Annual Summary Report for 2013 Groundwater Monitored Natural Attenuation Program

Bush Industries, Inc.
312 Fair Oak Street
Little Valley, New York

Submitted to:
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Jamestown, New York

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Executive Summary

GEI Consultants, Inc., P.C. (GEI) has been retained by Bush Industries, Inc. (Bush Industries) to conduct the 2013 Monitored Natural Attenuation (MNA) Program for groundwater at the property located at 312 Fair Oak Street, Little Valley, New York. The work was conducted pursuant to and in accordance with the Amended and Supplemental Order (File No.: 96-07 R9-4314-96-06) agreed to between Bush Industries and the New York State Department of Environmental Conservation (NYSDEC).

The subject property is located within the Little Valley Superfund Site (LVSS). The LVSS is currently being addressed by the United States Environmental Protection Agency (USEPA). The Record of Decision (ROD) for the LVSS specifies MNA as the remedy for trichloroethene (TCE) contaminated groundwater measured throughout the LVSS. The USEPA MNA remedy includes groundwater sampling on properties located throughout the LVSS including 312 Fair Oak Street. Bush Industries has agreed to conduct the MNA sampling on this property in accordance with the Amended and Supplemental Order. This report presents the validated results of the annual MNA sampling event conducted on the property by GEI in September 2013.

The results of the 2013 MNA sampling event for the property indicate that natural attenuation processes are occurring. The presence of daughter products and methane in groundwater samples reflect the reductive dechlorination occurring in groundwater at the property.

1. Introduction

1.1 Background and Site Description

GEI Consultants, Inc., P.C. (GEI) has been retained by Bush Industries, Inc. (Bush Industries) to conduct the 2013 Monitored Natural Attenuation (MNA) Program for groundwater at the property located at 312 Fair Oak Street, Little Valley, New York. The work was conducted pursuant to and in accordance with the Amended and Supplemental Order (File No.: 96-07 R9-4314-96-06) agreed to between Bush Industries and the New York State Department of Environmental Conservation (NYSDEC).

The subject property is located within the Little Valley Superfund Site (LVSS). The LVSS is currently being addressed by the United States Environmental Protection Agency (USEPA). The Record of Decision (ROD) for the LVSS specifies MNA as the remedy for TCE contaminated groundwater measured throughout the LVSS.

A topographic map of the Site and surrounding area prepared from a 7.5 minute series U.S. Geological Survey map is presented in Figure 1. The Site is situated on a 9.4 acre lot, and contains three contiguous buildings (see Figure 2). The USEPA MNA remedy includes groundwater sampling on properties located throughout the LVSS, including the property at 312 Fair Oak Street. Bush Industries has agreed to conduct the MNA sampling on this property in accordance with the Amended and Supplemental Order.

As NYSDEC was notified by letter dated September 15, 2008, Bush Industries entered into a contract to sell its land and improvements at 312 Fair Oak Street, Little Valley, N.Y. That transaction was completed on November 12, 2008. Bush Industries retained all rights-of-entry and authorization for Bush Industries (and NYSDEC) to continue to perform its obligations under the Amended and Supplemental Order. Also, deed restrictions have been placed upon the property prohibiting the use of groundwater. The current owner of the property is H2K Ventures, with addresses of 297 Howard Avenue, Jamestown, N.Y., and 312 Fair Oak Street, Little Valley, N.Y.

1.2 Previous Site Investigations

Bush Industries has conducted an extensive investigation of groundwater conditions at the 312 Fair Oak Street Site in concert with NYSDEC. Results are documented in the report entitled Groundwater Evaluation Report, prepared by Conestoga-Rovers & Associates (CRA) and dated February 21, 2000. The findings presented in the Groundwater Evaluation Report are summarized as follows:

1. The highest concentrations of TCE and its degradation products remain in the interior of the Site. There is a residual low level presence of TCE and its degradation products in the interior of the Site with concentrations in groundwater dropping precipitously along the downgradient flow path.

2. Concentrations of TCE at the downgradient perimeter of the Site are approximately equal to or below the New York State Groundwater criterion.

3. This distribution trend (rapidly declining concentrations with distance from the interior of the Site) indicates that natural attenuation processes occur limiting constituent migration and the Site does not pose a significant threat to downgradient groundwater quality.

The Groundwater Evaluation Report was approved by NYSDEC in March 2000. In May 2000, Bush Industries submitted the Remediation Report prepared by Geomatrix Consultants. The Remediation Report recommended implementation of an annual MNA sampling program at the Site. That Remediation Report was approved by NYSDEC in July 2007, along with EPA's concurrence.

1.3 MNA Program Objectives

The objectives of the natural attenuation monitoring are to:

1. Perform annual monitored natural attenuation (MNA) sampling events

2. Evaluate historic and new analytical data to monitor natural attenuation at the Site

2. Work Performed

2.1 MNA Scope of Work

The MNA monitoring work to be performed at the 312 Fair Oak Street Site is specified in the following documents:

Final Remedial Action Work Plan for the Little Valley Superfund Site
Contract Number:68-W-98-214
Prepared by Tetra Tech EC, Inc.
Dated October 2006

Quality Assurance Project Plan Addendum for the Little Valley Superfund Site
Contract Number:68-W-98-214
Prepared by Tetra Tech EC, Inc.
Dated September 2006

Work Plan for Natural Attenuation Monitoring, Bush Industries, Inc.
Prepared for Bush Industries, Inc.
Prepared by Geomatrix Consultants
Dated July 2007

The latter document prepared by Geomatrix governs the specific sampling program for the Site and is referred to herein as the Work Plan. In order to facilitate direct comparison of the Site analytical results with results from other wells within the LVSS sampled by USEPA, the sampling methods, analytical methods and QA/QC protocols specified by USEPA for the LVSS remediation are utilized for the Bush Industries MNA monitoring and are incorporated into the Work Plan.

In accordance with the Work Plan, the MNA Program for groundwater at the 312 Fair Oak Street Site includes the following:

1. Annual groundwater sampling events for the following wells: MW-D1, MW-D2, MW-2, MW-3, MW-5 and MW-6. Monitoring well locations are shown on Figure 2.

2. Sampling of wells using low flow methodology in accordance with the Work Plan

3. Analyses of samples for the following MNA analyses: Volatile Organic Chemicals (VOCs), alkalinity, sulfate, sulfide, nitrate, chloride, total organic carbon, ferrous iron, ethane, ethene and methane. The analytical program and methodology is summarized in Table 1 (except deviations as noted in Section 2.2, below).

4. Data validation.

5. Data evaluation and reporting.

These tasks are described in detail in the Work Plan.

2.2 2013 MNA Groundwater Sampling Event

GEI personnel conducted the annual MNA sampling event for the Site on September 19, 2013. Water level measurement, equipment decontamination, and low flow purge methods were in accordance with the Work Plan. Purge records are included in Table 2.

Deviations from the Work Plan during the 2013 sampling event are listed below:

- Monitoring wells MW-D1 contained less than 12 inches of water and therefore no samples could be obtained. EPA personnel were immediately notified that this monitoring well could not be sampled.

- With the prior concurrence of NYSDEC (by e-mail from Linda Ross, NYSDEC, dated September 18, 2008), VOCs were analyzed using SW-846 Third Edition Methods with USEPA Contract Laboratory Program (CLP) deliverables.

Groundwater samples were analyzed in accordance with Table 1 (except as noted above) by Test America Buffalo Laboratory.

The data validation and usability are discussed in Section 3.1. Results are presented in Section 3.2.

3. Sampling Event Results

3.1 Data Validation and Usability

The analytical results and data packages for the September 2013 sampling event reported by the laboratory were validated by MECX, LP of Aurora, Colorado**.** Data validation was performed in accordance with the Work Plan based on an evaluation of method specific QC information (holding times, calibration records, laboratory and field blanks, duplicate precision, and surrogate and matrix spike recoveries), the most current version of the USEPA Region 2 Data Validation SOPs (www.epa.gov/region02/desa/hsw/sops.htm), the most current version of the EPA National Functional Guidelines (www.epa.gov/superfund/programs/clp/guidance.htm) and the best professional judgment of the validator.

The Data Validation Report is included in its entirety in Appendix A. Results were deemed usable with appropriate qualifiers added (see Appendix A). No significant data quality issues were identified.

3.2 Groundwater Results

3.2.1 Hydraulic Head Measurements

Groundwater hydraulic head measurements were obtained on September 19, 2013 and are presented in Table 3. Figure 3 presents a water table elevation map prepared from these measurements.

Groundwater flow is indicated to be toward the northeast and the flow direction is consistent with prior measurement events.

3.2.2 Analytical Results

The validated analytical results are summarized in Table 4. Table 5 presents comparison criteria for detected constituents in groundwater used by USEPA for the LVSS. TCE and/or its reductive dechlorination products (cis-1,2-dichloroethene and vinyl chloride) were detected at or above the comparison criteria in 3 of the 5 wells sampled.

The highest TCE concentration was measured in the sample from well MW-D2 (reported concentration of 88 ug/L). Well MW-D2 is located in the central portion of the property. The reductive dechlorination product cis-1,2-dichloroethene was present in samples from 3 wells (28 ug/L in MW-2, 17 ug/L in MW-D2 and 14 ug/L in MW-6). The reductive dechlorination product vinyl chloride was detected in two wells (1.3 ug/L in MW-2 and 1.0 ug/L in MW-6).

No VOCs were detected in the sample from monitoring well MW-5.

Figure 4 presents an isoconcentration contour map for total VOCs measured during September 2013.

MNA parameter results are discussed in the following section.

4. Contaminant Trends and Progress of MNA

4.1 Contaminant Trends

Table 6 presents historical sampling results for the six wells in the Bush Industries MNA sampling program. Figures 5 through 10 present time versus concentration plots depicting the historical trend of TCE and daughter products in the Bush Industries MNA monitoring wells. As shown on these figures, all 2013 sampling event results for TCE and its reductive dechlorination products are within the general ranges of historical values. Results for all wells were approximately the same as measured during the 2012 event.

4.2 Reductive Dechlorination

The data obtained during the September 2013 groundwater sampling event were reviewed to assess the potential for degradation of VOCs at the Site via reductive dechlorination. EPA's Technical Protocol (EPA, 1998) was used as a basis for much of the following assessment.

Oxygen
Anaerobic bacteria generally cannot function at dissolved oxygen (DO) concentrations above 0.5 mg/L, and reductive dechlorination will not occur. As indicated in Table 2, stable field measured DO concentrations at the Site ranged from less than 1 mg/L to 4.48 mg/L. The lowest DO concentrations were measured in well MW-6. Reductive dechlorination products were detected in this well.

Nitrate
After dissolved oxygen has been depleted, nitrate may be used as an electron acceptor for the biodegradation of organic compounds via denitrification. Areas of depressed nitrate concentrations within a groundwater plume may indicate biodegradation via nitrate reduction, while the presence of nitrate in groundwater can indicate a fairly aerobic environment. Nitrate concentrations in the contaminant plume should be less than 1 mg/L for reductive dechlorination to occur. Nitrate concentrations were below 1 mg/L were measured in all wells sampled except for downgradient well MW-3.

Ferrous Iron
After nitrate, iron (III) may be used as an electron acceptor during anaerobic biodegradation, reducing the analyte to iron (II). Ferrous iron [iron (II)] concentrations were not detected above 0.1 ug/L in any wells.

Sulfate/Sulfide
After dissolved oxygen and nitrate depletion, sulfate may be used as an electron acceptor for

anaerobic biodegradation (EPA, 1998). This "sulfate reduction" process produces sulfide, and concentrations of sulfide greater than 1 mg/L indicate a possible reductive pathway. Sulfate concentrations ranged up to 17.5 mg/L. Sulfide was not detected in any well during the 2013 event.

Methane/Ethane/Ethene

EPA, 1998 states that methanogenesis (the reduction of carbon dioxide to methane) generally occurs after oxygen, nitrate, and sulfate have been depleted. Therefore, the presence of methane in groundwater is indicative of strongly reducing conditions. Samples from two wells, MW-2 and MW-6, contained detectable concentrations of methane in the 2013 event (0.075 mg/L and 0.10 mg/L, respectively). Reductive dechlorination products were detected in both of these wells.

Alkalinity

Zones of microbial activity are typically identified by an increase in alkalinity, resulting from increased concentrations of carbon dioxide produced by the metabolism of microorganisms. According to EPA, 1998, a two-fold increase in alkalinity values over background numbers suggests biodegradation may be occurring. Historically, the minimum value for alkalinity has occurred in well MW-5, which is considered upgradient of the TCE presence at the Site (historic range from approximately 60 mg/L to 70 mg/L as shown on Table 6). Alkalinity was measured at 68.5 mg/L in the 2013 sample from MW-5, and this value is used as "background" for comparison. The sample from the monitoring well MW-2 had alkalinity levels greater than twice the background concentration, as did the furthest downgradient well (MW-3).

Oxidation-Reduction Potential

The oxidation-reduction potential of groundwater is a relative measure of electron activity, and can influence rates of biodegradation. At less than 50 millivolts (mV), the reductive pathway is possible, and becomes more likely below -100 mV (EPA, 1998). Negative redox potentials were not measured in any of the wells sampled during the 2013 event.

pH and Temperature

Metabolic activity of bacteria is affected by the pH and temperature of the groundwater. The optimal values for these parameters for reductive biodegradation is a pH between 6 and 8 and a temperature greater than 20°C. All of the wells had pHs in this optimum range. Stable values of water temperature during the 2013 sampling event were between 11.1°C and 14.1°C.

Chloride

Chloride is released as a breakdown product during the biodegradation of chlorinated compounds. Chloride ions do not typically enter into oxidation-reduction reactions, form no important solute complexes, do not form salts of low solubility, are not significantly adsorbed on mineral surfaces, and play few vital biochemical roles (EPA, 1998). As a result, significant

increases in chloride concentrations relative to background (i.e., two times) may indicate the biodegradation of chlorinated compounds. Road salting also serves as a common, localized source of chloride to aquifer systems. The result from well MW-5 (14.2 mg/L), which as indicated above is considered upgradient of the TCE presence at the Site, was used as "background" for comparison of the chloride values. The well sampled downgradient from MW-5 well on the property (MW-2) had a chloride concentration of 16.7 mg/L. The furthest downgradient well, MW-3 had a chloride concentration of 20.3 mg/L.

Total Organic Carbon
The presence of natural or anthropogenic organic carbon can facilitate dechlorination, by acting as a carbon and energy source for aerobic microorganisms (which during aerobic respiration decrease dissolved oxygen levels, creating a reducing environment and increasing the potential for anaerobic bacteria to function). A TOC concentration of 20 mg/L is most favorable to dechlorination. TOC concentrations ranged from 0.44 J (estimated) in well MW-3 to 1.3 mg/L in well MW-6 for the 2013 event.

Daughter Products
Transformation of TCE via reductive dechlorination produces daughter products including 1,1-dichloroethene, 1,2-dichloroethene (cis- and/or trans-), and vinyl chloride. As described in Section 3.2, these daughter products were detected, suggesting that reductive dechlorination has occurred at the property.

4.3 Progress of MNA at the Site

The presence of daughter products and methane in groundwater samples reflect the reductive dechlorination occurring in groundwater at the property.

The 2013 results indicate concentrations of TCE and daughter products in groundwater are within the general historical ranges. Additional annual sampling data will be used to assess any long term trends in the MNA monitoring wells.

The next annual report will be due 90 days from completion of the 2014 yearly groundwater sampling, per the Work Plan.

