytes in several SVOC, PAH, phosphorous and TOC MS/MSDs. Detected results were qualified as estimated and flagged "J" in the respective parent sample. Non-detected results were not qualified.

Post Digestion Spikes

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

- Magnesium was recovered less than the lower control limit in the post digestion spike for sample MW-12-050412. The result was qualified as estimated and flagged "J" in the sample.
- Dissolved arsenic was recovered greater than the upper control limit in the post digestion spike for sample MW-03-050712. The result was qualified as estimated and flagged "J" in the sample.

Serial Dilutions

Serial dilutions were analyzed according to methods requiring their use and all acceptance criteria were met with the following exceptions:

- The RPD exceeded criteria for calcium and sodium in the serial dilution for sample MW-12-050412. The data were qualified as estimated and flagged "J" in the sample.
- The RPD exceeded criteria for sodium in the serial dilution for sample MW-03-050712. The result was qualified as estimated and flagged "J" in the sample.

Internal Standards

All acceptance criteria were met with the following exceptions:

- One internal standard associated with the SVOC analysis was recovered less than the lower control limit in samples MW-03-050712 and BBLD-PIT-SSP-050812, indicating a possible low bias. The associated data were qualified as an estimated detected and non-detected results and flagged "J" and "UJ", respectively, in the samples.
- One internal standard associated with the PAH analysis was recovered less than the lower control limit in sample MW-09R-050212, indicating a possible low bias. The associated data were qualified as estimated non-detected results and flagged "UJ" in the sample. In addition, one internal standard was recovered greater than the upper control limit in sample MW-03-050712, indicating a possible high bias. The associated data were not qualified because the sample did not contain reportable levels of the analytes.

Surrogates

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

- One or more surrogates were recovered greater than the upper control limits in the VOC analysis of samples MW-25-050212 and PZ-03-050212, indicating a possible high bias. Detected results were qualified as estimated and flagged "J" in the samples. Non-detected results were not qualified.

- Two surrogates associated with the acid fraction of the SVOC analysis were recovered greater than the upper control limits in several samples, indicating a possible high bias. Detected results were qualified as estimated and flagged "J" in the samples. Non-detected results were not qualified.

- One surrogate was recovered less than the lower control limit in the PAH analysis of several samples, 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. In addition, one surrogate was recovered greater than the upper control limit in the PAH analysis of sample MW-09R-050212, indicating a possible high bias. . Detected results were qualified as estimated and flagged "J" in the samples. Non-detected results were not qualified.

Field Duplicates

FDs were collected and analyzed at the required frequency and in several cases, precision acceptance criteria were not met in the dissolved gas, nitrate and metals analyses. The data were qualified as estimated detected results and flagged "J" in the respective field duplicate pairs.

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 and SVOC analyses to determine the presence/absence of the following analytes in the samples: epichlorohydrin, thioglycolic acid, dithiodiglycolic acid, mercaptopropionic acid, thiodipropionic acid, and dithiodipropionic acid. The library search did not identify these analytes 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 a few analytes which were qualified as estimated detected results due to FD, MS/MSD and/or serial dilution 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, LCS/LCSD, MS/MSD, internal standard, and/or surrogate issues. In addition, a few analytes associated with the SVOC analysis were rejected for project use in several samples due to low recoveries in the LCS/LCSDs and/or MS/MSDs. A few analytes

were qualified as not detected due to method, field and/or calibration blank contamination in a few samples.

- Representativeness of the data was verified through the sample's collection, storage and preservation procedures and the verification of holding-time compliance. The nitrate sample container was received above the required pH criteria for sample MW-21-042512 resulting in the data being qualified as estimated. Several VOC samples were analyzed 1-2 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 with the exception benzoic acid and hexachlorocyclopentadiene which were rejected for project use in several SVOC samples. The completeness goal of 95 percent was met for all analyte/method combinations except benzoic acid which was 50 percent complete.

Table 3

Qualified Data
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Sample ID	Method	Analyte	Units	Final Result	Final Flag	Reason
BBLD-PIT-SSP-050812	E353.2	Nitrate	mg/L	2.5	UJ	CCV<LCL
BBLD-PIT-SSP-050812	SW8260B	Bromomethane	ug/l	1	UJ	CCV<LCL
BBLD-PIT-SSP-050812	SW8260B	Methyl Acetate	ug/l	2	UJ	LCS<LCL
BBLD-PIT-SSP-050812	SW8270C	1,4-Dioxane	ug/l	10	UJ	IS<LCL
BBLD-PIT-SSP-050812	SW8270C	2-Chlorophenol	ug/l	5	UJ	IS<LCL
BBLD-PIT-SSP-050812	SW8270C	2-Methylphenol	ug/l	5	UJ	IS<LCL
BBLD-PIT-SSP-050812	SW8270C	4-Methylphenol	ug/l	174	J	Sur>UCL, IS<LCL
BBLD-PIT-SSP-050812	SW8270C	Benzoic Acid	ug/l	114	J	Sur>UCL
BBLD-PIT-SSP-050812	SW8270C	Benzyl Alcohol	ug/l	5	UJ	IS<LCL
BBLD-PIT-SSP-050812	SW8270C	Bis (2-chloroethyl) ether	ug/l	5	UJ	IS<LCL
BBLD-PIT-SSP-050812	SW8270C	Hexachlorocyclopentadiene	ug/l	5	UJ	LCS<LCL
BBLD-PIT-SSP-050812	SW8270C	Hexachloroethane	ug/l	5	UJ	IS<LCL
BBLD-PIT-SSP-050812	SW8270C	Phenol	ug/l	5	UJ	IS<LCL
DUP-GW-042512	E365.4	Phosphorus	mg/L	0.362	J	CCV<LCL
DUP-GW-042512	RSK175	Methane	ug/l	220	J	FD>RPD
DUP-GW-042512	SW6020	Arsenic, Dissolved	mg/L	0.00667	J	FD>RPD
DUP-GW-042512	SW8260B	Bromomethane	ug/l	0.5	UJ	CCV<LCL
DUP-GW-042512	SW8260B	Dichlorodifluoromethane	ug/l	0.25	UJ	CCV<LCL
DUP-GW-042512	SW8270C	Benzoic Acid	ug/l	10	UJ	CCV<LCL
DUP-GW-043012	E310.2	Alkalinity	mg/L	361	J	CCV>UCL
DUP-GW-043012	E353.2	Nitrate	mg/L	0.037	J	FD>RPD
DUP-GW-043012	SW6010B	Zinc	mg/L	0.0199	U	EB<RL
DUP-GW-043012	SW6020	Selenium	mg/L	0.00411	J	FD>RPD
DUP-GW-043012	SW8260B	1,3-Dichloropropene, trans-	ug/l	0.5	UJ	LCS<LCL
DUP-GW-043012	SW8270C	Benzoic Acid	ug/l	10	R	LCS<LCL
DUP-GW-050212	SW8260B	2-Butanone	ug/l	2.5	UJ	CCV<LCL
DUP-GW-050212	SW8260B	Methyl Acetate	ug/l	1	UJ	CCV<LCL
DUP-GW-050212	SW8270C	Benzoic Acid	ug/l	11.2	R	LCS<LCL, CCV<LCL (UJ)

Table 3

Qualified Data
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Sample ID	Method	Analyte	Units	Final Result	Final Flag	Reason
Dup-GW-050712	SW8260B	Bromomethane	ug/l	2.5	UJ	CCV<LCL
Dup-GW-050712	SW8270C	Benzoic Acid	ug/l	22	UJ	CCV<LCL
DUP-GW-050812	SW8260B	Bromomethane	ug/l	0.5	UJ	CCV<LCL
DUP-GW-050812	SW8270C	Hexachlorocyclopentadiene	ug/l	2.55	UJ	LCS<LCL
MW-01-050112	E353.2	Nitrate	mg/L	0.107	J	MS<LCL
MW-01-050112	E375.4	Sulfate	mg/L	72.6	J	MS<LCL
MW-01-050112	SW6010B	Cadmium	mg/L	0.00042	U	CCB<RL
MW-01-050112	SW6010B	Cadmium, Dissolved	mg/L	0.000282	U	CCB<RL
MW-01-050112	SW8260B	1,3-Dichloropropene, trans-	ug/l	0.5	UJ	LCS<LCL
MW-01-050112	SW8270C	Benzoic Acid	ug/l	11.9	R	LCS<LCL, CCV<LCL (UJ)
MW-02-050712	SW8260B	Bromomethane	ug/l	2.5	UJ	CCV<LCL
MW-02-050712	SW8270C	Benzoic Acid	ug/l	21.7	UJ	CCV<LCL
MW-03-050712	SW6010B	Sodium	mg/L	410	J	SDIL
MW-03-050712	SW6020	Arsenic, Dissolved	mg/L	0.537	J	PS>UCL
MW-03-050712	SW8270C	1,4-Dioxane	ug/l	55.6	UJ	IS<LCL
MW-03-050712	SW8270C	2-Chlorophenol	ug/l	27.8	UJ	IS<LCL
MW-03-050712	SW8270C	2-Methylphenol	ug/l	27.8	UJ	IS<LCL
MW-03-050712	SW8270C	3,3'-Dichlorobenzidine	ug/l	47.4	J	CCV>UCL, LCS>UCL
MW-03-050712	SW8270C	4-Methylphenol	ug/l	27.8	UJ	IS<LCL
MW-03-050712	SW8270C	Benzoic Acid	ug/l	1230	J	CCV<LCL
MW-03-050712	SW8270C	Benzyl Alcohol	ug/l	27.8	UJ	IS<LCL
MW-03-050712	SW8270C	Bis (2-chloroethyl) ether	ug/l	27.8	UJ	IS<LCL
MW-03-050712	SW8270C	Hexachloroethane	ug/l	27.8	UJ	IS<LCL
MW-03-050712	SW8270C	Phenol	ug/l	27.8	UJ	IS<LCL
MW-05I-050112	SW6010B	Sodium	mg/L	58.5	J	MS>UCL, SD>UCL
MW-05I-050112	SW8260B	1,3-Dichloropropene, trans-	ug/l	0.5	UJ	LCS<LCL
MW-05I-050112	SW8270C	Benzoic Acid	ug/l	10	R	LCS<LCL, CCV<LCL (UJ)
MW-05S-050112	SW6010B	Cadmium	mg/L	0.000381	U	CCB<RL

Table 3

Qualified Data
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Sample ID	Method	Analyte	Units	Final Result	Final Flag	Reason
MW-05S-050112	SW6010B	Cadmium, Dissolved	mg/L	0.000267	U	CCB<RL
MW-05S-050112	SW8260B	1,3-Dichloropropene, trans-	ug/l	0.5	UJ	LCS<LCL
MW-05S-050112	SW8270C	Benzoic Acid	ug/l	10	R	LCS<LCL, CCV<LCL (UJ)
MW-06-050712	SW8260B	Bromomethane	ug/l	0.5	UJ	CCV<LCL
MW-06-050712	SW8270C	Benzoic Acid	ug/l	11	UJ	CCV<LCL
MW-07-042412	SW8270C	Benzoic Acid	ug/l	10.2	UJ	CCV<LCL
MW-08-050212	E353.2	Nitrate	mg/L	0.64	J	CCV<LCL
MW-08-050212	RSK175	Methane	ug/l	1	U	LB<RL
MW-08-050212	SW7470A	Mercury, Dissolved	mg/L	0.0001	UJ	SD<LCL
MW-08-050212	SW8260B	Chloromethane	ug/l	0.5	UJ	CCV<LCL
MW-08-050212	SW8260B	Methyl Acetate	ug/l	1	UJ	MS<LCL, SD<LCL, LCS<LCL
MW-08-050212	SW8270C	Benzoic Acid	ug/l	10.2	R	LCS<LCL, MS<LCL, SD<LCL, CCV<LCL (UJ)
MW-09R-050212	E353.2	Nitrate	mg/L	1.25	UJ	CCV<LCL
MW-09R-050212	SW8260B	1,2,3-Trichlorobenzene	ug/l	0.5	UJ	CCV<LCL
MW-09R-050212	SW8260B	1,2-Dibromo-3-chloropropane	ug/l	1	UJ	CCV<LCL
MW-09R-050212	SW8260B	Bromomethane	ug/l	0.5	UJ	CCV<LCL
MW-09R-050212	SW8260B	Methyl Acetate	ug/l	1	UJ	CCV<LCL, LCSD<LCL
MW-09R-050212	SW8270C	Benzoic Acid	ug/l	11.5	R	LCS<LCL, CCV<LCL (UJ)
MW-09R-050212	SW8270-PAHL	2-Methylnaphthalene	ug/l	0.0294	UJ	IS<LCL
MW-09R-050212	SW8270-PAHL	Fluoranthene	ug/l	0.0405	J	Sur>UCL
MW-09R-050212	SW8270-PAHL	Naphthalene	ug/l	0.0294	UJ	IS<LCL
MW-09R-050212	SW8270-PAHL	Pyrene	ug/l	0.0394	J	Sur>UCL
MW-10-042612	E365.4	Phosphorus	mg/L	0.1	UJ	CCV<LCL
MW-10-042612	SW8270C	2,4-Dinitrophenol	ug/l	12.5	UJ	CCV<LCL
MW-10-042612	SW8270C	Benzoic Acid	ug/l	10	UJ	CCV<LCL
MW-11I-050212	E353.2	Nitrate	mg/L	0.25	UJ	CCV<LCL
MW-11I-050212	SW8260B	Chloromethane	ug/l	0.5	UJ	CCV<LCL