Tables

TABLE 1

SAMPLE COLLECTION AND ANALYSIS PROTOCOLS
312 Fair Oak Street, Little Valley, New York

Sample Type	*Matrix*	*Sampling Device*	*No. of Samples* [(1)(2)]	*Parameter*	*Sample Container* [(3)(4)]	*Sample Preservation*	*Analytical Method* [(5)]	*PQL*	*Holding Time* [(6)]
Groundwater	Water	Positive Displacement Submersible Pump	6	pH; temperature; specific conductivity DO; ORP; turbidity [Field Screening]	NA	NA	Direct Field Measurement Following SOP	NA	Analyze Immediately
			6	Low Concentration TCL Volatile Organic Compounds [CLP Lab]	(4) 40 mL VOA vials w/Teflon lined septum	1:1 HCl to pH<2; Cool to 4°C	SOM01.1	Compound specific (0.5 - 20 µg/L)	10 days
			6	Total Organic Carbon [DESA Lab]	(1) L amber glass	H_2SO_4 to pH<2; Cool to 4°C	SW-846 Method 9060	1 mg/L	28 days*
			6	Alkalinity [DESA Lab]	(1) 1 L polyethelyene	Cool to 4°C	MCAWW Method 310.1	1 mg/L	14 days*
			6	Sulfate [DESA Lab]	(1) 1 L polyethelyene	Cool to 4°C	EPA 300.1	1 mg/L	28 days*
			6	Sulfide [DESA Lab]	(1) 1 L polyethelyene	NaOH to pH >12; 4 drops of zinc acetate per liter; Cool to 4°C	MCAWW Method 376.1	1 mg/L	7 days*
			6	Nitrate [DESA Lab]	(1) 1 L polyethelyene	Cool to 4°C	EPA 300.1	0.05 mg/L	48 hours*
			6	Chloride [DESA Lab]	(1) 1 L polyethelyene	Cool to 4°C	EPA 300.1	1 mg/L	28 days*
			6	Ferrous Iron [Sub Lab]	(1) 100 mL amber glass	2mL HCl; Cool to 4°C	Std. Methods Method 3500Fe-D	10 µg/L	24 hours*
			6	Ethane [Sub Lab]	(5) 40-mL VOA vials w/Teflon lined septum	Cool to 4°C	GC/FID (SW-846 Method 3810)	5 µg/L	7 days*
			6	Ethene [Sub Lab]	(5) 40-mL VOA vials w/Teflon lined septum	Cool to 4°C	GC/FID (SW-846 Method 3810)	5 µg/L	7 days*
			6	Methane [Sub Lab]	(5) 40-mL VOA vials w/Teflon lined septum	Cool to 4°C	GC/FID (SW-846 Method 3810)	5 µg/L	7 days*

TABLE 1

SAMPLE COLLECTION AND ANALYSIS PROTOCOLS
312 Fair Oak Street, Little Valley, New York

Sample Type	*Matrix*	*Sampling Device*	*No. of Samples* [1][2]	*Parameter*	*Sample Container* [3][4]	*Sample Preservation*	*Analytical Method* [5]	*PQL*	*Holding Time* [6]
Field Blank	Water	Collected Rinsate Passed Over/Through Sampling Equipment	1	Low Concentration TCL Volatile Organic Compounds [CLP Lab]	(4) 40-mL VOA vials w/Teflon lined septum	1:1 HCl to pH<2; Cool to 4°C	SOM01.1	Compound specific (0.5 - 20 µg/L)	10 days
Trip Blank	Water	Direct Fill of Sample Bottles	1	Low Concentration TCL Volatile Organic Compounds [CLP Lab]	(4) 40-mL VOA vials w/Teflon lined septum	1:1 HCl to pH<2; Cool to 4°C	SOM01.1	Compound specific (0.5 - 20 µg/L)	10 days
			6	Ethane [Sub Lab]	(5) 40-mL VOA vials w/Teflon lined septum	Cool to 4°C	GC/FID (SW-846 Method 3810)	5 µg/L	7 days*
			6	Ethene [Sub Lab]	(5) 40-mL VOA vials w/Teflon lined septum	Cool to 4°C	GC/FID (SW-846 Method 3810)	5 µg/L	7 days*
			6	Methane [Sub Lab]	(5) 40-mL VOA vials w/Teflon lined septum	Cool to 4°C	GC/FID (SW-846 Method 3810)	5 µg/L	7 days*

NOTES:
1. The number in parentheses in the "No. of Samples" column denotes the number of duplicate samples.
2. The number of field, trip and DI water blanks is estimated based on the approximate number of days in the field for each type of sampling during the MNA Program events.
3. The number in parentheses in the "Sample Container" column denotes the number of containers needed. Additional volume must be sent for laboratory QA/QC sample analyses.
4. All bottles will comply with OSWER Directive 9240.0-05A: "Specifications and Guidance for Obtaining Contaminant-Free Sample Containers", EPA 540/R-93/051, December 1992.
5. Method References:
   SOM01.1 = USEPA Contract Laboratory Program Statement of Work for Multi-Media, Multi-Concentration Organics (May 2005 or latest revision).
   MCAWW = Methods for Chemical Analysis of Water and Wastes, March 1983.
   Std. Methods = Standard Methods for the Examination of Water and Wastewater, 20th Edition (January 2000).
   SW-846 = Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (November 1986, revised through November 2000 via Updates I through IVB).
   EPA300.1 = Determination of Inorganic Anions in Drinking Water by Ion Chromatography, Revision I (27 April 1999).
   EPA/600/R-98128 = Technical Protocol for Evaluating Natural Attenuation of Chlorinated Solvents in Groundwater (September 1998).
6. All holding times listed are from Verified Time of Sample Receipt (VTSR) unless noted otherwise (* denotes from time of sample collection).
7. Acronyms/Abbreviations used:
   CLP = Contract Laboratory Program
   DESA = Division of Environmental Science and Assessment
   DO = Dissolved Oxygen
   ORP = Oxidation-Reduction Potential
   PQL = Practical Quantitation Limit
   Sub Lab = Non-RAS Subcontract Laboratory
   TCL = Target Compound List
   VOA = Voalitle Organic Analysis

TABLE 2
MONITORING WELL PURGE SUMMARY
312 Fair Oak Street
Little Valley, New York

Time	Cumulative Volume (L)	Temperature (degrees C)	pH	Specific Conductance (us/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)
MW-2						
12:25	Begin Purge					
12:35	3.5	11.14	6.93	0.350	0.92	147
12:40	5.3	11.11	6.97	0.351	0.82	150
12:45	7.0	11.22	6.97	0.352	0.80	151
12:50	8.7	11.23	6.98	0.353	0.78	152
MW-3						
9:22	Begin Purge					
9:30	2.4	11.27	6.60	0.323	4.66	215
9:35	3.9	11.23	6.59	0.321	4.62	146
9:40	5.4	11.13	6.63	0.318	4.53	213
9:45	6.9	11.13	6.65	0.317	4.50	212
9:50	8.4	11.14	6.67	0.317	4.48	211
MW-5						
15:05	Begin Purge					
15:15	3.5	14.12	6.14	0.164	0.58	162
15:20	5.3	14.13	6.24	0.165	0.59	165
15:25	7	14.12	6.29	0.167	0.66	167
15:30	8.7	14.13	6.30	0.167	0.66	165
MW-6						
17:45	Begin Purge					
17:55	3.5	13.54	6.20	0.188	1.370	80
18:00	5.3	13.54	6.20	0.189	1.260	77
18:05	7.0	13.51	6.21	0.197	0.630	60
18:10	8.7	13.50	6.21	0.197	0.62	56
MW-D1	**Less than 1 foot water in well, no sample collected**					
MW-D2						
16:25	Begin Purge					
16:30	1.8	9.77	6.95	0.315	3.50	196
16:35	3.5	9.68	6.95	0.309	3.34	194
16:40	5.3	9.58	6.98	0.281	2.76	190
16:45	7.0	9.55	7.00	0.276	2.63	188
16:50	8.7	9.56	6.99	0.276	2.62	187

TABLE 3
GROUNDWATER ELEVATION SUMMARY
312 Fair Oak Street
Little Valley, New York

Well ID	Measuring Point Elevation (fasl)	DTW (ft.) 9/19/13	Groundwater Elevation (fasl)
MW-2	1590.18	39.76	1550.42
MW-3	1591.37	55.20	1536.17
MW-5	1590.44	6.98	1583.46
MW-6	1584.99	3.71	1581.28
MW-D1	1590.31	50.52	1539.79
MW-D2	1584.17	40.10	1544.07

Notes:
DTW- depth to water
fasl- feet above sea level

TABLE 4
VALIDATED GROUNDWATER ANALYTICAL SUMMARY
312 Fair Oak Street
Little Valley, New York

Sample ID:	*LVRA07-MNAGW-MW2*	*LVRA07-MNAGW-MW3*	*LVRA07-MNAGW-MW5*	*LVRA07-MNAGW-MW6*	*LVRA07-MNAGW-MWD2*	*LVRA03- MNAGW-DUP (1)*
Date Sampled:	*09/19/13*	*09/19/13*	*09/19/13*	*09/19/13*	*09/19/13*	*09/19/13*
Volatile Organic Compounds (ug/L)						
1,1,1-Trichloroethane	1U	1U	1U	1U	1U	1U
1,1,2,2-Tetrachloroethane	1U	1U	1U	1U	1U	1U
1,1,2-Trichloro-1,2,2,-trifluoroethane	1U	1U	1U	1U	1U	1U
1,1,2-Trichloroethane	1U	1U	1U	1U	1U	1U
1,1-Dichloroethane	1U	1U	1U	1U	1U	1U
1,1-Dichloroethene	**0.57 J**	1U	1U	1U	1U	1U
1,2-Dibromo-3-Chloropropane	1U	1U	1U	1U	1U	1U
1,2-Dibromoethane	1U	1U	1U	1U	1U	1U
1,2-Dichlorobenzene	1U	1U	1U	1U	1U	1U
1,2-Dichloroethane	1U	1U	1U	1U	1U	1U
1,2,4-Trichlorobenzene	1U	1U	1U	1U	1U	1U
1,2-Dichloropropane	1U	1U	1U	1U	1U	1U
1,4-Dichlorobenzene	1U	1U	1U	1U	1U	1U
2-Hexanone	5U	5U	5U	5U	5U	5U
2-Butanone	10U	10U	10U	10U	10U	10U
4-Methyl-2-pentanone	5U	5U	5U	5U	5U	5U
Acetone	10U	10U	10U	10U	10U	10U
Benzene	1U	1U	1U	1U	1U	1U
1,3-Dichlorobenzene	1U	1U	1U	1U	1U	1U
Bromodichloromethane	1U	1U	1U	1U	1U	1U
Bromoform	1U	1U	1U	1U	1U	1U
Bromomethane	1U	1U	1U	1U	1U	1U
Carbon Disulfide	1U	1U	1U	1U	1U	1U
Carbon Tetrachloride	1U	1U	1U	1U	1U	1U
Chlorobenzene	1U	1U	1U	1U	1U	1U
Dibromochloromethane	1U	1U	1U	1U	1U	1U
Chloroethane	1U	1U	1U	1U	1U	1U
Chloroform	1U	1U	1U	1U	1U	1U
Chloromethane	1U	1U	1U	1U	1U	1U
cis-1,2-Dichloroethene	**28**	1U	1U	**14**	**17**	**17**
cis-1,3-Dichlroropropene	1U	1U	1U	1U	1U	1U
Ethylbenzene	1U	1U	1U	1U	1U	1U
Methylene Chloride	1U	1U	1U	1U	1U	1U
Styrene	1U	1U	1U	1U	1U	1U
Tetrachloroethene	1U	1U	1U	1U	1U	1U
Toluene	1U	1U	1U	1U	1U	1U
trans-1,2,-Dichloroethene	1U	1U	1U	1U	1U	1U
trans-1,3-Dichloropropene	1U	1U	1U	1U	1U	1U
Trichloroethene	**61**	**3.9**	1U	**2.2**	**88**	**87**
Trichlorofluoromethane	1U	1U	1U	1U	1U	1U
Vinyl Chloride	**1.3**	1U	1U	**1.0**	1U	1U
Total Xylenes	2U	2U	2U	2U	2U	2U
Cyclohexane	1U	1U	1U	1U	1U	1U
Dichlorodifluoromethane	1U	1U	1U	1U	1U	1U
Isopropylbenzene	1U	1U	1U	1U	1U	1U
Methyl acetate	1U	1U	1U	1U	1U	1U
Methyl-tert-butyl ether	1U	1U	1U	1U	1U	1U
Methylcyclohexane	1U	1U	1U	1U	1U	1U
Monitored Natural Attenuation Parameters (mg/L)						
Chloride	16.7	20.3	14.2	10.9	20.2	20.2
Ethane	0.00049 J	0.0075 U	0.0075 U	0.0075 U	0.0075 U	0.0075 U
Ethene	0.007U	0.007 U	0.007 U	0.007 U	0.007 U	0.007 U
Ferrous Iron	0.10 U	0.10U	0.10U	0.08 J	0.10U	0.10U
Methane	0.075	0.004 U	0.004 U	0.10	0.004 U	0.004 U
Nitrate	0.052	1.2	0.051	0.034 J	0.22	0.22
Sulfate	17.5	10.6	5.4	10.6	15.4	14.2
Sulfide	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Alkalinity	201	165	68.5	92.2	141	142
Total Organic Carbon	0.82 J	0.44 J	0.69 J	1.3	1.0U	1.0U

Notes:

U = Compound not detected above specified laboratory detection limit

J= Laboratory estimated concentration

(1) Duplicate sample collected at LVRA07-MNAGW-MW-D2 location

TABLE 5
Comparison Criteria for Detected Constituents in Groundwater

BASIS FOR CRITERIA	HUMAN HEALTH	STATE
	EPA Maximum Contaminant Level	NYSDEC Water Quality Values [Class GA]
Volatile Organics (ug/L)		
1,1,2-Trichloroethane	200	5
1,1-Dichloroethene	7	5
1,2,3-Trichlorobenzene	NC	5
1,2,4-Trichlorobenzene	70	5
1,2-Dichlorobenzene	600	3
1,2-Dichloroethane	5	0.6
1,2-Dichloroethene (total)	70	5
cis-1,2-Dichloroethene	70	5
trans-1,2-Dichloroethene	100	5
1,2-Dichloropropane	5	1
1,3-Dichlorobenzene	NC	3
1,4-Dichlorobenzene	75	3
2-Hexanone	NC	50
Acetone	NC	50
Benzene	5	1
Carbon disulfide	NC	60
Chlorobenzene	100	5
Chloroethane	NC	5
Cyclohexane	NC	NC
Ethylbenzene	700	5
Methyl chloride (Chloromethane)	NC	5
Methyl ethyl ketone (2-Butanone)	NC	50
Methyl isobutyl ketone (4-Methyl-2-pentanone)	NC	NC
Methylcyclohexane	NC	NC
Styrene	100	5
Tetrachloroethene	5	5
Toluene	1000	5
Trichloroethene	5	5
m/p-Xylene	10000	5
Xylenes (total)	10000	5

TABLE 6
Historical Summary of Detected Groundwater Constituents in MNA Wells
312 Fair Oak Street

	BIAMW-2															
	05/05/1999	05/05/1999 Duplicate	12/14/1999	12/14/1999 Duplicate	01/10/2001	12/11/2003	10/31/2006	10/31/2006 Duplicate	09/25/2007	09/25/2008	09/22/2009	09/21/2010	09/28/2011	09/26/2012	09/26/2012 Duplicate	09/19/2013
Volatile Organics (ug/L)																
1,1,2-Trichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene	1 J	--	0.7 J	0.7 J	--	0.63	0.8	0.89	0.73	0.6	0.58 J	0.51 J	--	0.62 J	0.29 J	0.57 J
1,4-Dichlorobenzene	NA	NA	NA	NA	--	--	0.16 J	0.12 J	--	--	--	--	--	--	--	--
Benzene	0.7 J	--	0.4 J	0.4 J	--	0.32 J	--	--	0.29 J	--	--	--	--	--	--	--
2-Butanone	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	0.8 J	--	--	--	--	--	0.19 J	0.23 J	--	--	--	--	--	--	--	--
1,2-Dichloroethene (total)	54	51	40	42	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	NA	NA	NA	NA	44	40 D	45 D	46 D	54 D	42	29	32	31	31	23	28
trans-1,2-Dichloroethene	NA	NA	NA	NA	--	0.28 J	0.51	0.49 J	0.47 J	--	--	--	--	--	--	--
Ethylbenzene	--	--	--	--	--	--	0.25 J	--	--	--	--	--	--	--	--	--
Isopropylbenzene	NA	NA	NA	NA	NA	--	0.14 J	--	--	--	--	--	--	--	--	--
Toluene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	230	190	84	87	110	36 D	58 D	58 D	69 J	75	77	75	75	79	51	61
Vinyl Chloride	4 J	2 J	1 J	1 J	NA	4.8	4	4.8	4.2	3	0.77 J	2.1	1.2	1.3	--	1.3
m/p-Xylene	NA	NA	NA	NA	NA	NA	0.1 J	--	--	--	--	--	--	--	--	--
MNA/Water Quality Parameters (mg/L)																
Alkalinity	NA	NA	NA	NA	NA	180	190	180	176	194	173	194	189	201	201	201
Chloride	NA	NA	NA	NA	NA	19	26	26	28.4	32.2	25.2	24.1	21.9	19.1	19.1	16.7
Ferrous Iron	NA	NA	NA	NA	NA	--	0.17	0.14	--	--	--	--	--	0.09J	0.09J	0.10 U
Methane	NA	NA	NA	NA	NA	0.54 JD	0.046 J	0.11 J	0.026	0.020	0.009	0.052	0.035	0.0059	0.0059	0.0750
Nitrate	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	0.027 J	0.027 J	0.052
Sulfate	NA	NA	NA	NA	NA	16	17	17	20.5	21.2	16.5	17	16	16.3	16.3	17.5
Sulfide	NA	NA	NA	NA	NA	NA	0.02	0.018	--	--	--	--	--	--	--	--
TOC	NA	NA	NA	NA	NA	2.6	--	--	1.6	--	1.6 J	0.9J	1.1	0.97 J	0.97 J	0.82 J

TABLE 6
Historical Summary of Detected Groundwater Constituents in MNA Wells
312 Fair Oak Street

	BIAMW-3											
	01/09/2001	12/10/2003	10/30/2006	09/25/2007	09/25/2008	09/25/2008 Duplicate	09/22/2009	09/22/2009 Duplicate	09/21/2010	09/28/2011	09/28/2011 Duplicate	09/19/2013
Volatile Organics (ug/L)												
1,1,2-Trichloroethane	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	--	--	0.12 J	--	--	--	--	--	--	--	--	--
2-Butanone	--	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	--	--	0.091 J	--	--	--	--	--	--	--	--	--
1,2-Dichloroethene (total)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	3	2.2	0.36 J	0.86	0.7	0.8	--	--	1	--	--	--
trans-1,2-Dichloroethene	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	--	--	--	--	--	--	--	--	--	--	--	--
Isopropylbenzene	NA	--	--	--	--	--	--	--	--	--	--	--
Toluene	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	8	6.3	2.2	7.9 J	5	6	4.2	3.7	11	3.3	3.3	3.9
Vinyl Chloride	--	--	--	--	--	--	--	--	--	--	--	--
m/p-Xylene	NA	NA	--	--	--	--	--	--	--	--	--	--
MNA/Water Quality Parameters (mg/L)												
Alkalinity	NA	160	260	155	167	168	171	173	155	168	167	165
Chloride	NA	44	78	64.4	46.0	46.3	31.8	32.1	42.3	26.2	26.1	20.3
Ferrous Iron	NA	--	--	0.18	--	--	--	--	--	--	--	--
Methane	NA	0.07 J N	--	--	--	--	--	--	--	--	--	--
Nitrate	NA	1.2	1.9	1.5	1.4	1.3	1.43	1.46	1.04	1.4	1.3	1.2
Sulfate	NA	12	27	23.8	13.8	13.2	11.5	11.0	14.1	10.9	10.8	10.6
Sulfide	NA	NA	0.018	--	--	--	--	--	--	--	--	--
TOC	NA	--	26	1.4	--	--	--	--	0.4J	1.0U	1.0U	0.44 J

TABLE 6
Historical Summary of Detected Groundwater Constituents in MNA Wells
312 Fair Oak Street

	BIAMW-5									
	12/13/1999	01/04/2001	10/30/2006	09/25/2007	09/25/2008	09/22/2009	12/15/2010	09/28/2011	09/26/2012	09/19/2013
Volatile Organics (ug/L)										
1,1,2-Trichloroethane	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	NA	--	--	--	--	--	--	--	--	--
Benzene	--	--	0.23 J	--	--	--	--	--	--	--
2-Butanone	--	--	--	--	--	3.6 J	--	--	--	--
Chloroethane	--	--	0.13 J	--	--	--	--	--	--	--
1,2-Dichloroethene (total)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	NA	--	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene		--	--	--	--	--	--	--	--	--
Ethylbenzene	--	--	0.13 J	--	--	--	--	--	--	--
Isopropylbenzene	NA	NA	--	--	--	--	--	--	--	--
Toluene	--	--	--	--	--	5.5	--	--	--	--
Trichloroethene	--	--	--	--	--	--	--	--	--	--
Vinyl Chloride	--	--	--	--	--	--	--	--	--	--
m/p-Xylene	NA	NA	--	--	--	--	--	--	--	--
MNA/Water Quality Parameters (mg/L)										
Alkalinity	NA	NA	70	65	65.4	61.8	60.0	66.0	64.8	68.5
Chloride	NA	NA	11	38.4	23.3	12	9.49	11.6	17.2	14.2
Ferrous Iron	NA	NA	0.18	--	--	--	--	--	0.077J	--
Methane	NA	NA	--	0.0061	--	0.00031 J	--	--	--	--
Nitrate	NA	NA	0.73	--	--	--	1.07	0.31	0.14	0.051
Sulfate	NA	NA	6.7	7.4	6.4	5.31	6.92	5.4	6.9	5.4
Sulfide	NA	NA	--	--	--	--	--	--	--	--
TOC	NA	NA	--	1.3	--	1.1 J	1.2	0.79J	0.86 J	0.69 J

TABLE 6
Historical Summary of Detected Groundwater Constituents in MNA Wells
312 Fair Oak Street

	BIAMW-6									
	12/13/1999	01/10/2001	10/30/2006	09/25/2007	09/25/2008	09/22/2009	09/21/2010	09/28/2011	09/26/2012	09/19/2013
Volatile Organics (ug/L)										
1,1,2-Trichloroethane	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene	--	--	--	0.66	--	--	--	--	--	--
1,4-Dichlorobenzene	NA	--	--	--	--	--	--	--	--	--
Benzene	--	--	--	--	--	--	--	--	--	--
2-Butanone	--	--	--	--	--	--	--	--	--	--
Chloroethane	--	--	0.11 J	--	--	--	--	--	--	--
1,2-Dichloroethene (total)	30	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	NA	44	35 D	120	39	26	27	13	5.8	14
trans-1,2-Dichloroethene	NA	--	0.48 J	0.31 J	--	--	--	--	--	--
Ethylbenzene	--	--	--	--	--	--	--	--	--	--
Isopropylbenzene	NA	NA	--	--	--	--	--	--	--	--
Toluene	--	--	--	--	--	--	--	--	--	--
Trichloroethene	17	37	19	1.6 J	3	3.7	2.1	1.1	0.60 J	2.2
Vinyl Chloride	4 J	--	--	9.5 J	5	2.5	2.6	0.99J	--	1.0
m/p-Xylene	NA	NA	--	--	--	--	--	--	--	--
MNA/Water Quality Parameters (mg/L)										
Alkalinity	NA	NA	88	75	86.1	92	89.8	61.5	58.7	92.2
Chloride	NA	NA	13	32.9	17.8	11.3	13.3	6.5	6.8	10.9
Ferrous Iron	NA	NA	--	--	--	--	--	--	--	0.08 J
Methane	NA	NA	0.082 J	0.098	0.064	0.098	0.037	0.020	0.0013J	0.10
Nitrate	NA	NA	--	--	--	--	0.054	--	--	0.034 J
Sulfate	NA	NA	11	19.4	10.1	10.9	10.6	9.4	9.0	10.6
Sulfide	NA	NA	--	--	--	--	--	--	--	--
TOC	NA	NA	--	1.7	--	2.5 J	1.6	2.6	1.7	1.3

TABLE 6
Historical Summary of Detected Groundwater Constituents in MNA Wells
312 Fair Oak Street

	BIAMW-D1					
	12/13/1999	01/10/2001	12/10/2003	10/31/2006	09/22/2009	09/21/2010
Volatile Organics (ug/L)						
1,1,2-Trichloroethane	--	--	--	--	--	--
1,1-Dichloroethene	--	--	--	--	--	--
1,4-Dichlorobenzene	NA	--	--	--	--	--
Benzene	--	--	--	--	--	--
2-Butanone	--	--	--	--	--	--
Chloroethane	--	--	--	--	--	--
1,2-Dichloroethene (total)	4 J	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	NA	8	4.8	0.42 J	0.92 J	--
trans-1,2-Dichloroethene	NA	--	--	0.55	--	--
Ethylbenzene	--	--	--	--	--	--
Isopropylbenzene	NA	NA	--	--	--	--
Toluene	--	--	--	--	--	--
Trichloroethene	9 J	18	12	1.8	6.7	2.2
Vinyl Chloride	--	--	--	0.16 J	--	--
m/p-Xylene	NA	NA	NA	--	--	--
MNA/Water Quality Parameters (mg/L)						
Alkalinity	NA	NA	190	200	151	165
Chloride	NA	NA	42	55	23.8	50.4
Ferrous Iron	NA	NA	--	--	--	--
Methane	NA	NA	0.06 J N	--	--	--
Nitrate	NA	NA	1.4	2.7	1.6	2.67
Sulfate	NA	NA	13	11	11.7	11.5
Sulfide	NA	NA	NA	--	--	--
TOC	NA	NA	--	--	1.0 J	0.8J

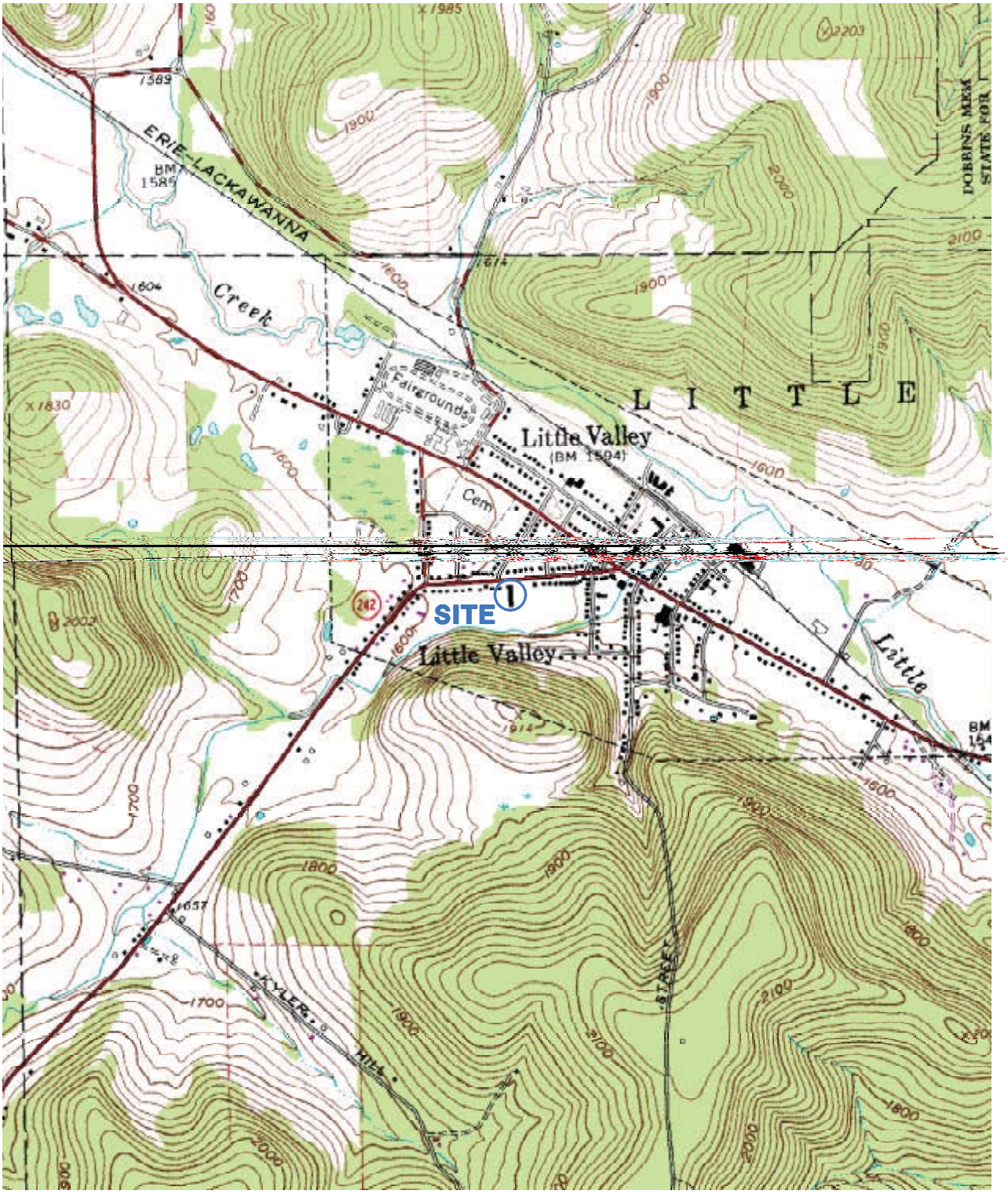
TABLE 6
Historical Summary of Detected Groundwater Constituents in MNA Wells
312 Fair Oak Street

	BIAMW-D2											
	12/14/1999	01/10/2001	01/10/2001 Duplicate	12/11/2003	10/30/2006	09/25/2007	09/25/2007 Duplicate	09/25/2008	09/22/2009	09/21/2010	09/26/2012	09/19/2013
Volatile Organics (ug/L)												
1,1,2-Trichloroethane	--	--	--	--	0.084 J	--	--	--	--	--	--	--
1,1-Dichloroethene	0.4 J	--	--	0.81	0.54	0.44 J	0.47 J	--	0.71 J	0.71 J	--	--
1,4-Dichlorobenzene	NA	--	--	--	--	--	--	--	--	--	--	--
Benzene	--	--	--	--	--	--	--	--	--	--	--	--
2-Butanone	--	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	--	--	--	--	0.11 J	--	--	--	--	--	--	--
1,2-Dichloroethene (total)	16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	NA	36	29	18 D	26 D	33	33	25	32	16	19	17
trans-1,2-Dichloroethene	NA	--	--	--	0.71	0.31 J	0.23 J	--	--	--	--	--
Ethylbenzene	--	--	--	--	--	--	--	--	--	--	--	--
Isopropylbenzene	NA	NA	NA	--	--	--	--	--	--	--	--	--
Toluene	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	58	140	110	78 D	93 D	110 J	110 J	93	140	72	98	88
Vinyl Chloride	--	--	--	--	--	--	--	--	--	--	--	--
m/p-Xylene	NA	NA	NA	NA	--	--	--	--	--	--	--	--
MNA/Water Quality Parameters (mg/L)												
Alkalinity	NA	NA	NA	130	140	116	116	133	154	126	138	141
Chloride	NA	NA	NA	22	31	37.8	37.8	33.4	27.3	28.1	23.9	20.2
Ferrous Iron	NA	NA	NA	--	--	0.23	--	--	--	--	--	--
Methane	NA	NA	NA	0.07 JN	--	--	--	--	--	--	--	--
Nitrate	NA	NA	NA	0.29	0.34	0.23	0.22	0.24	0.416	0.189	0.20	0.22
Sulfate	NA	NA	NA	15	13	19.8	19.1	16.8	17	13.2	13.3	15.4
Sulfide	NA	NA	NA	NA	0.027	--	--	--	--	--	--	--
TOC	NA	NA	NA	2.4	--	1.8	--	--	0.9 J	1.0U	1.0U	1.0U

Notes:

--	Not detected
J	Estimated concentration.
D	Value derived from dilution analysis.
N	Evidence exists for constituent presence.
NA	Not analyzed.
	Above human health-based values.
	Above state values.
	Above both of the above values.