Table 3

Qualified Data
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Sample ID	Method	Analyte	Units	Final Result	Final Flag	Reason
MW-11I-050212	SW8260B	Methyl Acetate	ug/l	1	UJ	LCS<LCL
MW-11I-050212	SW8270C	Benzoic Acid	ug/l	11.1	R	LCS<LCL, CCV<LCL (UJ)
MW-11S-050212	E353.2	Nitrate	mg/L	0.25	UJ	CCV<LCL
MW-11S-050212	SW8260B	Chloromethane	ug/l	0.5	UJ	CCV<LCL
MW-11S-050212	SW8260B	Methyl Acetate	ug/l	1	UJ	LCS<LCL
MW-11S-050212	SW8270C	Benzoic Acid	ug/l	11.8	R	LCS<LCL, CCV<LCL (UJ)
MW-12-050412	E310.2	Alkalinity	mg/L	290	J	MS<LCL, SD<LCL
MW-12-050412	E353.2	Nitrate	mg/L	1.58	J	CCV>UCL
MW-12-050412	SW6010B	Calcium	mg/L	131	J	SDIL
MW-12-050412	SW6010B	Magnesium	mg/L	21	J	MS<LCL, SD<LCL, PS<LCL
MW-12-050412	SW6010B	Magnesium, Dissolved	mg/L	19.3	J	MS<LCL
MW-12-050412	SW6010B	Sodium	mg/L	118	J	SDIL
MW-12-050412	SW8260B	Methyl Acetate	ug/l	1	UJ	MS<LCL, SD<LCL
MW-12-050412	SW8270C	Benzoic Acid	ug/l	11.1	R	LCS<LCL, CCV<LCL (UJ)
MW-12-050412	SW8270C	Hexachlorocyclopentadiene	ug/l	2.78	R	MS<LCL, SD<LCL
MW-13-050212	SW8260B	Bromomethane	ug/l	0.5	UJ	CCV<LCL
MW-13-050212	SW8270C	Benzoic Acid	ug/l	10.2	R	LCS<LCL, CCV<LCL (UJ)
MW-15-050312	E353.2	Nitrate	mg/L	0.671	J	CCV>UCL
MW-15-050312	E375.4	Sulfate	mg/L	53.8	J	CCV>UCL
MW-15-050312	SW6010B	Iron	mg/L	0.077	U	CCB<RL
MW-15-050312	SW8260B	2-Butanone	ug/l	2.5	UJ	CCV<LCL
MW-15-050312	SW8260B	Methyl Acetate	ug/l	1	UJ	CCV<LCL
MW-15-050312	SW8270C	Benzoic Acid	ug/l	11.1	R	LCS<LCL, CCV<LCL (UJ)
MW-16I-042412	SW6010B	Sodium	mg/L	67	J	SD>UCL
MW-16I-042412	SW8270C	Benzoic Acid	ug/l	11.2	UJ	CCV<LCL
MW-16S-042412	SW8270C	Benzoic Acid	ug/l	10.6	UJ	CCV<LCL
MW-16S-042412	SW8270-PAHL	2-Methylnaphthalene	ug/l	0.025	UJ	Sur<LCL
MW-16S-042412	SW8270-PAHL	Acenaphthene	ug/l	0.0301	J	Sur<LCL

Table 3

Qualified Data
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Sample ID	Method	Analyte	Units	Final Result	Final Flag	Reason
MW-16S-042412	SW8270-PAHL	Acenaphthylene	ug/l	0.025	UJ	Sur<LCL
MW-16S-042412	SW8270-PAHL	Anthracene	ug/l	0.025	UJ	Sur<LCL
MW-16S-042412	SW8270-PAHL	Benzo(a)anthracene	ug/l	0.025	UJ	Sur<LCL
MW-16S-042412	SW8270-PAHL	Benzo(a)pyrene	ug/l	0.025	UJ	Sur<LCL
MW-16S-042412	SW8270-PAHL	Benzo(b)fluoranthene	ug/l	0.025	UJ	Sur<LCL
MW-16S-042412	SW8270-PAHL	Benzo(g,h,i)perylene	ug/l	0.025	UJ	Sur<LCL
MW-16S-042412	SW8270-PAHL	Benzo(k)fluoranthene	ug/l	0.025	UJ	Sur<LCL
MW-16S-042412	SW8270-PAHL	Chrysene	ug/l	0.025	UJ	Sur<LCL
MW-16S-042412	SW8270-PAHL	Dibenzo (a,h) anthracene	ug/l	0.025	UJ	Sur<LCL
MW-16S-042412	SW8270-PAHL	Fluoranthene	ug/l	0.025	UJ	Sur<LCL
MW-16S-042412	SW8270-PAHL	Fluorene	ug/l	0.025	UJ	Sur<LCL
MW-16S-042412	SW8270-PAHL	Indeno (1,2,3-c,d) pyrene	ug/l	0.025	UJ	Sur<LCL
MW-16S-042412	SW8270-PAHL	Naphthalene	ug/l	0.025	UJ	Sur<LCL
MW-16S-042412	SW8270-PAHL	Phenanthrene	ug/l	0.025	UJ	Sur<LCL
MW-16S-042412	SW8270-PAHL	Pyrene	ug/l	0.025	UJ	Sur<LCL
MW-17-050312	E353.2	Nitrate	mg/L	0.208	J	CCV>UCL
MW-17-050312	E375.4	Sulfate	mg/L	244	J	CCV>UCL
MW-17-050312	SW8260B	2-Butanone	ug/l	2.5	UJ	CCV<LCL
MW-17-050312	SW8260B	Methyl Acetate	ug/l	1	UJ	CCV<LCL
MW-17-050312	SW8270C	Benzoic Acid	ug/l	10	R	LCS<LCL, CCV<LCL (UJ)
MW-18-050812	E353.2	Nitrate	mg/L	0.291	J	CCV<LCL
MW-18-050812	SW8260B	Bromomethane	ug/l	0.5	UJ	CCV<LCL
MW-18-050812	SW8270C	Hexachlorocyclopentadiene	ug/l	2.78	UJ	LCS<LCL
MW-21-042512	E353.2	Nitrate	mg/L	2.5	UJ	MatrixInterference
MW-21-042512	SW8260B	1,1,1-Trichloroethane	ug/l	0.25	UJ	HTa>UCL
MW-21-042512	SW8260B	1,1,2,2-Tetrachloroethane	ug/l	0.2	UJ	HTa>UCL
MW-21-042512	SW8260B	1,1,2-Trichloroethane	ug/l	0.25	UJ	HTa>UCL
MW-21-042512	SW8260B	1,1-Dichloroethane	ug/l	0.125	UJ	HTa>UCL

Table 3

Qualified Data
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Sample ID	Method	Analyte	Units	Final Result	Final Flag	Reason
MW-21-042512	SW8260B	1,1-Dichloroethene	ug/l	0.5	UJ	HTa>UCL
MW-21-042512	SW8260B	1,2,3-Trichlorobenzene	ug/l	0.5	UJ	HTa>UCL
MW-21-042512	SW8260B	1,2,4-Trichlorobenzene	ug/l	0.2	UJ	HTa>UCL
MW-21-042512	SW8260B	1,2-Dibromo-3-chloropropane	ug/l	1	UJ	HTa>UCL
MW-21-042512	SW8260B	1,2-Dibromoethane	ug/l	0.25	UJ	HTa>UCL
MW-21-042512	SW8260B	1,2-Dichlorobenzene	ug/l	0.125	UJ	HTa>UCL
MW-21-042512	SW8260B	1,2-Dichloroethane	ug/l	0.25	UJ	HTa>UCL
MW-21-042512	SW8260B	1,2-Dichloroethene, cis-	ug/l	0.25	UJ	HTa>UCL
MW-21-042512	SW8260B	1,2-Dichloroethene, trans-	ug/l	0.25	UJ	HTa>UCL
MW-21-042512	SW8260B	1,2-Dichloropropane	ug/l	0.2	UJ	HTa>UCL
MW-21-042512	SW8260B	1,3-Dichlorobenzene	ug/l	0.25	UJ	HTa>UCL
MW-21-042512	SW8260B	1,3-Dichloropropene, cis-	ug/l	0.25	UJ	HTa>UCL
MW-21-042512	SW8260B	1,3-Dichloropropene, trans-	ug/l	0.5	UJ	HTa>UCL
MW-21-042512	SW8260B	1,4-Dichlorobenzene	ug/l	0.125	UJ	HTa>UCL
MW-21-042512	SW8260B	2-Butanone	ug/l	2.5	UJ	HTa>UCL
MW-21-042512	SW8260B	2-Hexanone	ug/l	2.5	UJ	HTa>UCL
MW-21-042512	SW8260B	4-Methyl-2-pentanone	ug/l	2.5	UJ	HTa>UCL
MW-21-042512	SW8260B	Acetone	ug/l	2.5	UJ	HTa>UCL
MW-21-042512	SW8260B	Benzene	ug/l	0.125	UJ	HTa>UCL
MW-21-042512	SW8260B	Bromochloromethane	ug/l	0.2	UJ	HTa>UCL
MW-21-042512	SW8260B	Bromodichloromethane	ug/l	0.25	UJ	HTa>UCL
MW-21-042512	SW8260B	Bromoform	ug/l	0.5	UJ	HTa>UCL
MW-21-042512	SW8260B	Bromomethane	ug/l	0.5	UJ	HTa>UCL, CCV<LCL
MW-21-042512	SW8260B	Carbon Disulfide	ug/l	0.5	UJ	HTa>UCL
MW-21-042512	SW8260B	Carbon tetrachloride	ug/l	0.25	UJ	HTa>UCL
MW-21-042512	SW8260B	Chlorobenzene	ug/l	0.125	UJ	HTa>UCL
MW-21-042512	SW8260B	Chloroethane	ug/l	0.5	UJ	HTa>UCL
MW-21-042512	SW8260B	Chloroform	ug/l	0.125	UJ	HTa>UCL

Table 3

Qualified Data
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Sample ID	Method	Analyte	Units	Final Result	Final Flag	Reason
MW-21-042512	SW8260B	Chloromethane	ug/l	0.5	UJ	HTa>UCL
MW-21-042512	SW8260B	Cyclohexane	ug/l	1	UJ	HTa>UCL
MW-21-042512	SW8260B	Dibromochloromethane	ug/l	0.25	UJ	HTa>UCL
MW-21-042512	SW8260B	Dichlorodifluoromethane	ug/l	0.25	UJ	HTa>UCL, CCV<LCL
MW-21-042512	SW8260B	Epichlorohydrin	ug/l		UJ	HTa>UCL
MW-21-042512	SW8260B	Ethylbenzene	ug/l	0.25	UJ	HTa>UCL
MW-21-042512	SW8260B	Isopropylbenzene	ug/l	0.25	UJ	HTa>UCL
MW-21-042512	SW8260B	Methyl Acetate	ug/l	1	UJ	HTa>UCL
MW-21-042512	SW8260B	Methylcyclohexane	ug/l	1	UJ	HTa>UCL
MW-21-042512	SW8260B	Methylene chloride	ug/l	0.25	UJ	HTa>UCL
MW-21-042512	SW8260B	Styrene	ug/l	0.125	UJ	HTa>UCL
MW-21-042512	SW8260B	tert-Butyl Methyl Ether	ug/l	0.5	UJ	HTa>UCL
MW-21-042512	SW8260B	Tetrachloroethene	ug/l	0.25	UJ	HTa>UCL
MW-21-042512	SW8260B	Toluene	ug/l	0.25	UJ	HTa>UCL
MW-21-042512	SW8260B	Trichloroethene	ug/l	0.25	UJ	HTa>UCL
MW-21-042512	SW8260B	Trichlorofluoromethane	ug/l	0.25	UJ	HTa>UCL
MW-21-042512	SW8260B	Trichlorotrifluoroethane	ug/l	2	UJ	HTa>UCL
MW-21-042512	SW8260B	Vinyl chloride	ug/l	0.25	UJ	HTa>UCL
MW-21-042512	SW8260B	Xylene, m,p-	ug/l	0.5	UJ	HTa>UCL
MW-21-042512	SW8260B	Xylene, o-	ug/l	0.25	UJ	HTa>UCL
MW-21-042512	SW8270C	Benzoic Acid	ug/l	11.4	UJ	CCV<LCL
MW-21-042512	SW8270-PAHL	2-Methylnaphthalene	ug/l	0.0269	UJ	Sur<LCL
MW-21-042512	SW8270-PAHL	Acenaphthene	ug/l	0.0269	UJ	Sur<LCL
MW-21-042512	SW8270-PAHL	Acenaphthylene	ug/l	0.0269	UJ	Sur<LCL
MW-21-042512	SW8270-PAHL	Anthracene	ug/l	0.0269	UJ	Sur<LCL
MW-21-042512	SW8270-PAHL	Benzo(a)anthracene	ug/l	0.0269	UJ	Sur<LCL
MW-21-042512	SW8270-PAHL	Benzo(a)pyrene	ug/l	0.0269	UJ	Sur<LCL
MW-21-042512	SW8270-PAHL	Benzo(b)fluoranthene	ug/l	0.0269	UJ	Sur<LCL

Table 3

Qualified Data
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Sample ID	Method	Analyte	Units	Final Result	Final Flag	Reason
MW-21-042512	SW8270-PAHL	Benzo(g,h,i)perylene	ug/l	0.0269	UJ	Sur<LCL
MW-21-042512	SW8270-PAHL	Benzo(k)fluoranthene	ug/l	0.0269	UJ	Sur<LCL
MW-21-042512	SW8270-PAHL	Chrysene	ug/l	0.0269	UJ	Sur<LCL
MW-21-042512	SW8270-PAHL	Dibenzo (a,h) anthracene	ug/l	0.0269	UJ	Sur<LCL
MW-21-042512	SW8270-PAHL	Fluoranthene	ug/l	0.0269	UJ	Sur<LCL
MW-21-042512	SW8270-PAHL	Fluorene	ug/l	0.0269	UJ	Sur<LCL
MW-21-042512	SW8270-PAHL	Indeno (1,2,3-c,d) pyrene	ug/l	0.0269	UJ	Sur<LCL
MW-21-042512	SW8270-PAHL	Naphthalene	ug/l	0.0269	UJ	Sur<LCL
MW-21-042512	SW8270-PAHL	Phenanthrene	ug/l	0.0269	UJ	Sur<LCL
MW-21-042512	SW8270-PAHL	Pyrene	ug/l	0.0269	UJ	Sur<LCL
MW-22-042512	SW6010B	Zinc	mg/L	0.817	J	SD<LCL
MW-22-042512	SW6010B	Zinc, Dissolved	mg/L	0.005	UJ	MS<LCL, SD<LCL
MW-22-042512	SW8270C	Benzoic Acid	ug/l	10	UJ	CCV<LCL
MW-23-042512	SW8270C	Benzoic Acid	ug/l	11	UJ	CCV<LCL
MW-24-050112	SW8260B	1,3-Dichloropropene, trans-	ug/l	0.5	UJ	LCS<LCL
MW-24-050112	SW8270C	Benzoic Acid	ug/l	11.9	R	LCS<LCL, CCV<LCL (UJ)
MW-25-050212	SW8260B	Bromomethane	ug/l	0.5	UJ	CCV<LCL
MW-25-050212	SW8260B	Chloroform	ug/l	0.762	J	Sur>UCL
MW-25-050212	SW8270C	Benzoic Acid	ug/l	11.1	R	LCS<LCL, CCV<LCL (UJ)
MW-26-050212	SW8260B	Bromomethane	ug/l	0.5	UJ	CCV<LCL
MW-26-050212	SW8270C	Benzoic Acid	ug/l	11.8	R	LCS<LCL, CCV<LCL (UJ)
MW-27-042612	E365.4	Phosphorus	mg/L	0.998	J	CCV<LCL< SD<LCL, MSRPD
MW-27-042612	E375.4	Sulfate	mg/L	9.45	J	MS<LCL, SD<LCL
MW-27-042612	E415.1	Total Organic Carbon	mg/L	26.7	J	MS<LCL, SD>UCL, MSRPD
MW-27-042612	RSK175	Methane	ug/l	430	J	MS>UCL
MW-27-042612	SW6010B	Sodium	mg/L	84.5	J	MS>UCL
MW-27-042612	SW8260B	Methyl Acetate	ug/l	1	UJ	MS<LCL, SD<LCL
MW-27-042612	SW8270C	1,4-Dioxane	ug/l	5.1	UJ	SD<LCL

Table 3

Qualified Data
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Sample ID	Method	Analyte	Units	Final Result	Final Flag	Reason
MW-27-042612	SW8270C	2,4-Dinitrophenol	ug/l	12.8	UJ	CCV<LCL
MW-27-042612	SW8270C	Benzoic Acid	ug/l	10.2	UJ	CCV<LCL
MW-27-042612	SW8270C	Hexachlorocyclopentadiene	ug/l	2.55	R	SD<LCL, MS<LCL (UJ)
MW-28050312	E353.2	Nitrate	mg/L	0.034	J	CCV>UCL
MW-28050312	SW8260B	2-Butanone	ug/l	2.5	UJ	CCV<LCL
MW-28050312	SW8260B	Methyl Acetate	ug/l	1	UJ	CCV<LCL
MW-28050312	SW8270C	Benzoic Acid	ug/l	11.1	R	LCS<LCL, CCV<LCL (UJ)
MW-29-043012	E310.2	Alkalinity	mg/L	359	J	CCV>UCL
MW-29-043012	E353.2	Nitrate	mg/L	0.27	J	FD>RPD
MW-29-043012	SW6010B	Cadmium	mg/L	0.000699	J	SD<LCL
MW-29-043012	SW6010B	Zinc	mg/L	0.0128	U	EB<RL
MW-29-043012	SW6020	Selenium	mg/L	0.00186	J	FD>RPD
MW-29-043012	SW8260B	1,3-Dichloropropene, trans-	ug/l	0.5	UJ	LCS<LCL
MW-29-043012	SW8270C	Benzoic Acid	ug/l	10	R	LCS<LCL
MW-30-042512	E365.4	Phosphorus	mg/L	0.357	J	CCV<LCL
MW-30-042512	RSK175	Methane	ug/l	380	J	FD>RPD
MW-30-042512	SW6020	Arsenic	mg/L	0.00822	J	FD>RPD
MW-30-042512	SW8270C	Benzoic Acid	ug/l	11	UJ	CCV<LCL
MW-31-042612	SW8260B	1,1,1-Trichloroethane	ug/l	0.5	UJ	HTa>UCL
MW-31-042612	SW8260B	1,1,2,2-Tetrachloroethane	ug/l	0.4	UJ	HTa>UCL
MW-31-042612	SW8260B	1,1,2-Trichloroethane	ug/l	0.5	UJ	HTa>UCL
MW-31-042612	SW8260B	1,1-Dichloroethane	ug/l	0.25	UJ	HTa>UCL
MW-31-042612	SW8260B	1,1-Dichloroethene	ug/l	1	UJ	HTa>UCL
MW-31-042612	SW8260B	1,2,3-Trichlorobenzene	ug/l	1	UJ	HTa>UCL
MW-31-042612	SW8260B	1,2,4-Trichlorobenzene	ug/l	0.4	UJ	HTa>UCL
MW-31-042612	SW8260B	1,2-Dibromo-3-chloropropane	ug/l	2	UJ	HTa>UCL
MW-31-042612	SW8260B	1,2-Dibromoethane	ug/l	0.5	UJ	HTa>UCL
MW-31-042612	SW8260B	1,2-Dichlorobenzene	ug/l	0.25	UJ	HTa>UCL

Table 3

Qualified Data
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Sample ID	Method	Analyte	Units	Final Result	Final Flag	Reason
MW-31-042612	SW8260B	1,2-Dichloroethane	ug/l	0.5	UJ	HTa>UCL
MW-31-042612	SW8260B	1,2-Dichloroethene, cis-	ug/l	0.5	UJ	HTa>UCL
MW-31-042612	SW8260B	1,2-Dichloroethene, trans-	ug/l	0.5	UJ	HTa>UCL
MW-31-042612	SW8260B	1,2-Dichloropropane	ug/l	0.4	UJ	HTa>UCL
MW-31-042612	SW8260B	1,3-Dichlorobenzene	ug/l	0.5	UJ	HTa>UCL
MW-31-042612	SW8260B	1,3-Dichloropropene, cis-	ug/l	0.5	UJ	HTa>UCL
MW-31-042612	SW8260B	1,3-Dichloropropene, trans-	ug/l	1	UJ	HTa>UCL
MW-31-042612	SW8260B	1,4-Dichlorobenzene	ug/l	0.25	UJ	HTa>UCL
MW-31-042612	SW8260B	2-Butanone	ug/l	15.9	J	HTa>UCL
MW-31-042612	SW8260B	2-Hexanone	ug/l	5	UJ	HTa>UCL
MW-31-042612	SW8260B	4-Methyl-2-pentanone	ug/l	5	UJ	HTa>UCL
MW-31-042612	SW8260B	Acetone	ug/l	58.2	J	HTa>UCL
MW-31-042612	SW8260B	Benzene	ug/l	0.25	UJ	HTa>UCL
MW-31-042612	SW8260B	Bromochloromethane	ug/l	0.4	UJ	HTa>UCL
MW-31-042612	SW8260B	Bromodichloromethane	ug/l	0.5	UJ	HTa>UCL
MW-31-042612	SW8260B	Bromoform	ug/l	1	UJ	HTa>UCL
MW-31-042612	SW8260B	Bromomethane	ug/l	1	UJ	HTa>UCL
MW-31-042612	SW8260B	Carbon Disulfide	ug/l	1.78	J	HTa>UCL
MW-31-042612	SW8260B	Carbon tetrachloride	ug/l	0.5	UJ	HTa>UCL
MW-31-042612	SW8260B	Chlorobenzene	ug/l	0.25	UJ	HTa>UCL
MW-31-042612	SW8260B	Chloroethane	ug/l	1	UJ	HTa>UCL
MW-31-042612	SW8260B	Chloroform	ug/l	0.25	UJ	HTa>UCL
MW-31-042612	SW8260B	Chloromethane	ug/l	1	UJ	HTa>UCL
MW-31-042612	SW8260B	Cyclohexane	ug/l	2	UJ	HTa>UCL
MW-31-042612	SW8260B	Dibromochloromethane	ug/l	0.5	UJ	HTa>UCL, CCV<LCL
MW-31-042612	SW8260B	Dichlorodifluoromethane	ug/l	0.5	UJ	HTa>UCL
MW-31-042612	SW8260B	Epichlorohydrin	ug/l	0	UJ	HTa>UCL
MW-31-042612	SW8260B	Ethylbenzene	ug/l	0.5	UJ	HTa>UCL