Figures

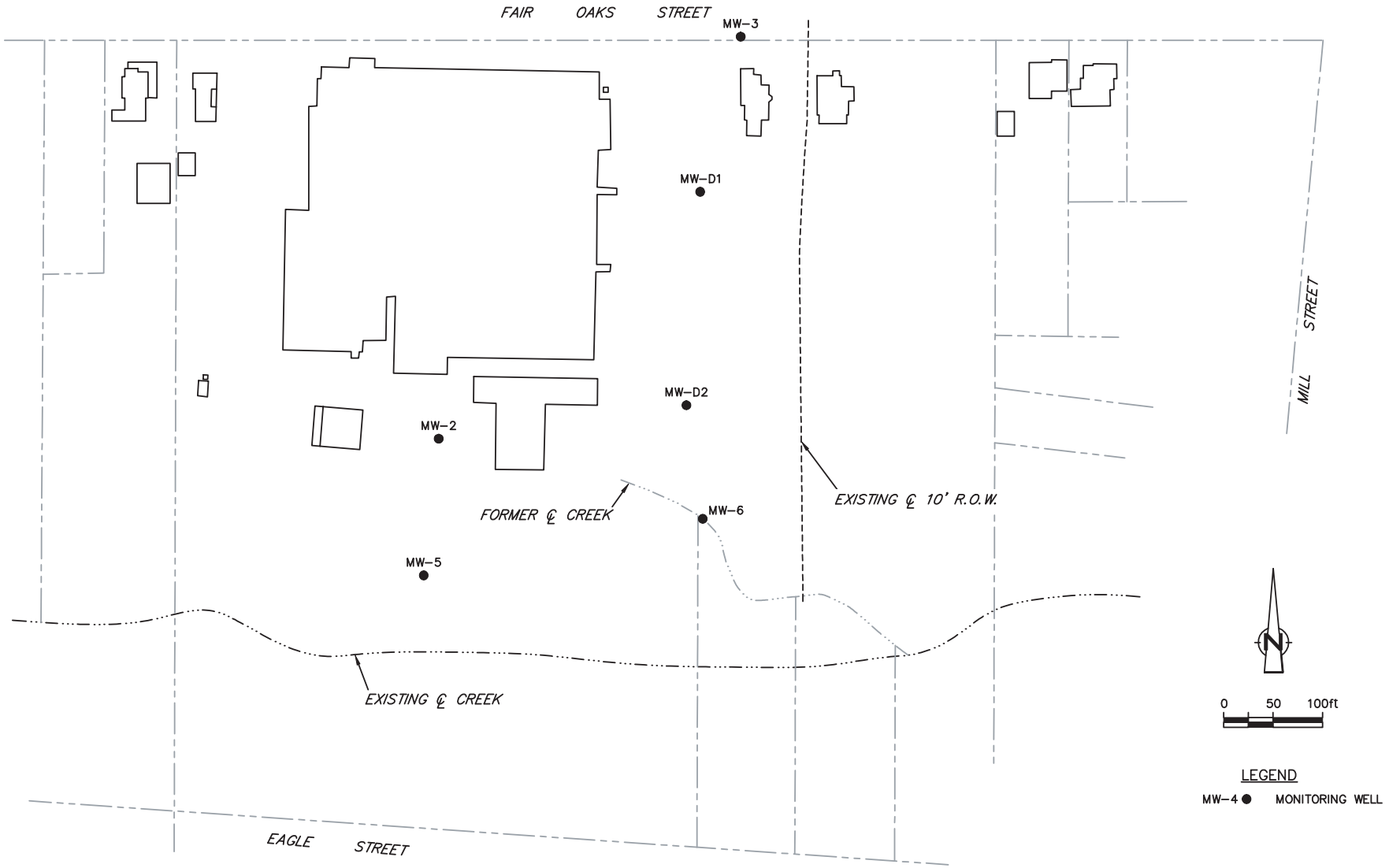


SOURCE:

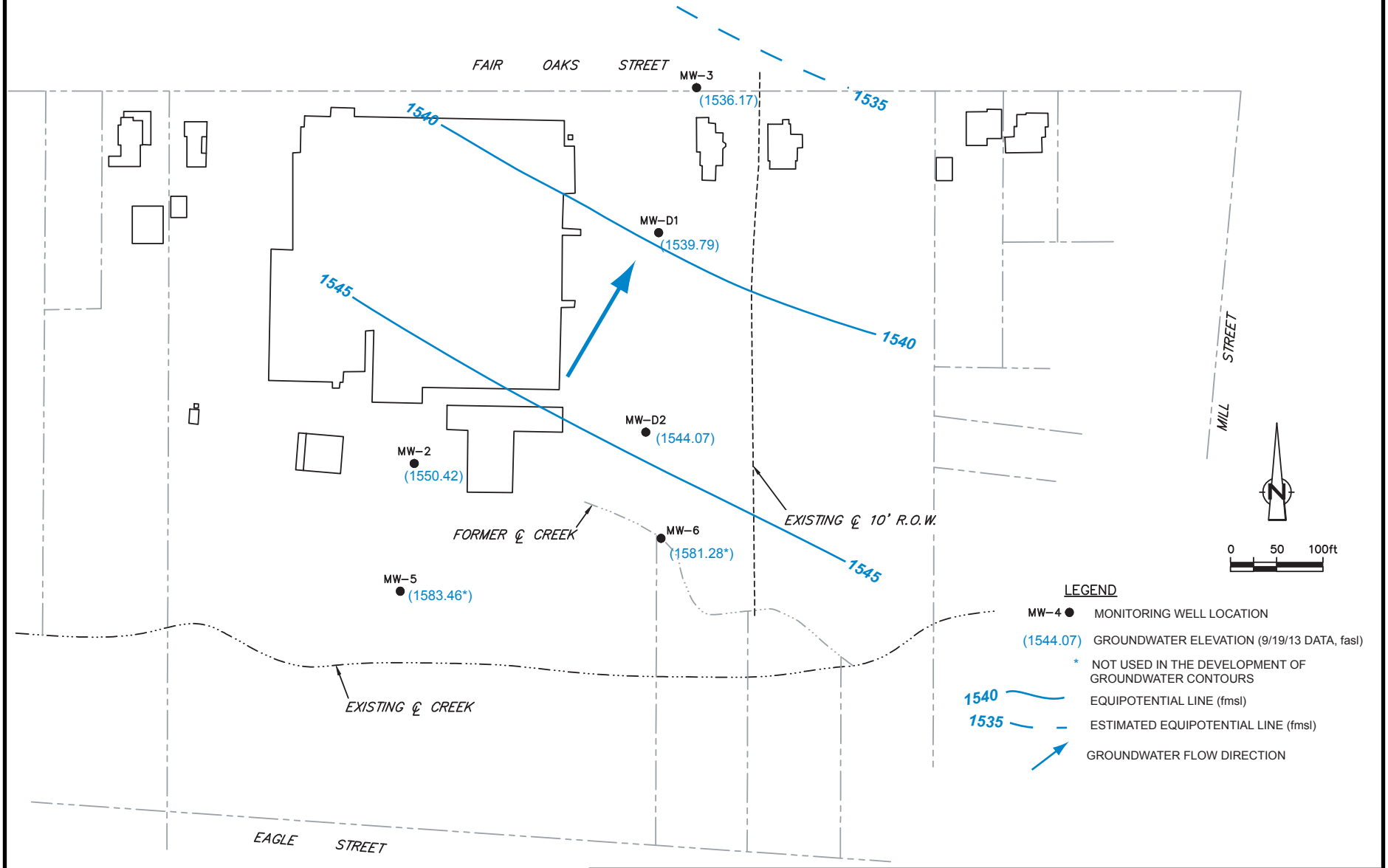
USGS CATTARAUGUS AND LITTLE VALLEY, NEW YORK QUADRANGLES.

N

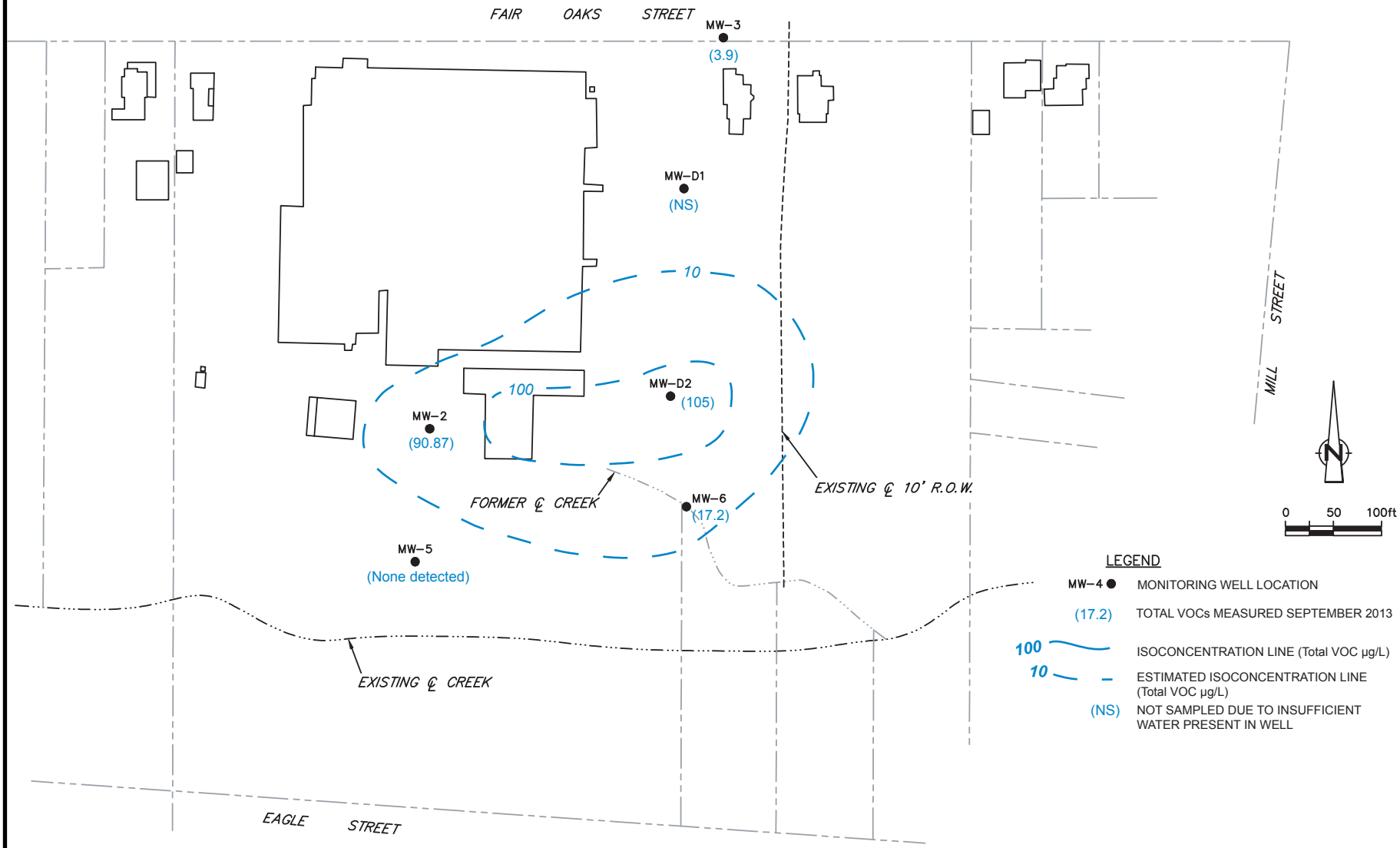
312 Fair Oak Street Little Valley, New York		GEI Consultants	SITE LOCATION
BUSH INDUSTRIES, INC.		Project 128910, task 1000	December 2013 Figure 1



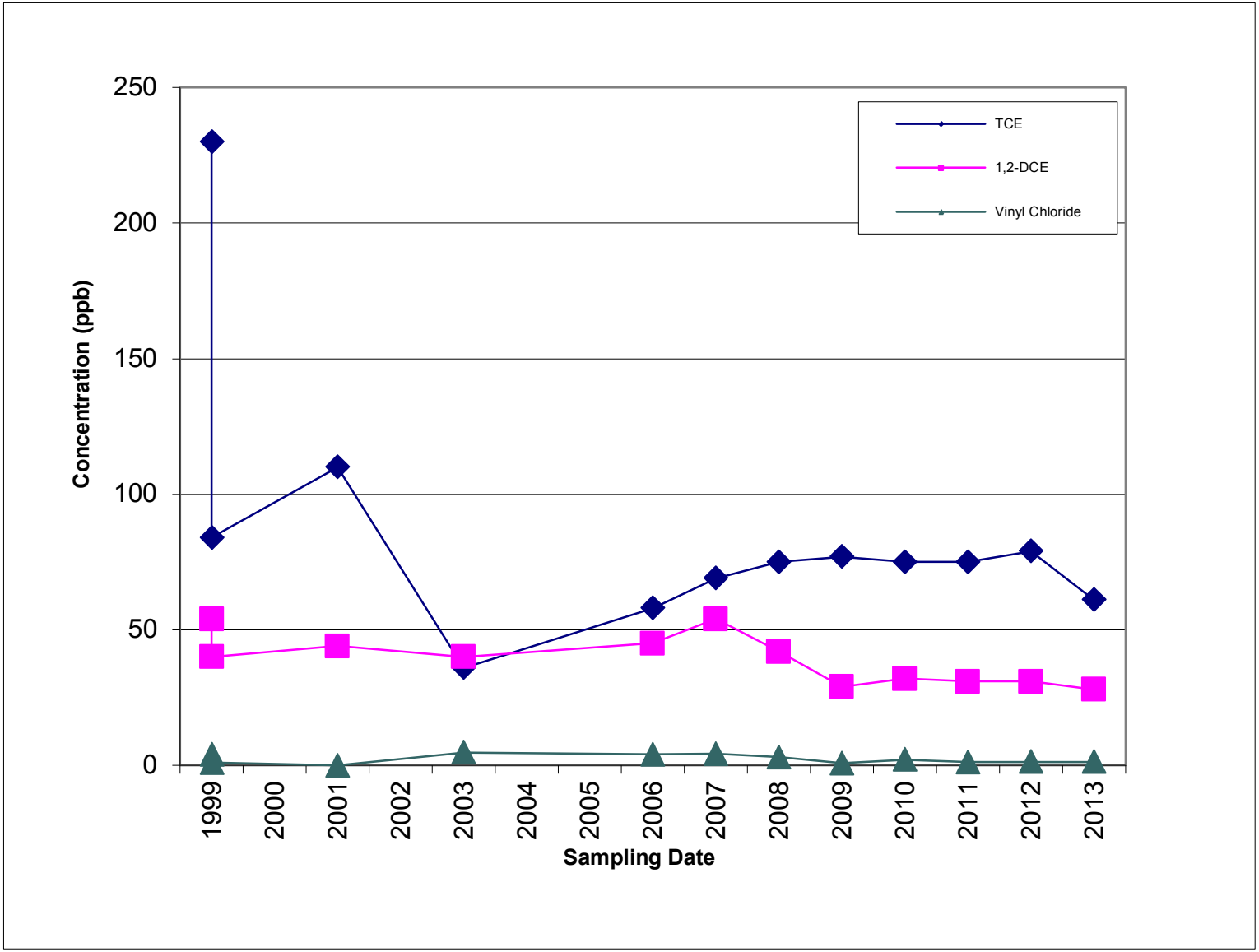
312 Fair Oak Street Little Valley, New York	GEI Consultants	SITE PLAN AND MONITORING WELL LOCATIONS
BUSH INDUSTRIES, INC.	Project 128910, task 1000	December 2013 Figure 2



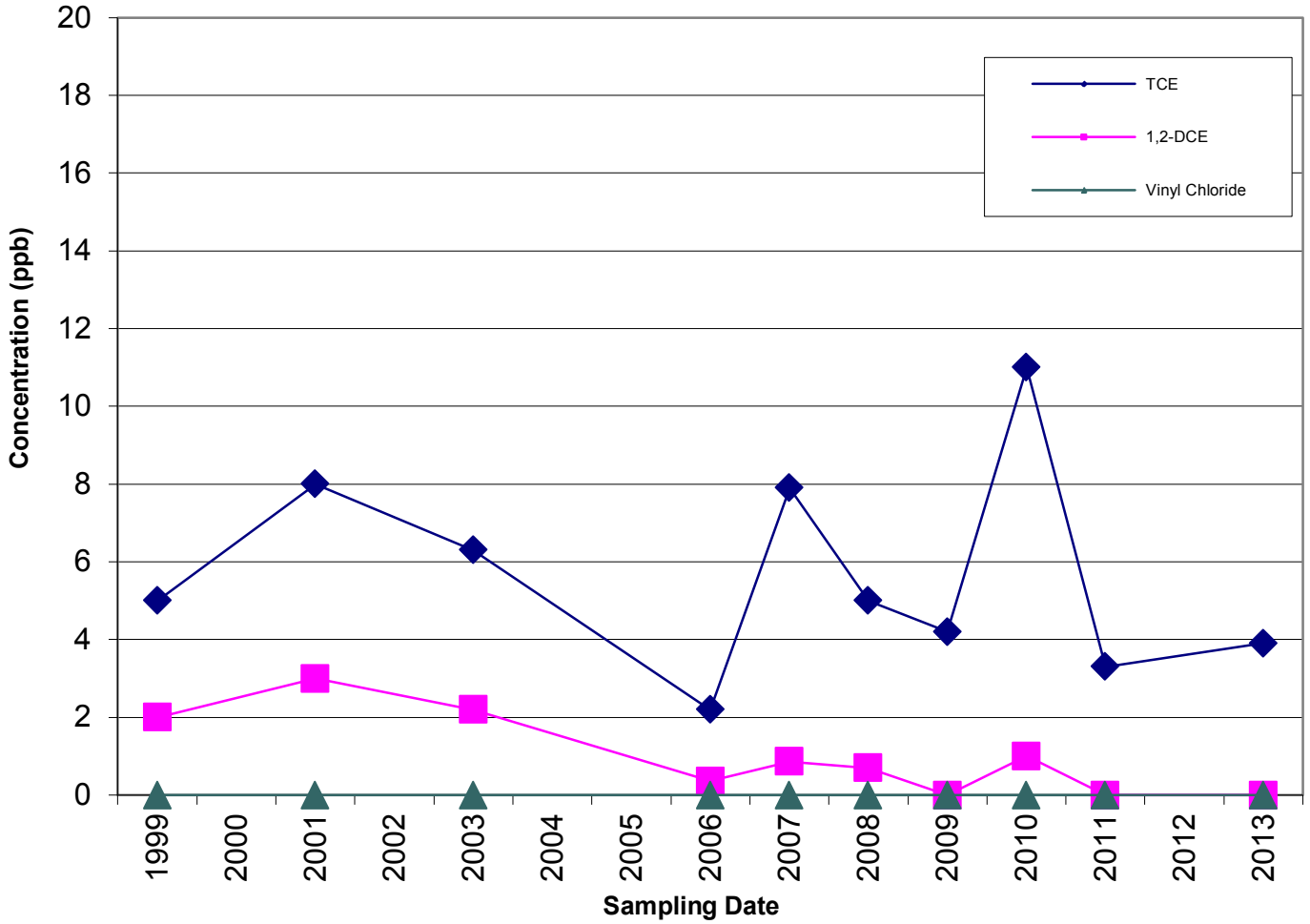
312 Fair Oak Street Little Valley, New York	GEI Consultants	**WATER TABLE ELEVATION CONTOUR MAP**
BUSH INDUSTRIES, INC.		
	Project 128910, task 1000	December 2013 Figure 3



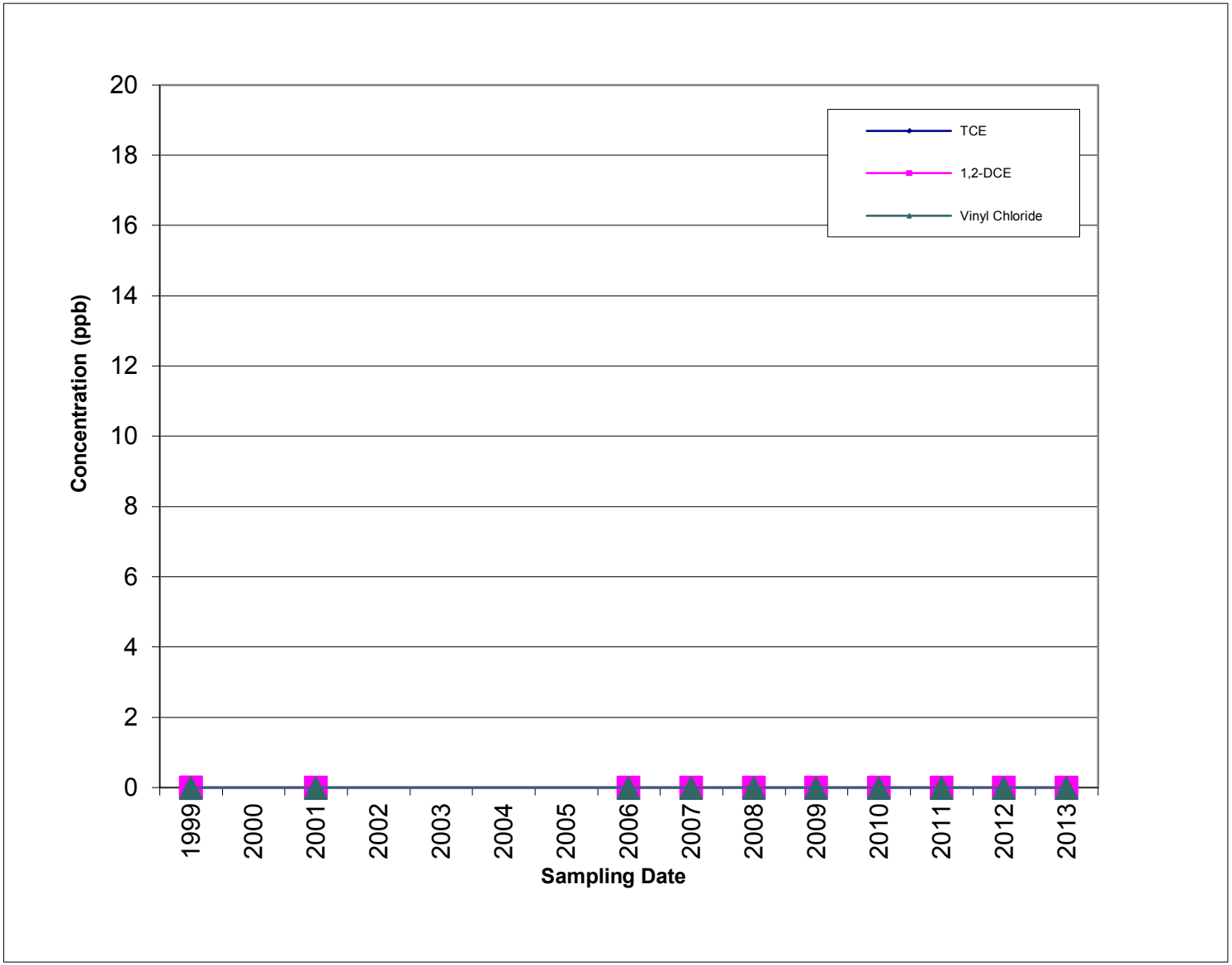
312 Fair Oak Street Little Valley, New York	GEI Consultants	VOLATILE ORGANIC COMPOUND ISOCENTRATION MAP
BUSH INDUSTRIES, INC.	Project 128910, task 1000	December 2013 Figure 4



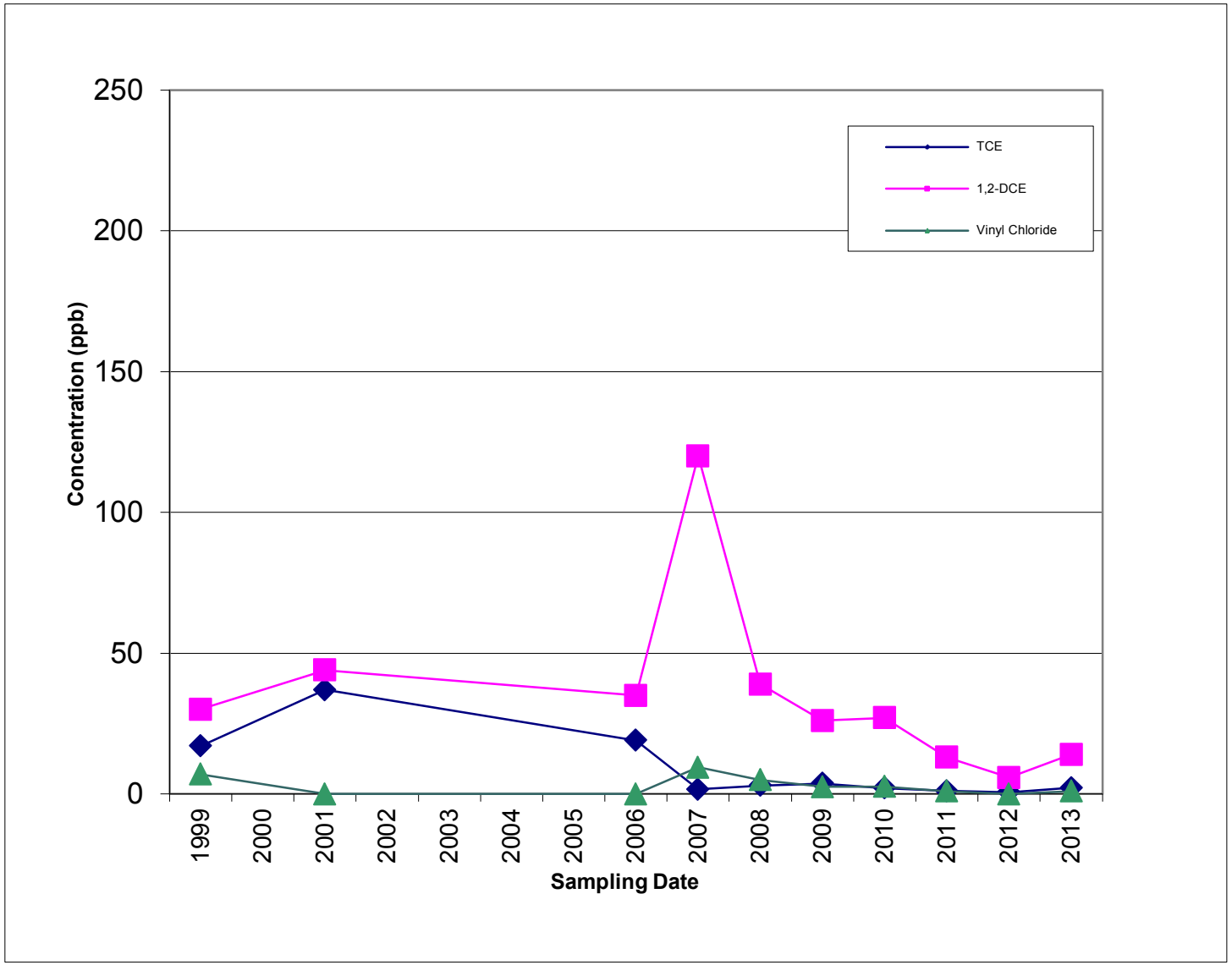
312 Fair Oak Street Little Valley, New York	GEI Consultants	MW-2 VOC TIME-CONCENTRATION PLOT
BUSH INDUSTRIES, INC.	Project 128910, task 1000	December 2013 Figure 5