Table 3

Qualified Data
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Sample ID	Method	Analyte	Units	Final Result	Final Flag	Reason
MW-31-042612	SW8260B	Isopropylbenzene	ug/l	0.5	UJ	HTa>UCL
MW-31-042612	SW8260B	Methyl Acetate	ug/l	2	UJ	HTa>UCL
MW-31-042612	SW8260B	Methylcyclohexane	ug/l	2	UJ	HTa>UCL
MW-31-042612	SW8260B	Methylene chloride	ug/l	0.5	UJ	HTa>UCL
MW-31-042612	SW8260B	Styrene	ug/l	0.25	UJ	HTa>UCL
MW-31-042612	SW8260B	tert-Butyl Methyl Ether	ug/l	1	UJ	HTa>UCL
MW-31-042612	SW8260B	Tetrachloroethene	ug/l	0.5	UJ	HTa>UCL
MW-31-042612	SW8260B	Toluene	ug/l	0.5	UJ	HTa>UCL
MW-31-042612	SW8260B	Trichloroethene	ug/l	0.5	UJ	HTa>UCL
MW-31-042612	SW8260B	Trichlorofluoromethane	ug/l	0.5	UJ	HTa>UCL
MW-31-042612	SW8260B	Trichlorotrifluoroethane	ug/l	4	UJ	HTa>UCL
MW-31-042612	SW8260B	Vinyl chloride	ug/l	0.5	UJ	HTa>UCL
MW-31-042612	SW8260B	Xylene, m,p-	ug/l	1	UJ	HTa>UCL
MW-31-042612	SW8260B	Xylene, o-	ug/l	0.5	UJ	HTa>UCL
MW-31-050212	E353.2	Nitrate	mg/L	12.5	UJ	CCV<LCL
MW-31-050212	SW8270C	Benzoic Acid	ug/l	23.3	R	LCS<LCL, CCV<LCL (UJ)
MW-31-050212	SW8270-PAHL	2-Methylnaphthalene	ug/l	0.0323	J	Sur<LCL
MW-31-050212	SW8270-PAHL	Acenaphthene	ug/l	0.0278	UJ	Sur<LCL
MW-31-050212	SW8270-PAHL	Acenaphthylene	ug/l	0.0278	UJ	Sur<LCL
MW-31-050212	SW8270-PAHL	Anthracene	ug/l	0.0355	J	Sur<LCL
MW-31-050212	SW8270-PAHL	Benzo(a)anthracene	ug/l	0.0414	J	Sur<LCL
MW-31-050212	SW8270-PAHL	Benzo(a)pyrene	ug/l	0.0278	UJ	Sur<LCL
MW-31-050212	SW8270-PAHL	Benzo(b)fluoranthene	ug/l	0.0278	UJ	Sur<LCL
MW-31-050212	SW8270-PAHL	Benzo(g,h,i)perylene	ug/l	0.0278	UJ	Sur<LCL
MW-31-050212	SW8270-PAHL	Benzo(k)fluoranthene	ug/l	0.0278	UJ	Sur<LCL
MW-31-050212	SW8270-PAHL	Chrysene	ug/l	0.066	J	Sur<LCL
MW-31-050212	SW8270-PAHL	Dibenzo (a,h) anthracene	ug/l	0.0278	UJ	Sur<LCL
MW-31-050212	SW8270-PAHL	Fluoranthene	ug/l	0.135	J	Sur<LCL

Table 3

Qualified Data
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Sample ID	Method	Analyte	Units	Final Result	Final Flag	Reason
MW-31-050212	SW8270-PAHL	Fluorene	ug/l	0.0278	UJ	Sur<LCL
MW-31-050212	SW8270-PAHL	Indeno (1,2,3-c,d) pyrene	ug/l	0.0278	UJ	Sur<LCL
MW-31-050212	SW8270-PAHL	Naphthalene	ug/l	0.0278	UJ	Sur<LCL
MW-31-050212	SW8270-PAHL	Phenanthrene	ug/l	0.138	J	Sur<LCL
MW-31-050212	SW8270-PAHL	Pyrene	ug/l	0.1	J	Sur<LCL
MW-32-042512	E365.4	Phosphorus	mg/L	2.5	J	CCV<LCL
MW-32-042512	SW8260B	Bromomethane	ug/l	0.5	UJ	CCV<LCL
MW-32-042512	SW8260B	Dichlorodifluoromethane	ug/l	0.25	UJ	CCV<LCL
MW-32-042512	SW8270C	Benzoic Acid	ug/l	10	UJ	CCV<LCL
PZ-01-050412	E353.2	Nitrate	mg/L	0.163	J	CCV>UCL
PZ-01-050412	SW8260B	2-Butanone	ug/l	2.5	UJ	CCV<LCL
PZ-01-050412	SW8260B	Methyl Acetate	ug/l	1	UJ	CCV<LCL
PZ-01-050412	SW8270C	Benzoic Acid	ug/l	12.7	R	LCS<LCL, CCV<LCL (UJ)
PZ-03-050212	SW8260B	1,2-Dichloroethane	ug/l	0.77	J	Sur>UCL
PZ-03-050212	SW8260B	Bromomethane	ug/l	0.5	UJ	CCV<LCL
PZ-03-050212	SW8270C	Benzoic Acid	ug/l	11.5	R	LCS<LCL, CCV<LCL (UJ)
PZ-04-050212	E353.2	Nitrate	mg/L	1.25	UJ	CCV<LCL
PZ-04-050212	SW8260B	1,1,1-Trichloroethane	ug/l	0.25	UJ	HTa>UCL
PZ-04-050212	SW8260B	1,1,2,2-Tetrachloroethane	ug/l	0.2	UJ	HTa>UCL
PZ-04-050212	SW8260B	1,1,2-Trichloroethane	ug/l	0.25	UJ	HTa>UCL
PZ-04-050212	SW8260B	1,1-Dichloroethane	ug/l	0.125	UJ	HTa>UCL
PZ-04-050212	SW8260B	1,1-Dichloroethene	ug/l	0.5	UJ	HTa>UCL
PZ-04-050212	SW8260B	1,2,3-Trichlorobenzene	ug/l	0.5	UJ	HTa>UCL
PZ-04-050212	SW8260B	1,2,4-Trichlorobenzene	ug/l	0.2	UJ	HTa>UCL
PZ-04-050212	SW8260B	1,2-Dibromo-3-chloropropane	ug/l	1	UJ	HTa>UCL
PZ-04-050212	SW8260B	1,2-Dibromoethane	ug/l	0.25	UJ	HTa>UCL
PZ-04-050212	SW8260B	1,2-Dichlorobenzene	ug/l	0.125	UJ	HTa>UCL
PZ-04-050212	SW8260B	1,2-Dichloroethane	ug/l	0.25	UJ	HTa>UCL

Table 3

Qualified Data
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Sample ID	Method	Analyte	Units	Final Result	Final Flag	Reason
PZ-04-050212	SW8260B	1,2-Dichloroethene, cis-	ug/l	0.25	UJ	HTa>UCL
PZ-04-050212	SW8260B	1,2-Dichloroethene, trans-	ug/l	0.25	UJ	HTa>UCL
PZ-04-050212	SW8260B	1,2-Dichloropropane	ug/l	0.2	UJ	HTa>UCL
PZ-04-050212	SW8260B	1,3-Dichlorobenzene	ug/l	0.25	UJ	HTa>UCL
PZ-04-050212	SW8260B	1,3-Dichloropropene, cis-	ug/l	0.25	UJ	HTa>UCL
PZ-04-050212	SW8260B	1,3-Dichloropropene, trans-	ug/l	0.5	UJ	HTa>UCL
PZ-04-050212	SW8260B	1,4-Dichlorobenzene	ug/l	0.125	UJ	HTa>UCL
PZ-04-050212	SW8260B	2-Butanone	ug/l	2.5	UJ	HTa>UCL
PZ-04-050212	SW8260B	2-Hexanone	ug/l	2.5	UJ	HTa>UCL
PZ-04-050212	SW8260B	4-Methyl-2-pentanone	ug/l	44.2	J	HTa>UCL
PZ-04-050212	SW8260B	Acetone	ug/l	2.5	UJ	HTa>UCL
PZ-04-050212	SW8260B	Benzene	ug/l	0.165	J	HTa>UCL
PZ-04-050212	SW8260B	Bromochloromethane	ug/l	0.2	UJ	HTa>UCL
PZ-04-050212	SW8260B	Bromodichloromethane	ug/l	0.25	UJ	HTa>UCL
PZ-04-050212	SW8260B	Bromoform	ug/l	0.5	UJ	HTa>UCL
PZ-04-050212	SW8260B	Bromomethane	ug/l	0.5	UJ	HTa>UCL
PZ-04-050212	SW8260B	Carbon Disulfide	ug/l	16.3	J	HTa>UCL
PZ-04-050212	SW8260B	Carbon tetrachloride	ug/l	0.25	UJ	HTa>UCL
PZ-04-050212	SW8260B	Chlorobenzene	ug/l	0.125	UJ	HTa>UCL
PZ-04-050212	SW8260B	Chloroethane	ug/l	0.5	UJ	HTa>UCL
PZ-04-050212	SW8260B	Chloroform	ug/l	25.5	J	HTa>UCL
PZ-04-050212	SW8260B	Chloromethane	ug/l	0.5	UJ	HTa>UCL
PZ-04-050212	SW8260B	Cyclohexane	ug/l	1	UJ	HTa>UCL
PZ-04-050212	SW8260B	Dibromochloromethane	ug/l	0.25	UJ	HTa>UCL
PZ-04-050212	SW8260B	Dichlorodifluoromethane	ug/l	0.25	UJ	HTa>UCL
PZ-04-050212	SW8260B	Epichlorohydrin	ug/l	0	UJ	HTa>UCL
PZ-04-050212	SW8260B	Ethylbenzene	ug/l	0.25	UJ	HTa>UCL
PZ-04-050212	SW8260B	Isopropylbenzene	ug/l	0.25	UJ	HTa>UCL

Table 3

Qualified Data
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Sample ID	Method	Analyte	Units	Final Result	Final Flag	Reason
PZ-04-050212	SW8260B	Methyl Acetate	ug/l	1	UJ	HTa>UCL, CCV<LCL, LCS<LCL, LCSD<LCL
PZ-04-050212	SW8260B	Methylcyclohexane	ug/l	1	UJ	HTa>UCL
PZ-04-050212	SW8260B	Methylene chloride	ug/l	8.46	J	HTa>UCL
PZ-04-050212	SW8260B	Styrene	ug/l	0.125	UJ	HTa>UCL
PZ-04-050212	SW8260B	tert-Butyl Methyl Ether	ug/l	0.5	UJ	HTa>UCL
PZ-04-050212	SW8260B	Tetrachloroethene	ug/l	0.25	UJ	HTa>UCL
PZ-04-050212	SW8260B	Toluene	ug/l	2.1	J	HTa>UCL
PZ-04-050212	SW8260B	Trichloroethene	ug/l	0.25	UJ	HTa>UCL
PZ-04-050212	SW8260B	Trichlorofluoromethane	ug/l	0.25	UJ	HTa>UCL
PZ-04-050212	SW8260B	Trichlorotrifluoroethane	ug/l	2	UJ	HTa>UCL
PZ-04-050212	SW8260B	Vinyl chloride	ug/l	0.25	UJ	HTa>UCL
PZ-04-050212	SW8260B	Xylene, m,p-	ug/l	1.27	J	HTa>UCL
PZ-04-050212	SW8260B	Xylene, o-	ug/l	0.413	J	HTa>UCL
PZ-04-050212	SW8270C	Benzoic Acid	ug/l	11.8	R	LCS<LCL, CCV<LCL (UJ)
PZ-05-050212	E353.2	Nitrate	mg/L	1.25	UJ	CCV<LCL
PZ-05-050212	SW8260B	1,1,1-Trichloroethane	ug/l	0.25	UJ	HTa>UCL
PZ-05-050212	SW8260B	1,1,2,2-Tetrachloroethane	ug/l	0.2	UJ	HTa>UCL
PZ-05-050212	SW8260B	1,1,2-Trichloroethane	ug/l	0.25	UJ	HTa>UCL
PZ-05-050212	SW8260B	1,1-Dichloroethane	ug/l	0.125	UJ	HTa>UCL
PZ-05-050212	SW8260B	1,1-Dichloroethene	ug/l	0.5	UJ	HTa>UCL
PZ-05-050212	SW8260B	1,2,3-Trichlorobenzene	ug/l	0.5	UJ	HTa>UCL
PZ-05-050212	SW8260B	1,2,4-Trichlorobenzene	ug/l	0.2	UJ	HTa>UCL
PZ-05-050212	SW8260B	1,2-Dibromo-3-chloropropane	ug/l	1	UJ	HTa>UCL
PZ-05-050212	SW8260B	1,2-Dibromoethane	ug/l	0.25	UJ	HTa>UCL
PZ-05-050212	SW8260B	1,2-Dichlorobenzene	ug/l	0.125	UJ	HTa>UCL
PZ-05-050212	SW8260B	1,2-Dichloroethane	ug/l	0.25	UJ	HTa>UCL
PZ-05-050212	SW8260B	1,2-Dichloroethene, cis-	ug/l	0.25	UJ	HTa>UCL