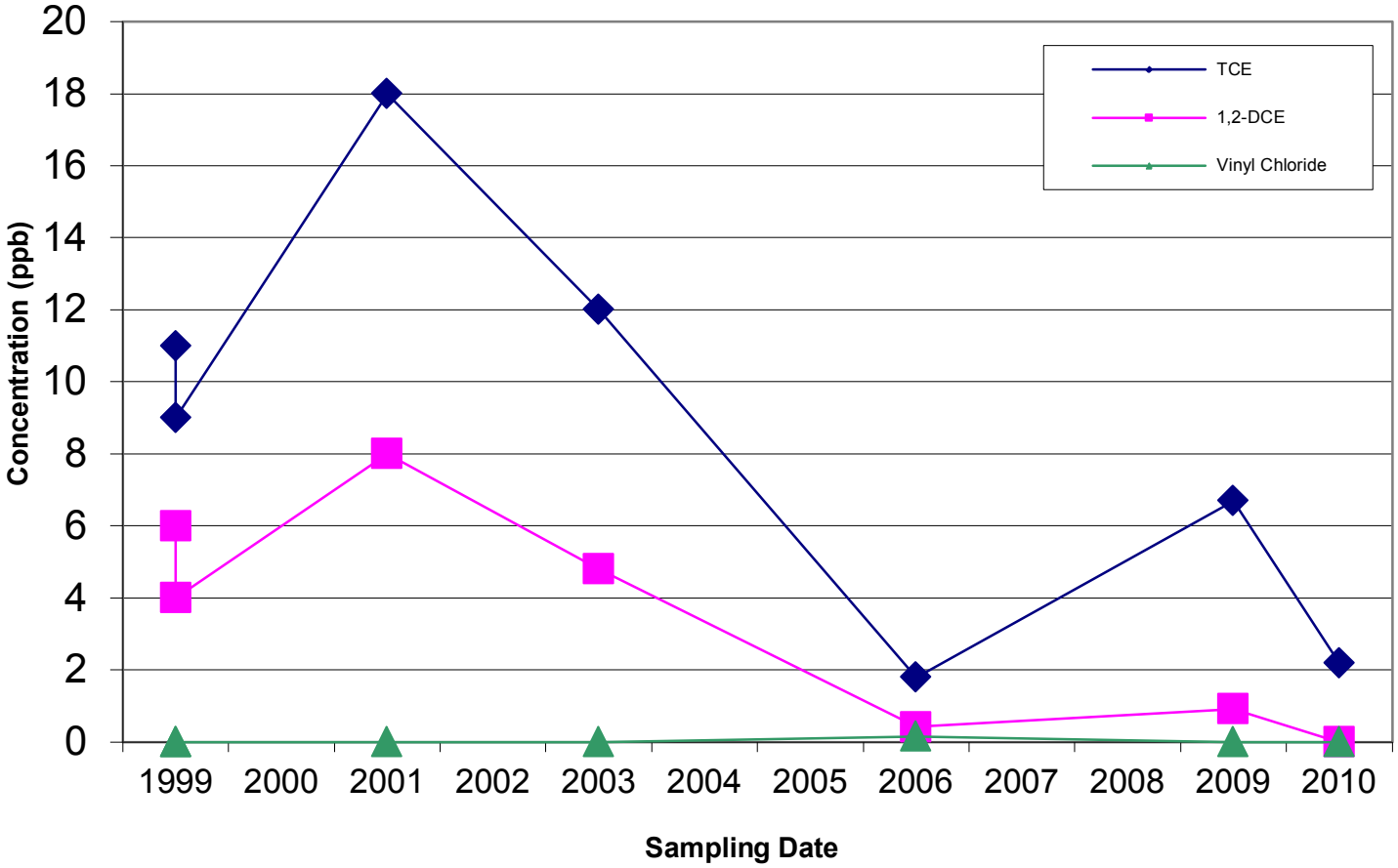
312 Fair Oak Street Little Valley, New York	GEI Consultants	MW-3 VOC TIME-CONCENTRATION PLOT
BUSH INDUSTRIES, INC.	Project 128910, task 1000	December 2013 Figure 6



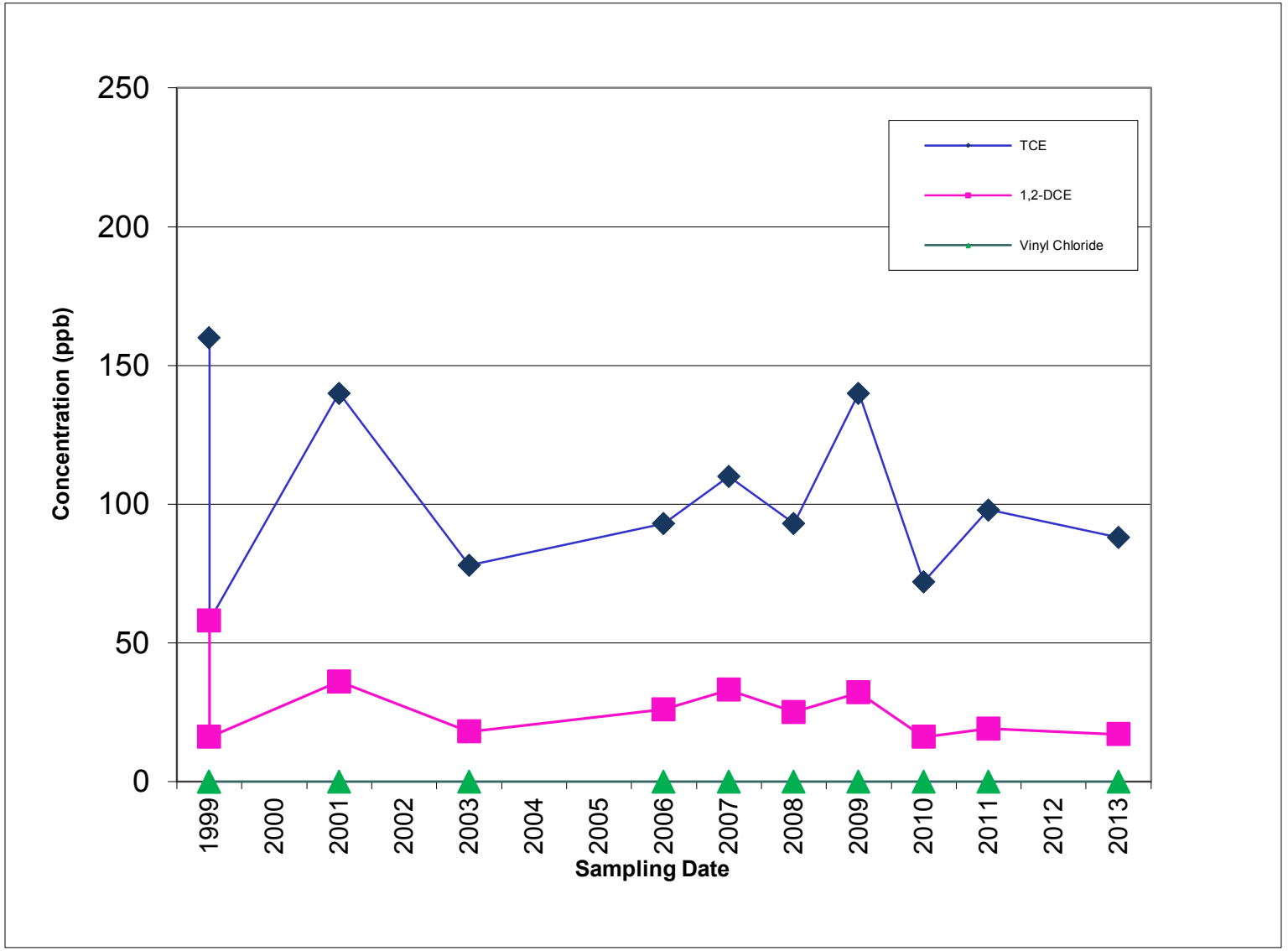
312 Fair Oak Street Little Valley, New York	GEI Consultants	MW-5 VOC TIME-CONCENTRATION PLOT
BUSH INDUSTRIES, INC.	Project 128910, task 1000	December 2013 Figure 7



312 Fair Oak Street Little Valley, New York	GEI Consultants	MW-6 VOC TIME-CONCENTRATION PLOT
BUSH INDUSTRIES, INC.	Project 128910, task 1000	December 2013 Figure 8



312 Fair Oak Street Little Valley, New York	GEI Consultants	MW-D1 VOC TIME-CONCENTRATION PLOT
BUSH INDUSTRIES, INC.	Project 128910, task 1000	December 2013 Figure 9



312 Fair Oak Street Little Valley, New York	GEI Consultants	MW-D2 VOC TIME-CONCENTRATION PLOT
BUSH INDUSTRIES, INC.	Project 128910, task 1000	December 2013 Figure 10

Appendix A

Data Validation Report

DATA USABILITY SUMMARY REPORT
for

Bush Industries

Analyses: Volatiles, Dissolved Gases, Ferrous Iron, Alkalinity, Chloride, Sulfate, Nitrate, Sulfide, Total Organic Carbon

SAMPLE DELIVERY GROUP
480-46182-1

PREPARED FOR:

GEI Consultants, Inc.

Reviewed by:

Reviewed by:

Approved by:

Prepared by

MEC[X]
12269 East Vassar Drive
Aurora, CO 80014

I. INTRODUCTION

Task Order Title:	Bush Industries
Contract Task Order:	1427.001D.00
Sample Delivery Group:	480-46182-1
Project Manager:	Kelly McIntosh
Matrix:	Water
QC Level:	III
No. of Samples:	8
No. of Reanalyses/Dilutions:	0
Laboratory:	TestAmerica-Buffalo

Table 1. Sample Identification

Client ID	Laboratory ID	Matrix	Sample Date	Method
DUP	480-46182-7	Water	9/19/2013	300.0, 353.2, 2320B, 3500FE, 4500-SF, 8260B, 9060, RSK175
LVRA07-MNAGW-MW-2	480-46182-3	Water	9/19/2013	300.0, 353.2, 2320B, 3500FE, 4500-SF, 8260B, 9060, RSK175
LVRA07-MNAGW-MW-3	480-46182-1	Water	9/19/2013	300.0, 353.2, 2320B, 3500FE, 4500-SF, 8260B, 9060, RSK175
LVRA07-MNAGW-MW-5	480-46182-6	Water	9/19/2013	300.0, 353.2, 2320B, 3500FE, 4500-SF, 8260B, 9060, RSK175
LVRA07-MNAGW-MW-6	480-46182-5	Water	9/19/2013	300.0, 353.2, 2320B, 3500FE, 4500-SF, 8260B, 9060, RSK175
LVRA07-MNAGW-MW-D2	480-46182-2	Water	9/19/2013	300.0, 353.2, 2320B, 3500FE, 4500-SF, 8260B, 9060, RSK175
RINSE BLANK	480-46182-4	Water	9/19/2013	8260B, RSK175
TRIP BLANK	480-46182-8	Water	9/19/2013	8260B

II. Sample Management

No anomalies were observed regarding sample management. The samples in this SDG were received at the laboratory within the temperature limits of 4°C ±2°C. Changes to the COC were made by obliterating or overwriting the entry. The changes were not initialed or dated. The COC and sample receipt checklist noted the samples for the dissolved metals method were not field-filtered. The COC was appropriately signed and dated by field and/or laboratory personnel. Custody seals were present and intact on the cooler.

Data Qualifier Reference Table

Qualifier	Organics	Inorganics
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit. The associated value is the quantitation limit or the estimated detection limit for dioxins or PCB congeners.	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit. The associated value is the sample detection limit or the quantitation limit for perchlorate only.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.	The associated value is an estimated quantity.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."	Not applicable.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.	Not applicable.
UJ	The analyte was not deemed 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.	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.

Qualification Code Reference Table

Qualifier	Organics	Inorganics
H	Holding times were exceeded.	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.	The sequence or number of standards used for the calibration was incorrect
C	Calibration %RSD or %D was noncompliant.	Correlation coefficient is <0.995.
R	Calibration RRF was <0.05.	%R for calibration is not within control limits.
B	Presumed contamination as indicated by the preparation (method) blank results.	Presumed contamination as indicated by the preparation (method) or calibration blank results.
L	Laboratory Blank Spike/Blank Spike Duplicate %R was not within control limits.	Laboratory Control Sample %R was not within control limits.
Q	MS/MSD recovery was poor or RPD high.	MS recovery was poor.
E	Not applicable.	Duplicates showed poor agreement.
I	Internal standard performance was unsatisfactory.	ICP ICS results were unsatisfactory.
A	Not applicable.	ICP Serial Dilution %D were not within control limits.
M	Tuning (BFB or DFTPP) was noncompliant.	Not applicable.
T	Presumed contamination as indicated by the trip blank results.	Not applicable.
+	False positive – reported compound was not present.	Not applicable.
-	False negative – compound was present but not reported.	Not applicable.
F	Presumed contamination as indicated by the FB or ER results.	Presumed contamination as indicated by the FB or ER results.
$	Reported result or other information was incorrect.	Reported result or other information was incorrect.
?	TIC identity or reported retention time has been changed.	Not applicable.

Qualification Code Reference Table Cont.

D	The analysis with this flag should not be used because another more technically sound analysis is available.	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.	Post Digestion Spike recovery was not within control limits.
*II, *III	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.

III. Method Analyses

A. EPA Method 8260B - Volatile Organic Compounds (VOCs)

Reviewed By: L. Calvin
Date Reviewed: December 10, 2013

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Volatile Organics (DVP-2, Rev. 0), EPA Method 8260B*, *CLP Organics Data Review and Preliminary Review (9/2006),* and the USEPA Hazardous Waste Support Branch *Validating Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry SW-846 Method 8260B (8/2008)*.

- Holding Times: The preserved water samples were analyzed within 14 days of collection.

- GC/MS Tuning: BFB tune ion abundance summaries were not provided, and were therefore not evaluated.

- Calibration: Initial and continuing calibration summaries were not provided; therefore, initial calibration average RRFs and %RSDs, and ICV and continuing calibration RRFs and %Ds were not evaluated.

- Blanks: The method blank had no target compound detects above the MDL.

- Blank Spikes and Laboratory Control Samples: A subset of thirteen target compounds was spiked in the LCS. All recoveries were within laboratory-established QC limits.

- Surrogate Recovery: The surrogate recoveries were within laboratory-established QC limits.

- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed on sample LVRA07-MNAGW-MW-2. Chlorobenzene and tetrachloroethene were recovered marginally above the QC limits in both the MS and MSD; however, neither compound was detected in the parent sample; therefore, qualification was not required. Remaining recoveries and all RPDs were within laboratory-established QC limits.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

    - Trip Blanks: Sample Trip Blank was the trip blank identified for the samples in this SDG. The trip blank had no detects reported above the MDL.

- Field Blanks and Equipment Rinsates: Sample Rinse Blank was identified as the equipment rinsate associated with the samples in this SDG. Acetone was detected in this sample but was not detected in the associated site samples. The equipment rinsate had no detects reported above the MDL.

- Field Duplicates: Samples LVRA07-MNAGW-MW-D2 and DUP were identified as the field duplicate pair in this SDG. There were common detects above the reporting limit for cis-1,2-dichloroethene and trichloroethene with calculated RPDs of 0% and 1.1%, respectively. The pair was considered to be in good agreement.

- Internal Standards Performance: The internal standard area counts and retention times for the samples were within the control limits established by the continuing calibration standards: -50%/+100% for internal standard areas and ±30 seconds for retention times.

- Compound Identification: Compound identification was not verified at this level of validation. The laboratory analyzed for volatiles by EPA Method 8260B.

- Compound Quantification: Compound quantitation was not verified at this level of validation. The reporting limits were supported by the laboratory MDLs. Any detect between the MDL and the reporting limit was qualified as estimated, "J," in the samples of this SDG. Reported nondetects are valid to the reporting limit.

- Tentatively Identified Compounds: TICs were not reported by the laboratory for this SDG.

- System Performance: System performance was not evaluated at this level of validation.

B. Method RSK-175-Methane, Ethane, Ethene

Reviewed By: L. Calvin
Date Reviewed: December 10, 2013

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in *MEC^X Data Validation Procedure for Volatile Organics (DVP-2, Rev. 0), MEC^X Data Validation Procedure for Volatile Organics (DVP-2, Rev. 0), Method RSK-175*, *CLP Organics Data Review and Preliminary Review (9/2006), and SW-846 Method 8000 (12/1996)*.

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- Holding Times: The samples in the SDG were analyzed within 14 days of collection.

- GC/MS Tuning: Not applicable to this analysis.

- Calibration: Calibration criteria were met. Initial and continuing calibration summaries were not provided; therefore, initial calibration r^2 values, and ICV and CCV %Ds were not evaluated.