Table 3

Qualified Data
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Sample ID	Method	Analyte	Units	Final Result	Final Flag	Reason
PZ-05-050212	SW8260B	1,2-Dichloroethene, trans-	ug/l	0.25	UJ	HTa>UCL
PZ-05-050212	SW8260B	1,2-Dichloropropane	ug/l	0.2	UJ	HTa>UCL
PZ-05-050212	SW8260B	1,3-Dichlorobenzene	ug/l	0.25	UJ	HTa>UCL
PZ-05-050212	SW8260B	1,3-Dichloropropene, cis-	ug/l	0.25	UJ	HTa>UCL
PZ-05-050212	SW8260B	1,3-Dichloropropene, trans-	ug/l	0.5	UJ	HTa>UCL
PZ-05-050212	SW8260B	1,4-Dichlorobenzene	ug/l	0.125	UJ	HTa>UCL
PZ-05-050212	SW8260B	2-Butanone	ug/l	4.42	J	HTa>UCL
PZ-05-050212	SW8260B	2-Hexanone	ug/l	2.5	UJ	HTa>UCL
PZ-05-050212	SW8260B	4-Methyl-2-pentanone	ug/l	531	J	HTa>UCL
PZ-05-050212	SW8260B	Acetone	ug/l	27.1	J	HTa>UCL
PZ-05-050212	SW8260B	Benzene	ug/l	0.278	J	HTa>UCL
PZ-05-050212	SW8260B	Bromochloromethane	ug/l	0.2	UJ	HTa>UCL
PZ-05-050212	SW8260B	Bromodichloromethane	ug/l	0.25	UJ	HTa>UCL
PZ-05-050212	SW8260B	Bromoform	ug/l	0.5	UJ	HTa>UCL
PZ-05-050212	SW8260B	Bromomethane	ug/l	0.5	UJ	HTa>UCL
PZ-05-050212	SW8260B	Carbon Disulfide	ug/l	73.8	J	HTa>UCL
PZ-05-050212	SW8260B	Carbon tetrachloride	ug/l	0.25	UJ	HTa>UCL
PZ-05-050212	SW8260B	Chlorobenzene	ug/l	0.125	UJ	HTa>UCL
PZ-05-050212	SW8260B	Chloroethane	ug/l	0.5	UJ	HTa>UCL
PZ-05-050212	SW8260B	Chloroform	ug/l	27.2	J	HTa>UCL
PZ-05-050212	SW8260B	Chloromethane	ug/l	0.5	UJ	HTa>UCL
PZ-05-050212	SW8260B	Cyclohexane	ug/l	1	UJ	HTa>UCL
PZ-05-050212	SW8260B	Dibromochloromethane	ug/l	0.25	UJ	HTa>UCL
PZ-05-050212	SW8260B	Dichlorodifluoromethane	ug/l	0.25	UJ	HTa>UCL
PZ-05-050212	SW8260B	Epichlorohydrin	ug/l	0	UJ	HTa>UCL
PZ-05-050212	SW8260B	Ethylbenzene	ug/l	0.294	J	HTa>UCL
PZ-05-050212	SW8260B	Isopropylbenzene	ug/l	0.25	UJ	HTa>UCL
PZ-05-050212	SW8260B	Methyl Acetate	ug/l	1	UJ	HTa>UCL, CCV<LCL, LCS<LCL,

Table 3

Qualified Data
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Sample ID	Method	Analyte	Units	Final Result	Final Flag	Reason
						LCSD<LCL
PZ-05-050212	SW8260B	Methylcyclohexane	ug/l	1	UJ	HTa>UCL
PZ-05-050212	SW8260B	Methylene chloride	ug/l	6.89	J	HTa>UCL
PZ-05-050212	SW8260B	Styrene	ug/l	0.125	UJ	HTa>UCL
PZ-05-050212	SW8260B	tert-Butyl Methyl Ether	ug/l	0.5	UJ	HTa>UCL
PZ-05-050212	SW8260B	Tetrachloroethene	ug/l	0.25	UJ	HTa>UCL
PZ-05-050212	SW8260B	Toluene	ug/l	14.7	J	HTa>UCL
PZ-05-050212	SW8260B	Trichloroethene	ug/l	0.25	UJ	HTa>UCL
PZ-05-050212	SW8260B	Trichlorofluoromethane	ug/l	0.25	UJ	HTa>UCL
PZ-05-050212	SW8260B	Trichlorotrifluoroethane	ug/l	2	UJ	HTa>UCL
PZ-05-050212	SW8260B	Vinyl chloride	ug/l	0.25	UJ	HTa>UCL
PZ-05-050212	SW8260B	Xylene, m,p-	ug/l	3.95	J	HTa>UCL
PZ-05-050212	SW8260B	Xylene, o-	ug/l	1.36	J	HTa>UCL
PZ-05-050212	SW8270C	Benzoic Acid	ug/l	10	R	LCS<LCL, CCV<LCL (UJ)
PZ-06-050712	SW8270C	Benzoic Acid	ug/l	31.7	UJ	CCV<LCL
PZ-07-050812	E353.2	Nitrate	mg/L	0.025	UJ	CCV<LCL
PZ-07-050812	SW8260B	Bromomethane	ug/l	0.5	UJ	CCV<LCL
PZ-07-050812	SW8270C	Hexachlorocyclopentadiene	ug/l	2.69	UJ	LCS<LCL
PZ-07-050812	SW8270-PAHL	2-Methylnaphthalene	ug/l	0.0269	UJ	Sur<LCL
PZ-07-050812	SW8270-PAHL	Acenaphthene	ug/l	0.164	J	Sur<LCL
PZ-07-050812	SW8270-PAHL	Acenaphthylene	ug/l	0.0269	UJ	Sur<LCL
PZ-07-050812	SW8270-PAHL	Anthracene	ug/l	0.203	J	Sur<LCL
PZ-07-050812	SW8270-PAHL	Benzo(a)anthracene	ug/l	0.0606	J	Sur<LCL
PZ-07-050812	SW8270-PAHL	Benzo(a)pyrene	ug/l	0.0274	J	Sur<LCL
PZ-07-050812	SW8270-PAHL	Benzo(b)fluoranthene	ug/l	0.0321	J	Sur<LCL
PZ-07-050812	SW8270-PAHL	Benzo(g,h,i)perylene	ug/l	0.0269	UJ	Sur<LCL
PZ-07-050812	SW8270-PAHL	Benzo(k)fluoranthene	ug/l	0.0286	J	Sur<LCL
PZ-07-050812	SW8270-PAHL	Chrysene	ug/l	0.069	J	Sur<LCL

Table 3

Qualified Data
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Sample ID	Method	Analyte	Units	Final Result	Final Flag	Reason
PZ-07-050812	SW8270-PAHL	Dibenzo (a,h) anthracene	ug/l	0.0269	UJ	Sur<LCL
PZ-07-050812	SW8270-PAHL	Fluoranthene	ug/l	0.734	J	Sur<LCL
PZ-07-050812	SW8270-PAHL	Fluorene	ug/l	0.191	J	Sur<LCL
PZ-07-050812	SW8270-PAHL	Indeno (1,2,3-c,d) pyrene	ug/l	0.0269	UJ	Sur<LCL
PZ-07-050812	SW8270-PAHL	Naphthalene	ug/l	0.0269	UJ	Sur<LCL
PZ-07-050812	SW8270-PAHL	Phenanthrene	ug/l	0.037	J	Sur<LCL
PZ-07-050812	SW8270-PAHL	Pyrene	ug/l	0.47	J	Sur<LCL
TW-01-050812	E353.2	Nitrate	mg/L	0.025	UJ	CCV<LCL
TW-01-050812	E365.4	Phosphorus	mg/L	0.1	UJ	MS<LCL
TW-01-050812	SW8260B	Bromomethane	ug/l	0.5	UJ	CCV<LCL
TW-01-050812	SW8270C	Hexachlorocyclopentadiene	ug/l	2.5	UJ	LCS<LCL
TW-02-050312	E353.2	Nitrate	mg/L	0.161	J	CCV>UCL
TW-02-050312	SW8260B	2-Butanone	ug/l	2.5	UJ	CCV<LCL
TW-02-050312	SW8260B	Methyl Acetate	ug/l	1	UJ	CCV<LCL
TW-02-050312	SW8270C	Benzoic Acid	ug/l	10	R	LCS<LCL, CCV<LCL (UJ)

Validation Reasons:	
CCB<RL	The analyte was detected in the calibration blank at a concentration less than the reporting limit
CCV<LCL	Continuing calibration verification recovered less than method criteria
CCV>UCL	Continuing calibration verification recovered greater than method criteria
EB<RL	The analyte was detected in the equipment blank at a concentration less than the reporting limit
FD>RPD	The relative percent difference exceeded control limits in the FD pair.
HTa>UCL	The analytical holding-time criterion was exceeded
IS<LCL	The internal standard recovered less than method criteria
LB<RL	The analyte was detected in the method blank at a concentration less than the reporting limit
LCS<LCL	The laboratory control sample recovered less than the lower control limit
LCS>UCL	The laboratory control sample recovered greater than the upper control limit
LCSD<LCL	The laboratory control sample duplicate recovered less than the lower control limit
MatrixInterference	The analyte was qualified as estimated due to matrix interference

Table 3

Qualified Data
Groundwater Monitoring Results Report for April and October 2012 Monitoring Events
Former Hampshire Chemical Corp. Facility, Waterloo, New York

Sample ID	Method	Analyte	Units	Final Result	Final Flag	Reason
MS<LCL	The matrix spike recovered less than the lower control limit					
MS>UCL	The matrix spike recovered greater than the upper control limit					
MSRPD	The relative percent difference exceeded criteria in the MS/MSD					
PS<LCL	The post digestion spike recovered less than the lower control limit					
PS>UCL	The post digestion spike recovered greater than the upper control limit					
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					
SDIL	The relative percent difference exceeded criteria in the serial dilution					
Sur<LCL	The surrogate recovered less than the lower control limit					
Sur>UCL	The surrogate recovered greater than the upper control limit					

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

Expires 12:01 AM April 01, 2014
Issued April 01, 2013

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.
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.: 48424

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

Expires 12:01 AM April 01, 2014
Issued April 01, 2013

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.
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
	EPA 8260B
Acrylonitrile	EPA 624
	EPA 8260B
Amines	
2-Nitroaniline	EPA 8270C
3-Nitroaniline	EPA 8270C
4-Chloroaniline	EPA 8270C
4-Nitroaniline	EPA 8270C
Aniline	EPA 8270C
Carbazole	EPA 8270C
Pyridine	EPA 8270C
Benzidines	
3,3'-Dichlorobenzidine	EPA 625
	EPA 8270C
Benzidine	EPA 625
Chlorinated Hydrocarbon Pesticides	
4,4'-DDD	EPA 608
	EPA 8081A
4,4'-DDE	EPA 608
	EPA 8081A
4,4'-DDT	EPA 608
	EPA 8081A
Aldrin	EPA 608

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

Serial No.: 48425

Expires 12:01 AM April 01, 2014
Issued April 01, 2013

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.
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:

Chlorinated Hydrocarbon Pesticides	
Heptachlor epoxide	EPA 608
	EPA 8081A
Lindane	EPA 608
	EPA 8081A
Methoxychlor	EPA 8081A
Toxaphene	EPA 608
	EPA 8081A
Chlorinated Hydrocarbons	
1,2,3-Trichlorobenzene	EPA 8260B
1,2,4-Trichlorobenzene	EPA 625
	EPA 8270C
2-Chloronaphthalene	EPA 625
	EPA 8270C
Hexachlorobenzene	EPA 625
	EPA 8270C
Hexachlorobutadiene	EPA 625
	EPA 8270C
Hexachlorocyclopentadiene	EPA 625
	EPA 8270C
Hexachloroethane	EPA 625
	EPA 8270C
Chlorophenoxy Acid Pesticides	
2,4,5-T	EPA 8151A
2,4,5-TP (Silvex)	EPA 8151A
2,4-D	EPA 8151A

Chlorophenoxy Acid Pesticides	
Dalapon	EPA 8151A
Dicamba	EPA 8151A
Dichloroprop	EPA 8151A
Dinoseb	EPA 8151A
Demand	
Biochemical Oxygen Demand	SM 18-21 5210B (01)
Carbonaceous BOD	SM 18-21 5210B (01)
Chemical Oxygen Demand	EPA 410.4 Rev. 2.0
	HACH 8000
Dissolved Gases	
Ethane	RSK-175
Ethene (Ethylene)	RSK-175
Methane	RSK-175
Fuel Oxygenates	
Ethanol	EPA 8015B
Methyl tert-butyl ether	EPA 8260B
tert-butyl alcohol	EPA 8260B
Haloethers	
4-Bromophenylphenyl ether	EPA 625
	EPA 8270C
4-Chlorophenylphenyl ether	EPA 625
	EPA 8270C
Bis(2-chloroethoxy)methane	EPA 625
	EPA 8270C

Serial No.: 48425

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

Expires 12:01 AM April 01, 2014
Issued April 01, 2013

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.
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:

Haloethers	
Bis(2-chloroethyl)ether	EPA 625
	EPA 8270C
Bis(2-chloroisopropyl) ether	EPA 625
	EPA 8270C
Mineral	
Acidity	SM 18-21 2310B.4a (97)
Alkalinity	EPA 310.2
	SM 18-21 2320B (97)
Chloride	EPA 300.0 Rev. 2.1
	SM 18-21 4500-Cl- E (97)
Fluoride, Total	EPA 300.0 Rev. 2.1
	SM 18-21 4500-F C (97)
Hardness, Total	SM 18-21 2340B (97)
	SM 18-21 2340C (97)
Sulfate (as SO4)	EPA 300.0 Rev. 2.1
Nitroaromatics and Isophorone	
1,3,5-Trinitrobenzene	EPA 8330
1,3-Dinitrobenzene	EPA 8330
2,4,6-Trinitrotoluene	EPA 8330
2,4-Dinitrotoluene	EPA 625
	EPA 8270C
	EPA 8330
2,6-Dinitrotoluene	EPA 625
	EPA 8270C
	EPA 8330

Nitroaromatics and Isophorone	
2-Amino-4,6-dinitrotoluene	EPA 8330
2-Nitrotoluene	EPA 8330
3-Nitrotoluene	EPA 8330
4-Amino-2,6-dinitrotoluene	EPA 8330
4-Nitrotoluene	EPA 8330
Hexahydro-1,3,5-trinitro-1,3,5-triazine	EPA 8330
Isophorone	EPA 625
	EPA 8270C
Methyl-2,4,6-trinitrophenylnitramine	EPA 8330
Nitrobenzene	EPA 625
	EPA 8270C
	EPA 8330
Octahydro-tetranitro-tetrazocine	EPA 8330
Nitrosoamines	
N-Nitrosodiethylamine	EPA 8270C
N-Nitrosodimethylamine	EPA 625
	EPA 8270C
N-Nitrosodi-n-propylamine	EPA 625
	EPA 8270C
N-Nitrosodiphenylamine	EPA 625
	EPA 8270C
Nutrient	
Ammonia (as N)	EPA 350.1 Rev. 2.0
Kjeldahl Nitrogen, Total	EPA 351.2 Rev. 2.0
Nitrate (as N)	EPA 300.0 Rev. 2.1

Serial No.: 48425

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

Expires 12:01 AM April 01, 2014
Issued April 01, 2013

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.
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:

Nutrient	
Nitrate (as N)	EPA 353.2 Rev. 2.0
Nitrite (as N)	EPA 300.0 Rev. 2.1
	SM 18-21 4500-NO2 B (00)
Orthophosphate (as P)	SM 18-21 4500-P E
Phosphorus, Total	EPA 365.4 Rev. 1974
Petroleum Hydrocarbons	
Diesel Range Organics	EPA 8015B
Gasoline Range Organics	EPA 8015B
Phthalate Esters	
Benzyl butyl phthalate	EPA 625
	EPA 8270C
Bis(2-ethylhexyl) phthalate	EPA 625
	EPA 8270C
Diethyl phthalate	EPA 625
	EPA 8270C
Dimethyl phthalate	EPA 625
	EPA 8270C
Di-n-butyl phthalate	EPA 625
	EPA 8270C
Di-n-octyl phthalate	EPA 625
	EPA 8270C
Polychlorinated Biphenyls	
PCB-1016	EPA 608
	EPA 8082
Polychlorinated Biphenyls	
PCB-1221	EPA 608
	EPA 8082
PCB-1232	EPA 608
	EPA 8082
PCB-1242	EPA 608
	EPA 8082
PCB-1248	EPA 608
	EPA 8082
PCB-1254	EPA 608
	EPA 8082
PCB-1260	EPA 608
	EPA 8082
PCB-1268	EPA 8082
Polynuclear Aromatics	
Acenaphthene	EPA 625
	EPA 8270C
Acenaphthylene	EPA 625
	EPA 8270C
Anthracene	EPA 625
	EPA 8270C
Benzo(a)anthracene	EPA 625
	EPA 8270C
Benzo(a)pyrene	EPA 625
	EPA 8270C
Benzo(b)fluoranthene	EPA 625

Serial No.: 48425

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

Expires 12:01 AM April 01, 2014
Issued April 01, 2013

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.
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:

Polynuclear Aromatics	
Benzo(b)fluoranthene	EPA 8270C
Benzo(ghi)perylene	EPA 625
	EPA 8270C
Benzo(k)fluoranthene	EPA 625
	EPA 8270C
Chrysene	EPA 625
	EPA 8270C
Dibenzo(a,h)anthracene	EPA 625
	EPA 8270C
Fluoranthene	EPA 625
	EPA 8270C
Fluorene	EPA 625
	EPA 8270C
Indeno(1,2,3-cd)pyrene	EPA 625
	EPA 8270C
Naphthalene	EPA 625
	EPA 8270C
Phenanthrene	EPA 625
	EPA 8270C
Pyrene	EPA 625
	EPA 8270C
Priority Pollutant Phenols	
2,4,5-Trichlorophenol	EPA 8270C
2,4,6-Trichlorophenol	EPA 625
	EPA 8270C
Priority Pollutant Phenols	
2,4-Dichlorophenol	EPA 625
	EPA 8270C
2,4-Dimethylphenol	EPA 625
	EPA 8270C
2,4-Dinitrophenol	EPA 625
	EPA 8270C
2-Chlorophenol	EPA 625
	EPA 8270C
2-Methyl-4,6-dinitrophenol	EPA 625
	EPA 8270C
2-Methylphenol	EPA 8270C
2-Nitrophenol	EPA 625
	EPA 8270C
3-Methylphenol	EPA 8270C
4-Chloro-3-methylphenol	EPA 625
	EPA 8270C
4-Methylphenol	EPA 8270C
4-Nitrophenol	EPA 625
	EPA 8270C
Cresols, Total	EPA 8270C
Pentachlorophenol	EPA 625
	EPA 8151A
	EPA 8270C
Phenol	EPA 625
	EPA 8270C

Serial No.: 48425

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

Expires 12:01 AM April 01, 2014
Issued April 01, 2013

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.
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:

Residue	
Solids, Total	SM 18-21 2540B (97)
Solids, Total Dissolved	SM 18-21 2540C (97)
Solids, Total Suspended	SM 18-21 2540D (97)
Semi-Volatile Organics	
1,2-Dichlorobenzene, Semi-volatile	EPA 8270C
1,3-Dichlorobenzene, Semi-volatile	EPA 8270C
1,4-Dichlorobenzene, Semi-volatile	EPA 8270C
2-Methylnaphthalene	EPA 8270C
Acetophenone	EPA 8270C
Benzoic Acid	EPA 8270C
Benzyl alcohol	EPA 8270C
Dibenzofuran	EPA 8270C
Volatile Aromatics	
1,2,4-Trichlorobenzene, Volatile	EPA 8260B
1,2,4-Trimethylbenzene	EPA 8260B
1,2-Dichlorobenzene	EPA 624
	EPA 8260B
1,3,5-Trimethylbenzene	EPA 8260B
1,3-Dichlorobenzene	EPA 624
	EPA 8260B
1,4-Dichlorobenzene	EPA 624
	EPA 8260B
2-Chlorotoluene	EPA 8260B
4-Chlorotoluene	EPA 8260B
Benzene	EPA 624

Volatile Aromatics	
Benzene	EPA 8260B
Chlorobenzene	EPA 624
	EPA 8260B
Ethyl benzene	EPA 624
	EPA 8260B
Isopropylbenzene	EPA 8260B
Naphthalene, Volatile	EPA 8260B
n-Butylbenzene	EPA 8260B
n-Propylbenzene	EPA 8260B
p-Isopropyltoluene (P-Cymene)	EPA 8260B
sec-Butylbenzene	EPA 8260B
Styrene	EPA 8260B
tert-Butylbenzene	EPA 8260B
Toluene	EPA 624
	EPA 8260B
Total Xylenes	EPA 624
	EPA 8260B
Volatile Halocarbons	
1,1,1,2-Tetrachloroethane	EPA 8260B
1,1,1-Trichloroethane	EPA 624
	EPA 8260B
1,1,2,2-Tetrachloroethane	EPA 624
	EPA 8260B
1,1,2-Trichloroethane	EPA 624
	EPA 8260B

Serial No.: 48425

Expires 12:01 AM April 01, 2014
Issued April 01, 2013

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.
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:

Volatile Halocarbons	
1,1-Dichloroethane	EPA 624
	EPA 8260B
1,1-Dichloroethene	EPA 624
	EPA 8260B
1,1-Dichloropropene	EPA 8260B
1,2,3-Trichloropropane	EPA 8260B
1,2-Dibromo-3-chloropropane	EPA 8011
	EPA 8260B
1,2-Dibromoethane	EPA 8011
	EPA 8260B
1,2-Dichloroethane	EPA 624
	EPA 8260B
1,2-Dichloropropane	EPA 624
	EPA 8260B
1,3-Dichloropropane	EPA 8260B
2,2-Dichloropropane	EPA 8260B
2-Chloroethylvinyl ether	EPA 624
	EPA 8260B
Bromochloromethane	EPA 8260B
Bromodichloromethane	EPA 624
	EPA 8260B
Bromoform	EPA 624
	EPA 8260B
Bromomethane	EPA 624
	EPA 8260B
Carbon tetrachloride	EPA 624

Volatile Halocarbons	
Carbon tetrachloride	EPA 8260B
Chloroethane	EPA 624
	EPA 8260B
Chloroform	EPA 624
	EPA 8260B
Chloromethane	EPA 624
	EPA 8260B
cis-1,2-Dichloroethene	EPA 8260B
cis-1,3-Dichloropropene	EPA 624
	EPA 8260B
Dibromochloromethane	EPA 624
	EPA 8260B
Dibromomethane	EPA 8260B
Dichlorodifluoromethane	EPA 8260B
Hexachlorobutadiene, Volatile	EPA 8260B
Methylene chloride	EPA 624
	EPA 8260B
Tetrachloroethene	EPA 624
	EPA 8260B
trans-1,2-Dichloroethene	EPA 624
	EPA 8260B
trans-1,3-Dichloropropene	EPA 624
	EPA 8260B
trans-1,4-Dichloro-2-butene	EPA 8260B
Trichloroethene	EPA 624
	EPA 8260B

Serial No.: 48425

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

Expires 12:01 AM April 01, 2014
Issued April 01, 2013

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.
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:

Volatile Halocarbons	
Trichlorofluoromethane	EPA 624
	EPA 8260B
Vinyl chloride	EPA 624
	EPA 8260B
Volatiles Organics	
2-Butanone (Methylethyl ketone)	EPA 8260B
2-Hexanone	EPA 8260B
4-Methyl-2-Pentanone	EPA 8260B
Acetone	EPA 8260B
Acetonitrile	EPA 8260B
Carbon Disulfide	EPA 8260B
Vinyl acetate	EPA 8260B
Wastewater Metals I	
Barium, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4
	EPA 6010B
	EPA 6020
Cadmium, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4
	EPA 6010B
	EPA 6020
Calcium, Total	EPA 200.7 Rev. 4.4
	EPA 6010B
Chromium, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4
Wastewater Metals I	
Chromium, Total	EPA 6010B
	EPA 6020
Copper, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4
	EPA 6010B
	EPA 6020
Iron, Total	EPA 200.7 Rev. 4.4
	EPA 6010B
Lead, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4
	EPA 6010B
	EPA 6020
Magnesium, Total	EPA 200.7 Rev. 4.4
	EPA 6010B
Manganese, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4
	EPA 6010B
	EPA 6020
Nickel, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4
	EPA 6010B
	EPA 6020
Potassium, Total	EPA 200.7 Rev. 4.4
	EPA 6010B
Silver, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4

Serial No.: 48425

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

Expires 12:01 AM April 01, 2014
Issued April 01, 2013

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.
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:

Wastewater Metals I	
Silver, Total	EPA 6010B
	EPA 6020
Sodium, Total	EPA 200.7 Rev. 4.4
	EPA 6010B
Strontium, Total	EPA 6010B
Wastewater Metals II	
Aluminum, Total	EPA 200.7 Rev. 4.4
	EPA 6010B
Antimony, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4
	EPA 6010B
	EPA 6020
Arsenic, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4
	EPA 6010B
	EPA 6020
Beryllium, Total	EPA 200.7 Rev. 4.4
	EPA 6010B
Chromium VI	SM 18-19 3500-Cr D
Mercury, Total	EPA 245.1 Rev. 3.0
	EPA 7470A
Selenium, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4
	EPA 6010B
	EPA 6020

Wastewater Metals II	
Vanadium, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4
	EPA 6010B
	EPA 6020
Zinc, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4
	EPA 6010B
	EPA 6020
Wastewater Metals III	
Cobalt, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4
	EPA 6010B
	EPA 6020
Molybdenum, Total	EPA 200.7 Rev. 4.4
	EPA 6010B
Thallium, Total	EPA 200.7 Rev. 4.4
	EPA 200.8 Rev. 5.4
	EPA 6010B
	EPA 6020
Tin, Total	EPA 200.7 Rev. 4.4
	EPA 6010B
Titanium, Total	EPA 200.7 Rev. 4.4
	EPA 6010B
Wastewater Miscellaneous	
Boron, Total	EPA 200.7 Rev. 4.4

Serial No.: 48425

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

Expires 12:01 AM April 01, 2014
Issued April 01, 2013

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.
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:

Wastewater Miscellaneous

Boron, Total	EPA 6010B
Bromide	EPA 300.0 Rev. 2.1
Color	SM 18-21 2120B (01)
Cyanide, Total	SM 18-21 4500-CN E (99)
Oil and Grease Total Recoverable (HEM	EPA 1664A
Organic Carbon, Total	SM 18-21 5310C (00)
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 19-21 4500-S F (00)
Surfactant (MBAS)	SM 18-21 5540C (00)
Total Petroleum Hydrocarbons	EPA 1664A

Sample Preparation Methods

EPA 3005A
EPA 3010A
EPA 3015
EPA 3020A
EPA 3510C
EPA 3520C
EPA 4.1.3
EPA 4.1.4
EPA 5030B
SM 18-20 4500-CN C

Serial No.: 48425

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

Expires 12:01 AM April 01, 2014
Issued April 01, 2013

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.
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 SOLID AND HAZARDOUS WASTE
All approved analytes are listed below:

Acrylates	
Acrolein (Propenal)	EPA 8260B
Acrylonitrile	EPA 8260B
Ethyl methacrylate	EPA 8260B
Methyl methacrylate	EPA 8260B
Amines	
1,2-Diphenylhydrazine	EPA 8270C
1,4-Phenylenediamine	EPA 8270C
2-Nitroaniline	EPA 8270C
3-Nitroaniline	EPA 8270C
4-Chloroaniline	EPA 8270C
4-Nitroaniline	EPA 8270C
Aniline	EPA 8270C
Carbazole	EPA 8270C
Diphenylamine	EPA 8270C
Methapyrilene	EPA 8270C
Benzidines	
3,3'-Dichlorobenzidine	EPA 8270C
Characteristic Testing	
Corrosivity	EPA 9040C
Ignitability	EPA 1010A
Reactivity	SW-846 Ch7 Sec. 7.3
Synthetic Precipitation Leaching Proc.	EPA 1312
TCLP	EPA 1311

Chlorinated Hydrocarbon Pesticides	
4,4'-DDD	EPA 8081A
4,4'-DDE	EPA 8081A
4,4'-DDT	EPA 8081A
Aldrin	EPA 8081A
alpha-BHC	EPA 8081A
alpha-Chlordane	EPA 8081A
beta-BHC	EPA 8081A
Chlordane Total	EPA 8081A
delta-BHC	EPA 8081A
Diallate	EPA 8270C
Dieldrin	EPA 8081A
Endosulfan I	EPA 8081A
Endosulfan II	EPA 8081A
Endosulfan sulfate	EPA 8081A
Endrin	EPA 8081A
Endrin aldehyde	EPA 8081A
Endrin Ketone	EPA 8081A
gamma-Chlordane	EPA 8081A
Heptachlor	EPA 8081A
Heptachlor epoxide	EPA 8081A
Lindane	EPA 8081A
Methoxychlor	EPA 8081A
Toxaphene	EPA 8081A
Chlorinated Hydrocarbons	
1,2,4,5-Tetrachlorobenzene	EPA 8270C

Serial No.: 48426

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

Expires 12:01 AM April 01, 2014
Issued April 01, 2013

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.
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 SOLID AND HAZARDOUS WASTE
All approved analytes are listed below:

Chlorinated Hydrocarbons	
1,2,4-Trichlorobenzene	EPA 8270C
1-Chloronaphthalene	EPA 8270C
2-Chloronaphthalene	EPA 8270C
Hexachlorobenzene	EPA 8270C
Hexachlorobutadiene	EPA 8270C
Hexachlorocyclopentadiene	EPA 8270C
Hexachloroethane	EPA 8270C
Hexachlorophene	EPA 8270C
Hexachloropropene	EPA 8270C
Pentachlorobenzene	EPA 8270C
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 8270C
4-Chlorophenylphenyl ether	EPA 8270C
Haloethers	
Bis(2-chloroethoxy)methane	EPA 8270C
Bis(2-chloroethyl)ether	EPA 8270C
Bis(2-chloroisopropyl) ether	EPA 8270C
Metals I	
Barium, Total	EPA 6010B
	EPA 6020
Cadmium, Total	EPA 6010B
	EPA 6020
Calcium, Total	EPA 6010B
Chromium, Total	EPA 6010B
	EPA 6020
Copper, Total	EPA 6010B
	EPA 6020
Iron, Total	EPA 6010B
Lead, Total	EPA 6010B
	EPA 6020
Magnesium, Total	EPA 6010B
Manganese, Total	EPA 6010B
	EPA 6020
Nickel, Total	EPA 6010B
	EPA 6020
Potassium, Total	EPA 6010B
Silver, Total	EPA 6010B
	EPA 6020
Sodium, Total	EPA 6010B

Serial No.: 48426

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

Expires 12:01 AM April 01, 2014
Issued April 01, 2013

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.
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 SOLID AND HAZARDOUS WASTE
All approved analytes are listed below:

Metals I	
Strontium, Total	EPA 6010B
Metals II	
Aluminum, Total	EPA 6010B
Antimony, Total	EPA 6010B
	EPA 6020
Arsenic, Total	EPA 6010B
	EPA 6020
Beryllium, Total	EPA 6010B
Lithium, Total	EPA 6010B
Mercury, Total	EPA 7471A
Selenium, Total	EPA 6010B
	EPA 6020
Vanadium, Total	EPA 6010B
	EPA 6020
Zinc, Total	EPA 6010B
	EPA 6020
Metals III	
Cobalt, Total	EPA 6010B
	EPA 6020
Molybdenum, Total	EPA 6010B
Thallium, Total	EPA 6010B
	EPA 6020
Tin, Total	EPA 6010B

Minerals	
Bromide	EPA 9056A
Chloride	EPA 9056A
Fluoride, Total	EPA 9056A
Sulfate (as SO4)	EPA 9056A
Miscellaneous	
Cyanide, Total	EPA 9014
Nitroaromatics and Isophorone	
1,3,5-Trinitrobenzene	EPA 8330
1,3-Dinitrobenzene	EPA 8330
2,4,6-Trinitrotoluene	EPA 8330
2,4-Dinitrotoluene	EPA 8270C
	EPA 8330
2,6-Dinitrotoluene	EPA 8270C
	EPA 8330
2-Amino-4,6-dinitrotoluene	EPA 8330
2-Nitrotoluene	EPA 8330
3-Nitrotoluene	EPA 8330
4-Amino-2,6-dinitrotoluene	EPA 8330
4-Nitrotoluene	EPA 8330
Hexahydro-1,3,5-trinitro-1,3,5-triazine	EPA 8330
Isophorone	EPA 8270C
Methyl-2,4,6-trinitrophenylnitramine	EPA 8330
Nitrobenzene	EPA 8270C
	EPA 8330
Octahydro-tetranitro-tetrazocine	EPA 8330

Serial No.: 48426

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

Expires 12:01 AM April 01, 2014
Issued April 01, 2013

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.
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 SOLID AND HAZARDOUS WASTE
All approved analytes are listed below:

Nitroaromatics and Isophorone	
Pyridine	EPA 8270C
Nitrosoamines	
N-Nitrosodiethylamine	EPA 8270C
N-Nitrosodimethylamine	EPA 8270C
N-Nitrosodi-n-butylamine	EPA 8270C
N-Nitrosodi-n-propylamine	EPA 8270C
N-Nitrosodiphenylamine	EPA 8270C
N-nitrosomethylethylamine	EPA 8270C
N-nitrosomorpholine	EPA 8270C
N-nitrosopiperidine	EPA 8270C
N-Nitrosopyrrolidine	EPA 8270C
Nutrients	
Nitrate (as N)	EPA 9056A
Nitrite (as N)	EPA 9056A
Petroleum Hydrocarbons	
Diesel Range Organics	EPA 8015B
Gasoline Range Organics	EPA 8015B
Oil and Grease Total Recoverable (HEM	EPA 9071B (Solvent:Hexane)
Phthalate Esters	
Benzyl butyl phthalate	EPA 8270C
Bis(2-ethylhexyl) phthalate	EPA 8270C
Diethyl phthalate	EPA 8270C
Dimethyl phthalate	EPA 8270C
Di-n-butyl phthalate	EPA 8270C
Phthalate Esters	
Di-n-octyl phthalate	EPA 8270C
Polychlorinated Biphenyls	
PCB-1016	EPA 8082
PCB-1221	EPA 8082
PCB-1232	EPA 8082
PCB-1242	EPA 8082
PCB-1248	EPA 8082
PCB-1254	EPA 8082
PCB-1260	EPA 8082
PCB-1262	EPA 8082
PCB-1268	EPA 8082
Polynuclear Aromatic Hydrocarbons	
3-Methylcholanthrene	EPA 8270C
7,12-Dimethylbenzyl (a) anthracene	EPA 8270C
Acenaphthene	EPA 8270C
Acenaphthylene	EPA 8270C
Anthracene	EPA 8270C
Benzo(a)anthracene	EPA 8270C
Benzo(a)pyrene	EPA 8270C
Benzo(b)fluoranthene	EPA 8270C
Benzo(ghi)perylene	EPA 8270C
Benzo(k)fluoranthene	EPA 8270C
Chrysene	EPA 8270C
Dibenzo(a,h)anthracene	EPA 8270C
Fluoranthene	EPA 8270C