- Blanks: The method blank had no detects above the MDL.
- Blank Spikes and Laboratory Control Samples: Recoveries and RPDs were within the laboratory established QC limits.
- Surrogate Recovery: Surrogates were not utilized in this method.
- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed on sample LVRA07-MNAGW-MW-2. The parent sample concentration of methane exceeded four times the spiked amount; therefore, methane recoveries were not evaluated. The remaining recoveries and RPDs were within the laboratory established QC limits.
- Compound Identification: Compound identification was not verified at this level of validation. The laboratory analyzed for methane, ethane, and ethene by EPA Method RSK-175.
- Compound Quantification and Reported Detection Limits: Compound quantification was not verified at this level of validation. The reporting limits were supported by the laboratory MDL. Any detect between the MDL and the reporting limit was qualified as estimated, "J," in the samples of this SDG. Reported nondetects are valid to the reporting limit.
- System Performance: System performance was not evaluated at this level of validation.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
    - Trip Blanks: This SDG had no identified trip blank for this analysis.
    - Field Blanks and Equipment Rinsates: Sample Rinse Blank was identified as the equipment rinsate associated with the samples in this SDG. The equipment rinsate had no reported detects above the MDL.
    - Field Duplicates and Field Split Samples: Samples LVRA07-MNAGW-MW-D2 and DUP were identified as the field duplicate pair in this SDG. Neither sample had reported detects above the MDL. The pair was considered to be in good agreement.

C. VARIOUS EPA METHODS—General Minerals

Reviewed By: P. Meeks
Date Reviewed: December 10, 2013

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for General Minerals (DVP-6, Rev. 0), EPA Methods 300.0, 353.2, 2320B, 3500FE, 4500-SF, and 9060,* and the *Validation of Metals for the Contract Laboratory Program based on SOW ILMO5.3, SOP Revision 13 (9/2006)*.

- Holding Times: The analytical holding times, 28 days from collection for chloride, sulfate and TOC, 14 days from collection for alkalinity, seven days from collection for sulfide, and 48 hours from collection for nitrate, were met. As per the method, the analytical holding time for ferrous iron is noted as "in field". As the ferrous iron analyses were performed within 24 hours of receipt at the laboratory, no qualifications were required.

- Calibration: Initial calibration, ICV and CCVs were not assessed as the laboratory did not provide summary or raw data.

- Blanks: Method blanks had no detects. CCBs were not assessed as the laboratory did not provide CCB summary data.

- Blank Spikes and Laboratory Control Samples: Recoveries and RPDs were within laboratory-established QC limits.

- Laboratory Duplicates: A laboratory duplicate analysis was performed on LVRA07-MNAGW-MW-2 for sulfide. The RPD was within the laboratory-established QC limit.

- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed on LVRA07-MNAGW-MW-2 for all analytes. All recoveries and RPDs were within the laboratory-established control limits.

- Sample Result Verification: Compound identification was not verified at this level of validation. The sample result summaries were compared to the raw data and no transcription errors were noted.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

    - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples for these analyses.

- Field Duplicates: Field Duplicates: Samples LVRA07-MNAGW-MW-D2 and DUP were identified as the field duplicate pair in this SDG. The samples were considered to be in good agreement as all detects were in common and all RPDs were less than 30%.

Validated Sample Result Forms: 480-46182-1

Analysis Method 300.0

Sample Name: DUP **Matrix:** Water **Result Type:** FS

Lab Sample Name: 480-46182-7 **Sample Date:** 09/19/2013 **Validation Level:** III

Analyte:	CAS No	Result Value	RL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Chloride	16887-00-6	20.2	0.28	MG/L			
Sulfate	14808-79-8	14.2	0.35	MG/L			

Sample Name: LVRA07-MNAGW-MW-2 **Matrix:** Water **Result Type:** FS

Lab Sample Name: 480-46182-3 **Sample Date:** 09/19/2013 **Validation Level:** III

Analyte:	CAS No	Result Value	RL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Chloride	16887-00-6	16.7	0.28	MG/L			
Sulfate	14808-79-8	17.5	0.35	MG/L			

Sample Name: LVRA07-MNAGW-MW-3 **Matrix:** Water **Result Type:** FS

Lab Sample Name: 480-46182-1 **Sample Date:** 09/19/2013 **Validation Level:** III

Analyte:	CAS No	Result Value	RL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Chloride	16887-00-6	20.3	0.28	MG/L			
Sulfate	14808-79-8	10.6	0.35	MG/L			

Sample Name: LVRA07-MNAGW-MW-5 **Matrix:** Water **Result Type:** FS

Lab Sample Name: 480-46182-6 **Sample Date:** 09/19/2013 **Validation Level:** III

Analyte:	CAS No	Result Value	RL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Chloride	16887-00-6	14.2	0.28	MG/L			
Sulfate	14808-79-8	5.4	0.35	MG/L			

Sample Name: LVRA07-MNAGW-MW-6 **Matrix:** Water **Result Type:** FS

Lab Sample Name: 480-46182-5 **Sample Date:** 09/19/2013 **Validation Level:** III

Analyte:	CAS No	Result Value	RL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Chloride	16887-00-6	10.9	0.28	MG/L			
Sulfate	14808-79-8	10.6	0.35	MG/L			

Sample Name: LVRA07-MNAGW-MW-D2 **Matrix:** Water **Result Type:** FS

Lab Sample Name: 480-46182-2 **Sample Date:** 09/19/2013 **Validation Level:** III

Analyte:	CAS No	Result Value	RL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Chloride	16887-00-6	20.2	0.28	MG/L			
Sulfate	14808-79-8	15.4	0.35	MG/L			

Analysis Method 353.2

Sample Name: DUP **Matrix:** Water **Result Type:** FS

Lab Sample Name: 480-46182-7 **Sample Date:** 09/19/2013 **Validation Level:** III

Analyte:	CAS No	Result Value	RL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Nitrate	14797-55-8	0.22	0.020	MG/L	A		

Sample Name: LVRA07-MNAGW-MW-2 **Matrix:** Water **Result Type:** FS

Lab Sample Name: 480-46182-3 **Sample Date:** 09/19/2013 **Validation Level:** III

Analyte:	CAS No	Result Value	RL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Nitrate	14797-55-8	0.052	0.020	MG/L	A		

Sample Name: LVRA07-MNAGW-MW-3 **Matrix:** Water **Result Type:** FS

Lab Sample Name: 480-46182-1 **Sample Date:** 09/19/2013 **Validation Level:** III

Analyte:	CAS No	Result Value	RL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Nitrate	14797-55-8	1.2	0.020	MG/L	A		

Sample Name: LVRA07-MNAGW-MW-5 **Matrix:** Water **Result Type:** FS

Lab Sample Name: 480-46182-6 **Sample Date:** 09/19/2013 **Validation Level:** III

Analyte:	CAS No	Result Value	RL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Nitrate	14797-55-8	0.051	0.020	MG/L	A		

Sample Name: LVRA07-MNAGW-MW-6 **Matrix:** Water **Result Type:** FS

Lab Sample Name: 480-46182-5 **Sample Date:** 09/19/2013 **Validation Level:** III

Analyte:	CAS No	Result Value	RL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Nitrate	14797-55-8	0.034	0.020	MG/L	A J	J	

Sample Name: LVRA07-MNAGW-MW-D2 **Matrix:** Water **Result Type:** FS

Lab Sample Name: 480-46182-2 **Sample Date:** 09/19/2013 **Validation Level:** III

Analyte:	CAS No	Result Value	RL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Nitrate	14797-55-8	0.22	0.020	MG/L	A		

Analysis Method 8260B

Sample Name: DUP **Matrix:** Water **Result Type:** FS

Lab Sample Name: 480-46182-7 **Sample Date:** 09/19/2013 **Validation Level:** III

Analyte:	CAS No	Result Value	RL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,1,1-Trichloroethane	71-55-6	0.82	0.82	UG/L	U	U	
1,1,2,2-Tetrachloroethane	79-34-5	0.21	0.21	UG/L	U	U	
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.31	0.31	UG/L	U	U	
1,1,2-Trichloroethane	79-00-5	0.23	0.23	UG/L	U	U	
1,1-Dichloroethane	75-34-3	0.38	0.38	UG/L	U	U	
1,1-Dichloroethene	75-35-4	0.29	0.29	UG/L	U	U	
1,2,4-Trichlorobenzene	120-82-1	0.41	0.41	UG/L	U	U	
1,2-Dibromo-3-Chloropropane	96-12-8	0.39	0.39	UG/L	U	U	
1,2-Dibromoethane	106-93-4	0.73	0.73	UG/L	U	U	
1,2-Dichlorobenzene	95-50-1	0.79	0.79	UG/L	U	U	
1,2-Dichloroethane	107-06-2	0.21	0.21	UG/L	U	U	
1,2-Dichloropropane	78-87-5	0.72	0.72	UG/L	U	U	
1,3-Dichlorobenzene	541-73-1	0.78	0.78	UG/L	U	U	
1,4-Dichlorobenzene	106-46-7	0.84	0.84	UG/L	U	U	
2-Butanone	78-93-3	1.3	1.3	UG/L	U	U	
2-Hexanone	591-78-6	1.2	1.2	UG/L	U	U	
4-Methyl-2-pentanone	108-10-1	2.1	2.1	UG/L	U	U	
Acetone	67-64-1	3.0	3.0	UG/L	U	U	
Benzene	71-43-2	0.41	0.41	UG/L	U	U	
Bromodichloromethane	75-27-4	0.39	0.39	UG/L	U	U	
Bromoform	75-25-2	0.26	0.26	UG/L	U	U	
Bromomethane	74-83-9	0.69	0.69	UG/L	U	U	
Carbon disulfide	75-15-0	0.19	0.19	UG/L	U	U	
Carbon tetrachloride	56-23-5	0.27	0.27	UG/L	U	U	
Chlorobenzene	108-90-7	0.75	0.75	UG/L	U	U	
Chloroethane	75-00-3	0.32	0.32	UG/L	U	U	
Chloroform	67-66-3	0.34	0.34	UG/L	U	U	
Chloromethane	74-87-3	0.35	0.35	UG/L	U	U	
cis-1,2-Dichloroethene	156-59-2	17	0.81	UG/L			
cis-1,3-Dichloropropene	10061-01-5	0.36	0.36	UG/L	U	U	
Cyclohexane	110-82-7	0.18	0.18	UG/L	U	U	
Dibromochloromethane	124-48-1	0.32	0.32	UG/L	U	U	
Dichlorodifluoromethane	75-71-8	0.68	0.68	UG/L	U	U	
Ethylbenzene	100-41-4	0.74	0.74	UG/L	U	U	
Isopropylbenzene	98-82-8	0.79	0.79	UG/L	U	U	
Methyl acetate	79-20-9	0.50	0.50	UG/L	U	U	
Methyl tert-butyl ether	1634-04-4	0.16	0.16	UG/L	U	U	

Analysis Method 8260B

Methylcyclohexane	108-87-2	0.16	0.16	UG/L	U	**U**
Methylene Chloride	75-09-2	0.44	0.44	UG/L	U	**U**
Styrene	100-42-5	0.73	0.73	UG/L	U	**U**
Tetrachloroethene	127-18-4	0.36	0.36	UG/L	U	**U**
Toluene	108-88-3	0.51	0.51	UG/L	U	**U**
trans-1,2-Dichloroethene	156-60-5	0.90	0.90	UG/L	U	**U**
trans-1,3-Dichloropropene	10061-02-6	0.37	0.37	UG/L	U	**U**
Trichloroethene	79-01-6	87	0.46	UG/L		
Trichlorofluoromethane	75-69-4	0.88	0.88	UG/L	U	**U**
Vinyl chloride	75-01-4	0.90	0.90	UG/L	U	**U**
Xylenes, Total	1330-20-7	0.66	0.66	UG/L	U	**U**

Analysis Method 8260B

Sample Name: LVRA07-MNAGW-MW-2 **Matrix:** Water **Result Type:** FS

Lab Sample Name: 480-46182-3 **Sample Date:** 09/19/2013 **Validation Level:** III

Analyte:	CAS No	Result Value	RL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,1,1-Trichloroethane	71-55-6	0.82	0.82	UG/L	U	U	
1,1,2,2-Tetrachloroethane	79-34-5	0.21	0.21	UG/L	U	U	
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.31	0.31	UG/L	U	U	
1,1,2-Trichloroethane	79-00-5	0.23	0.23	UG/L	U	U	
1,1-Dichloroethane	75-34-3	0.38	0.38	UG/L	U	U	
1,1-Dichloroethene	75-35-4	0.57	0.29	UG/L	J	J	
1,2,4-Trichlorobenzene	120-82-1	0.41	0.41	UG/L	U	U	
1,2-Dibromo-3-Chloropropane	96-12-8	0.39	0.39	UG/L	U	U	
1,2-Dibromoethane	106-93-4	0.73	0.73	UG/L	U	U	
1,2-Dichlorobenzene	95-50-1	0.79	0.79	UG/L	U	U	
1,2-Dichloroethane	107-06-2	0.21	0.21	UG/L	U	U	
1,2-Dichloropropane	78-87-5	0.72	0.72	UG/L	U	U	
1,3-Dichlorobenzene	541-73-1	0.78	0.78	UG/L	U	U	
1,4-Dichlorobenzene	106-46-7	0.84	0.84	UG/L	U	U	
2-Butanone	78-93-3	1.3	1.3	UG/L	U	U	
2-Hexanone	591-78-6	1.2	1.2	UG/L	U	U	
4-Methyl-2-pentanone	108-10-1	2.1	2.1	UG/L	U	U	
Acetone	67-64-1	3.0	3.0	UG/L	U	U	
Benzene	71-43-2	0.41	0.41	UG/L	U	U	
Bromodichloromethane	75-27-4	0.39	0.39	UG/L	U	U	
Bromoform	75-25-2	0.26	0.26	UG/L	U	U	
Bromomethane	74-83-9	0.69	0.69	UG/L	U	U	
Carbon disulfide	75-15-0	0.19	0.19	UG/L	U	U	
Carbon tetrachloride	56-23-5	0.27	0.27	UG/L	U	U	
Chlorobenzene	108-90-7	0.75	0.75	UG/L	U	U	
Chloroethane	75-00-3	0.32	0.32	UG/L	U	U	
Chloroform	67-66-3	0.34	0.34	UG/L	U	U	
Chloromethane	74-87-3	0.35	0.35	UG/L	U	U	
cis-1,2-Dichloroethene	156-59-2	28	0.81	UG/L			
cis-1,3-Dichloropropene	10061-01-5	0.36	0.36	UG/L	U	U	
Cyclohexane	110-82-7	0.18	0.18	UG/L	U	U	
Dibromochloromethane	124-48-1	0.32	0.32	UG/L	U	U	
Dichlorodifluoromethane	75-71-8	0.68	0.68	UG/L	U	U	
Ethylbenzene	100-41-4	0.74	0.74	UG/L	U	U	
Isopropylbenzene	98-82-8	0.79	0.79	UG/L	U	U	
Methyl acetate	79-20-9	0.50	0.50	UG/L	U	U	
Methyl tert-butyl ether	1634-04-4	0.16	0.16	UG/L	U	U	

Analysis Method 8260B

Methylcyclohexane	108-87-2	0.16	0.16	UG/L	U	**U**
Methylene Chloride	75-09-2	0.44	0.44	UG/L	U	**U**
Styrene	100-42-5	0.73	0.73	UG/L	U	**U**
Tetrachloroethene	127-18-4	0.36	0.36	UG/L	U	**U**
Toluene	108-88-3	0.51	0.51	UG/L	U	**U**
trans-1,2-Dichloroethene	156-60-5	0.90	0.90	UG/L	U	**U**
trans-1,3-Dichloropropene	10061-02-6	0.37	0.37	UG/L	U	**U**
Trichloroethene	79-01-6	61	0.46	UG/L		
Trichlorofluoromethane	75-69-4	0.88	0.88	UG/L	U	**U**
Vinyl chloride	75-01-4	1.3	0.90	UG/L		
Xylenes, Total	1330-20-7	0.66	0.66	UG/L	U	**U**