Serial No.: 48426

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

Expires 12:01 AM April 01, 2014
Issued April 01, 2013

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.
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 SOLID AND HAZARDOUS WASTE
All approved analytes are listed below:

Polynuclear Aromatic Hydrocarbons	
Fluorene	EPA 8270C
Indeno(1,2,3-cd)pyrene	EPA 8270C
Naphthalene	EPA 8270C
Phenanthrene	EPA 8270C
Pyrene	EPA 8270C
Priority Pollutant Phenols	
2,3,4,6 Tetrachlorophenol	EPA 8270C
2,4,5-Trichlorophenol	EPA 8270C
2,4,6-Trichlorophenol	EPA 8270C
2,4-Dichlorophenol	EPA 8270C
2,4-Dimethylphenol	EPA 8270C
2,4-Dinitrophenol	EPA 8270C
2,6-Dichlorophenol	EPA 8270C
2-Chlorophenol	EPA 8270C
2-Methyl-4,6-dinitrophenol	EPA 8270C
2-Methylphenol	EPA 8270C
2-Nitrophenol	EPA 8270C
4-Chloro-3-methylphenol	EPA 8270C
4-Methylphenol	EPA 8270C
4-Nitrophenol	EPA 8270C
Pentachlorophenol	EPA 8270C
Phenol	EPA 8270C
Semi-Volatile Organics	
1,2-Dichlorobenzene, Semi-volatile	EPA 8270C
1,3-Dichlorobenzene, Semi-volatile	EPA 8270C
Semi-Volatile Organics	
1,4-Dichlorobenzene, Semi-volatile	EPA 8270C
2-Methylnaphthalene	EPA 8270C
4-Amino biphenyl	EPA 8270C
Acetophenone	EPA 8270C
Aramite	EPA 8270C
Benzoic Acid	EPA 8270C
Benzyl alcohol	EPA 8270C
Dibenzofuran	EPA 8270C
Methyl methanesulfonate	EPA 8270C
O,O,O-Triethyl phosphorothioate	EPA 8270C
Phenacetin	EPA 8270C
Safrole	EPA 8270C
Volatile Aromatics	
1,2,4-Trichlorobenzene, Volatile	EPA 8260B
1,2,4-Trimethylbenzene	EPA 8260B
1,2-Dichlorobenzene	EPA 8260B
1,3,5-Trimethylbenzene	EPA 8260B
1,3-Dichlorobenzene	EPA 8260B
1,4-Dichlorobenzene	EPA 8260B
2-Chlorotoluene	EPA 8260B
4-Chlorotoluene	EPA 8260B
Benzene	EPA 8260B
Bromobenzene	EPA 8260B
Chlorobenzene	EPA 8260B
Ethyl benzene	EPA 8260B

Serial No.: 48426

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

Expires 12:01 AM April 01, 2014
Issued April 01, 2013

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.
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 SOLID AND HAZARDOUS WASTE
All approved analytes are listed below:

Volatile Aromatics	
Isopropylbenzene	EPA 8260B
Naphthalene, Volatile	EPA 8260B
n-Butylbenzene	EPA 8260B
n-Propylbenzene	EPA 8260B
p-Isopropyltoluene (P-Cymene)	EPA 8260B
sec-Butylbenzene	EPA 8260B
Styrene	EPA 8260B
tert-Butylbenzene	EPA 8260B
Toluene	EPA 8260B
Total Xylenes	EPA 8260B
Volatile Halocarbons	
1,1,1,2-Tetrachloroethane	EPA 8260B
1,1,1-Trichloroethane	EPA 8260B
1,1,2,2-Tetrachloroethane	EPA 8260B
1,1,2-Trichloroethane	EPA 8260B
1,1-Dichloroethane	EPA 8260B
1,1-Dichloroethene	EPA 8260B
1,1-Dichloropropene	EPA 8260B
1,2,3-Trichloropropane	EPA 8260B
1,2-Dibromo-3-chloropropane	EPA 8260B
1,2-Dibromoethane	EPA 8260B
1,2-Dichloroethane	EPA 8260B
1,2-Dichloropropane	EPA 8260B
1,3-Dichloropropane	EPA 8260B
2-Chloroethylvinyl ether	EPA 8260B

Volatile Halocarbons	
Bromochloromethane	EPA 8260B
Bromodichloromethane	EPA 8260B
Bromoform	EPA 8260B
Bromomethane	EPA 8260B
Carbon tetrachloride	EPA 8260B
Chloroethane	EPA 8260B
Chloroform	EPA 8260B
Chloromethane	EPA 8260B
cis-1,2-Dichloroethene	EPA 8260B
cis-1,3-Dichloropropene	EPA 8260B
Dibromochloromethane	EPA 8260B
Dibromomethane	EPA 8260B
Dichlorodifluoromethane	EPA 8260B
Hexachlorobutadiene, Volatile	EPA 8260B
Methylene chloride	EPA 8260B
Tetrachloroethene	EPA 8260B
trans-1,2-Dichloroethene	EPA 8260B
trans-1,3-Dichloropropene	EPA 8260B
trans-1,4-Dichloro-2-butene	EPA 8260B
Trichloroethene	EPA 8260B
Trichlorofluoromethane	EPA 8260B
Vinyl chloride	EPA 8260B
Volatile Organics	
1,4-Dioxane	EPA 8260B
2-Butanone (Methylethyl ketone)	EPA 8260B

Serial No.: 48426

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

Expires 12:01 AM April 01, 2014
Issued April 01, 2013

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.
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 SOLID AND HAZARDOUS WASTE
All approved analytes are listed below:

Volatile Organics

2-Hexanone	EPA 8260B
4-Methyl-2-Pentanone	EPA 8260B
Acetone	EPA 8260B
Acetonitrile	EPA 8260B
Carbon Disulfide	EPA 8260B
Methyl tert-butyl ether	EPA 8260B
Vinyl acetate	EPA 8260B

Sample Preparation Methods

EPA 3005A
EPA 3010A
EPA 3020A
EPA 3050B
EPA 3051
EPA 3545
EPA 3546
EPA 3550B
EPA 3580
EPA 5035A-H
EPA 5035A-L
EPA 9010C
EPA 9030B

Serial No.: 48426

CRITIGEN

TECHNICAL MEMORANDUM

DATE: July 19, 2013

TO: Lisa La Fortune
119 Cherry Hill Rd.
Suite 300
Parsippany, NJ 07054-1102

FROM: Jennifer Telford
Teleworker Location
Warrenton, VA 20186

RE: **Original Submittal - NYSDEC ID 8500018**
Electronic Data Deliverable (EDD) for April 2012 Groundwater Monitoring Program Sampling at Former Hampshire Chemical Corp. Facility, Waterloo, New York

Enclosed please find our original submittal of the Electronic Data Deliverable (EDD) for April 2012 Groundwater Monitoring Program Sampling at the Former Hampshire Chemical Corp. facility in Waterloo, Seneca County, New York.

Included in this submittal are the following NYSDEC EDD files (version 3):

- Initial EDD files:
  - Subfacility file (Subfacility_v3)
  - Location file (Location_v3)
- Chemistry EDD files:
  - Chemistry Sample file (Sample_v3)
  - Chemistry Test/Result with QC Data file (TestResultsQC_v3)
  - Batch file (Batch_v3)
- An electronic copy of this cover letter (PDF email attachment)

REQUIRED PARENT DATA

The following data value is referenced in the attached submittal, but is not included in the parent EDD files indicated due to inclusion in separate data submissions for the Former Hampshire Chemical Corp. facility by CH2M HILL. Similarly, the corresponding well information (Well_v3) and well construction (WellConstruction_v3) data for the wells in this submission are not included due to inclusion in separate data submissions.

Subfacility_v3*

SUBFACILITY_CODE
OU1C

*Data submission for November 2012 Vapor Intrusion Sampling at Former Hampshire Chemical Corp. facility, Waterloo, New York

NEW VALID VALUES

The following new valid values are requested for approval and are required by the attached submittal.

RT_SUBFACILITY_TYPE

#SUBFACILITY_TYPE	SUBFACILITY_DESC
AOC	AREA OF CONCERN

RT_PREP_METHOD

#PREP_METHOD	PREFERRED_NAME
SW5021	VOLATILE ORGANIC COMPOUNDS IN SOILS AND OTHER SOLID MATRICES USING EQUILIBRIUM HEADSPACE ANALYSIS

RT_ANALYTE

#CAS_RN	CHEMICAL_NAME	ANALYTE_TYPE
1000163-64-0	1,4,7,10,13,16-HEXAOXANONADECANE, 18-(2-PROPENYL)-	TIC
100-37-8	N,N-DIETHYL-2-AMINOETHANOL	TIC
107-96-0	3-MERCAPTOPROPIONIC ACID	TIC
2365-48-2	ACETIC ACID, MERCAPTO-, METHYL ESTER	TIC
291-21-4	1,3,5-TRITHIANE	TIC
291-22-5	1,2,4,5-TETRATHIANE	TIC
292-45-5	1,2,4,6-TETRATHIEPANE	TIC
3886-40-6	[1,4,5]OXADITHIEPANE	TIC
501-52-0	BENZENEPROPANOIC ACID	TIC
60-24-2	2-MERCAPTOETHANOL	TIC
626-93-7	2-HEXANOL	TIC
68-11-1	ACETIC ACID, MERCAPTO-	TIC
693-65-2	PENTANE, 1,1'-OXYBIS-	TIC
78-95-5	2-PROPANONE, 1-CHLORO-	TIC
96-27-5	MONOTHIOGLYCEROL	TIC

FILES NOT SUBMITTED

The following data files are not provided in this EDD deliverable:

Initial EDD Files

- Data Provider file (DataProvider_v3): *Included in previous submission for October 2012 Residential Soil Sampling at the Former Hampshire Chemical Corp. Site in Waterloo, Seneca County, New York.*
- Files file (Files_v3): *Not applicable to current project scope.*

Subsurface Investigation EDD Files

- Drilling Activity file (DrillActivity_v3): *Not applicable to current project scope.*
- Down Hole Point file (DownholePoint_v3): *Not applicable to current project scope.*

- Lithology file (Lithology_v3): *Not applicable to current project scope.*
- Well file (Well_v3): *Not applicable to current project scope.*
- Well Construction file (WellConstruction_v3): *Not applicable to current project scope.*
- Geology Sample file (GeologySamples_v3): *Not applicable to current project scope.*
- Water Table file (WaterTable_v3): *Not applicable to current project scope.*

Field Activities EDD Files

- Water Level file (WaterLevel_v3): *Not applicable to current project scope.*
- Extraction-Injection Well file (ExtractionInjectionWells_v3): *Not applicable to current project scope.*
- Soil Gas file (SoilGas_v3): *Not applicable to current project scope.*
- Field Results file (FieldResults_v3): *Not applicable to current project scope.*

Vapor Intrusion EDD Files

- Vapor Intrusion Building Address file (VI_Bldg_Address_v3): *Not applicable to current project scope.*
- Vapor Intrusion Building Inspections file (VI_Building_Inspection_v3): *Not applicable to current project scope.*
- Vapor Intrusion Building Parameters file (VI_Building_Parameters_v3): *Not applicable to current project scope.*
- Vapor Intrusion Task Parameters file (VI_Task_Parameters_v3): *Not applicable to current project scope.*
- Vapor Intrusion Location file (VI_Locations_v3): *Not applicable to current project scope.*
- Vapor Intrusion Outdoor Location file (VI_Outdoor_Locations_v3): *Not applicable to current project scope.*
- Vapor Intrusion Samples file (VI_Samples_v3): *Not applicable to current project scope.*
- Vapor Intrusion Test/Result with QC Data file (VI_TestResultsQC_v3): *Not applicable to current project scope.*
- Vapor Intrusion Batch file (VI_Batches_v3): *Not applicable to current project scope*

Please feel free to contact me at 703-577-5748 with any questions or issues that you may have regarding this deliverable.