Analysis Method 8260B

Sample Name: LVRA07-MNAGW-MW-3 **Matrix:** Water **Result Type:** FS

Lab Sample Name: 480-46182-1 **Sample Date:** 09/19/2013 **Validation Level:** III

Analyte:	CAS No	Result Value	RL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,1,1-Trichloroethane	71-55-6	0.82	0.82	UG/L	U	U	
1,1,2,2-Tetrachloroethane	79-34-5	0.21	0.21	UG/L	U	U	
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.31	0.31	UG/L	U	U	
1,1,2-Trichloroethane	79-00-5	0.23	0.23	UG/L	U	U	
1,1-Dichloroethane	75-34-3	0.38	0.38	UG/L	U	U	
1,1-Dichloroethene	75-35-4	0.29	0.29	UG/L	U	U	
1,2,4-Trichlorobenzene	120-82-1	0.41	0.41	UG/L	U	U	
1,2-Dibromo-3-Chloropropane	96-12-8	0.39	0.39	UG/L	U	U	
1,2-Dibromoethane	106-93-4	0.73	0.73	UG/L	U	U	
1,2-Dichlorobenzene	95-50-1	0.79	0.79	UG/L	U	U	
1,2-Dichloroethane	107-06-2	0.21	0.21	UG/L	U	U	
1,2-Dichloropropane	78-87-5	0.72	0.72	UG/L	U	U	
1,3-Dichlorobenzene	541-73-1	0.78	0.78	UG/L	U	U	
1,4-Dichlorobenzene	106-46-7	0.84	0.84	UG/L	U	U	
2-Butanone	78-93-3	1.3	1.3	UG/L	U	U	
2-Hexanone	591-78-6	1.2	1.2	UG/L	U	U	
4-Methyl-2-pentanone	108-10-1	2.1	2.1	UG/L	U	U	
Acetone	67-64-1	3.0	3.0	UG/L	U	U	
Benzene	71-43-2	0.41	0.41	UG/L	U	U	
Bromodichloromethane	75-27-4	0.39	0.39	UG/L	U	U	
Bromoform	75-25-2	0.26	0.26	UG/L	U	U	
Bromomethane	74-83-9	0.69	0.69	UG/L	U	U	
Carbon disulfide	75-15-0	0.19	0.19	UG/L	U	U	
Carbon tetrachloride	56-23-5	0.27	0.27	UG/L	U	U	
Chlorobenzene	108-90-7	0.75	0.75	UG/L	U	U	
Chloroethane	75-00-3	0.32	0.32	UG/L	U	U	
Chloroform	67-66-3	0.34	0.34	UG/L	U	U	
Chloromethane	74-87-3	0.35	0.35	UG/L	U	U	
cis-1,2-Dichloroethene	156-59-2	0.81	0.81	UG/L	U	U	
cis-1,3-Dichloropropene	10061-01-5	0.36	0.36	UG/L	U	U	
Cyclohexane	110-82-7	0.18	0.18	UG/L	U	U	
Dibromochloromethane	124-48-1	0.32	0.32	UG/L	U	U	
Dichlorodifluoromethane	75-71-8	0.68	0.68	UG/L	U	U	
Ethylbenzene	100-41-4	0.74	0.74	UG/L	U	U	
Isopropylbenzene	98-82-8	0.79	0.79	UG/L	U	U	
Methyl acetate	79-20-9	0.50	0.50	UG/L	U	U	
Methyl tert-butyl ether	1634-04-4	0.16	0.16	UG/L	U	U	

Analysis Method 8260B

Methylcyclohexane	108-87-2	0.16	0.16	UG/L	U	**U**
Methylene Chloride	75-09-2	0.44	0.44	UG/L	U	**U**
Styrene	100-42-5	0.73	0.73	UG/L	U	**U**
Tetrachloroethene	127-18-4	0.36	0.36	UG/L	U	**U**
Toluene	108-88-3	0.51	0.51	UG/L	U	**U**
trans-1,2-Dichloroethene	156-60-5	0.90	0.90	UG/L	U	**U**
trans-1,3-Dichloropropene	10061-02-6	0.37	0.37	UG/L	U	**U**
Trichloroethene	79-01-6	3.9	0.46	UG/L		
Trichlorofluoromethane	75-69-4	0.88	0.88	UG/L	U	**U**
Vinyl chloride	75-01-4	0.90	0.90	UG/L	U	**U**
Xylenes, Total	1330-20-7	0.66	0.66	UG/L	U	**U**

Analysis Method 8260B

Sample Name: LVRA07-MNAGW-MW-5 **Matrix:** Water **Result Type:** FS

Lab Sample Name: 480-46182-6 **Sample Date:** 09/19/2013 **Validation Level:** III

Analyte:	CAS No	Result Value	RL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,1,1-Trichloroethane	71-55-6	0.82	0.82	UG/L	U	U	
1,1,2,2-Tetrachloroethane	79-34-5	0.21	0.21	UG/L	U	U	
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.31	0.31	UG/L	U	U	
1,1,2-Trichloroethane	79-00-5	0.23	0.23	UG/L	U	U	
1,1-Dichloroethane	75-34-3	0.38	0.38	UG/L	U	U	
1,1-Dichloroethene	75-35-4	0.29	0.29	UG/L	U	U	
1,2,4-Trichlorobenzene	120-82-1	0.41	0.41	UG/L	U	U	
1,2-Dibromo-3-Chloropropane	96-12-8	0.39	0.39	UG/L	U	U	
1,2-Dibromoethane	106-93-4	0.73	0.73	UG/L	U	U	
1,2-Dichlorobenzene	95-50-1	0.79	0.79	UG/L	U	U	
1,2-Dichloroethane	107-06-2	0.21	0.21	UG/L	U	U	
1,2-Dichloropropane	78-87-5	0.72	0.72	UG/L	U	U	
1,3-Dichlorobenzene	541-73-1	0.78	0.78	UG/L	U	U	
1,4-Dichlorobenzene	106-46-7	0.84	0.84	UG/L	U	U	
2-Butanone	78-93-3	1.3	1.3	UG/L	U	U	
2-Hexanone	591-78-6	1.2	1.2	UG/L	U	U	
4-Methyl-2-pentanone	108-10-1	2.1	2.1	UG/L	U	U	
Acetone	67-64-1	3.0	3.0	UG/L	U	U	
Benzene	71-43-2	0.41	0.41	UG/L	U	U	
Bromodichloromethane	75-27-4	0.39	0.39	UG/L	U	U	
Bromoform	75-25-2	0.26	0.26	UG/L	U	U	
Bromomethane	74-83-9	0.69	0.69	UG/L	U	U	
Carbon disulfide	75-15-0	0.19	0.19	UG/L	U	U	
Carbon tetrachloride	56-23-5	0.27	0.27	UG/L	U	U	
Chlorobenzene	108-90-7	0.75	0.75	UG/L	U	U	
Chloroethane	75-00-3	0.32	0.32	UG/L	U	U	
Chloroform	67-66-3	0.34	0.34	UG/L	U	U	
Chloromethane	74-87-3	0.35	0.35	UG/L	U	U	
cis-1,2-Dichloroethene	156-59-2	0.81	0.81	UG/L	U	U	
cis-1,3-Dichloropropene	10061-01-5	0.36	0.36	UG/L	U	U	
Cyclohexane	110-82-7	0.18	0.18	UG/L	U	U	
Dibromochloromethane	124-48-1	0.32	0.32	UG/L	U	U	
Dichlorodifluoromethane	75-71-8	0.68	0.68	UG/L	U	U	
Ethylbenzene	100-41-4	0.74	0.74	UG/L	U	U	
Isopropylbenzene	98-82-8	0.79	0.79	UG/L	U	U	
Methyl acetate	79-20-9	0.50	0.50	UG/L	U	U	
Methyl tert-butyl ether	1634-04-4	0.16	0.16	UG/L	U	U	

Analysis Method 8260B

Methylcyclohexane	108-87-2	0.16	0.16	UG/L	U	**U**
Methylene Chloride	75-09-2	0.44	0.44	UG/L	U	**U**
Styrene	100-42-5	0.73	0.73	UG/L	U	**U**
Tetrachloroethene	127-18-4	0.36	0.36	UG/L	U	**U**
Toluene	108-88-3	0.51	0.51	UG/L	U	**U**
trans-1,2-Dichloroethene	156-60-5	0.90	0.90	UG/L	U	**U**
trans-1,3-Dichloropropene	10061-02-6	0.37	0.37	UG/L	U	**U**
Trichloroethene	79-01-6	0.46	0.46	UG/L	U	**U**
Trichlorofluoromethane	75-69-4	0.88	0.88	UG/L	U	**U**
Vinyl chloride	75-01-4	0.90	0.90	UG/L	U	**U**
Xylenes, Total	1330-20-7	0.66	0.66	UG/L	U	**U**

Analysis Method 8260B

Sample Name: LVRA07-MNAGW-MW-6 **Matrix:** Water **Result Type:** FS

Lab Sample Name: 480-46182-5 **Sample Date:** 09/19/2013 **Validation Level:** III

Analyte:	CAS No	Result Value	RL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,1,1-Trichloroethane	71-55-6	0.82	0.82	UG/L	U	U	
1,1,2,2-Tetrachloroethane	79-34-5	0.21	0.21	UG/L	U	U	
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.31	0.31	UG/L	U	U	
1,1,2-Trichloroethane	79-00-5	0.23	0.23	UG/L	U	U	
1,1-Dichloroethane	75-34-3	0.38	0.38	UG/L	U	U	
1,1-Dichloroethene	75-35-4	0.29	0.29	UG/L	U	U	
1,2,4-Trichlorobenzene	120-82-1	0.41	0.41	UG/L	U	U	
1,2-Dibromo-3-Chloropropane	96-12-8	0.39	0.39	UG/L	U	U	
1,2-Dibromoethane	106-93-4	0.73	0.73	UG/L	U	U	
1,2-Dichlorobenzene	95-50-1	0.79	0.79	UG/L	U	U	
1,2-Dichloroethane	107-06-2	0.21	0.21	UG/L	U	U	
1,2-Dichloropropane	78-87-5	0.72	0.72	UG/L	U	U	
1,3-Dichlorobenzene	541-73-1	0.78	0.78	UG/L	U	U	
1,4-Dichlorobenzene	106-46-7	0.84	0.84	UG/L	U	U	
2-Butanone	78-93-3	1.3	1.3	UG/L	U	U	
2-Hexanone	591-78-6	1.2	1.2	UG/L	U	U	
4-Methyl-2-pentanone	108-10-1	2.1	2.1	UG/L	U	U	
Acetone	67-64-1	3.0	3.0	UG/L	U	U	
Benzene	71-43-2	0.41	0.41	UG/L	U	U	
Bromodichloromethane	75-27-4	0.39	0.39	UG/L	U	U	
Bromoform	75-25-2	0.26	0.26	UG/L	U	U	
Bromomethane	74-83-9	0.69	0.69	UG/L	U	U	
Carbon disulfide	75-15-0	0.19	0.19	UG/L	U	U	
Carbon tetrachloride	56-23-5	0.27	0.27	UG/L	U	U	
Chlorobenzene	108-90-7	0.75	0.75	UG/L	U	U	
Chloroethane	75-00-3	0.32	0.32	UG/L	U	U	
Chloroform	67-66-3	0.34	0.34	UG/L	U	U	
Chloromethane	74-87-3	0.35	0.35	UG/L	U	U	
cis-1,2-Dichloroethene	156-59-2	14	0.81	UG/L			
cis-1,3-Dichloropropene	10061-01-5	0.36	0.36	UG/L	U	U	
Cyclohexane	110-82-7	0.18	0.18	UG/L	U	U	
Dibromochloromethane	124-48-1	0.32	0.32	UG/L	U	U	
Dichlorodifluoromethane	75-71-8	0.68	0.68	UG/L	U	U	
Ethylbenzene	100-41-4	0.74	0.74	UG/L	U	U	
Isopropylbenzene	98-82-8	0.79	0.79	UG/L	U	U	
Methyl acetate	79-20-9	0.50	0.50	UG/L	U	U	
Methyl tert-butyl ether	1634-04-4	0.16	0.16	UG/L	U	U	

Analysis Method 8260B

Methylcyclohexane	108-87-2	0.16	0.16	UG/L	U	**U**
Methylene Chloride	75-09-2	0.44	0.44	UG/L	U	**U**
Styrene	100-42-5	0.73	0.73	UG/L	U	**U**
Tetrachloroethene	127-18-4	0.36	0.36	UG/L	U	**U**
Toluene	108-88-3	0.51	0.51	UG/L	U	**U**
trans-1,2-Dichloroethene	156-60-5	0.90	0.90	UG/L	U	**U**
trans-1,3-Dichloropropene	10061-02-6	0.37	0.37	UG/L	U	**U**
Trichloroethene	79-01-6	2.2	0.46	UG/L		
Trichlorofluoromethane	75-69-4	0.88	0.88	UG/L	U	**U**
Vinyl chloride	75-01-4	1.0	0.90	UG/L		
Xylenes, Total	1330-20-7	0.66	0.66	UG/L	U	**U**

Analysis Method 8260B

Sample Name: LVRA07-MNAGW-MW-D2 **Matrix:** Water **Result Type:** FS

Lab Sample Name: 480-46182-2 **Sample Date:** 09/19/2013 **Validation Level:** III

Analyte:	CAS No	Result Value	RL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,1,1-Trichloroethane	71-55-6	0.82	0.82	UG/L	U	U	
1,1,2,2-Tetrachloroethane	79-34-5	0.21	0.21	UG/L	U	U	
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.31	0.31	UG/L	U	U	
1,1,2-Trichloroethane	79-00-5	0.23	0.23	UG/L	U	U	
1,1-Dichloroethane	75-34-3	0.38	0.38	UG/L	U	U	
1,1-Dichloroethene	75-35-4	0.29	0.29	UG/L	U	U	
1,2,4-Trichlorobenzene	120-82-1	0.41	0.41	UG/L	U	U	
1,2-Dibromo-3-Chloropropane	96-12-8	0.39	0.39	UG/L	U	U	
1,2-Dibromoethane	106-93-4	0.73	0.73	UG/L	U	U	
1,2-Dichlorobenzene	95-50-1	0.79	0.79	UG/L	U	U	
1,2-Dichloroethane	107-06-2	0.21	0.21	UG/L	U	U	
1,2-Dichloropropane	78-87-5	0.72	0.72	UG/L	U	U	
1,3-Dichlorobenzene	541-73-1	0.78	0.78	UG/L	U	U	
1,4-Dichlorobenzene	106-46-7	0.84	0.84	UG/L	U	U	
2-Butanone	78-93-3	1.3	1.3	UG/L	U	U	
2-Hexanone	591-78-6	1.2	1.2	UG/L	U	U	
4-Methyl-2-pentanone	108-10-1	2.1	2.1	UG/L	U	U	
Acetone	67-64-1	3.0	3.0	UG/L	U	U	
Benzene	71-43-2	0.41	0.41	UG/L	U	U	
Bromodichloromethane	75-27-4	0.39	0.39	UG/L	U	U	
Bromoform	75-25-2	0.26	0.26	UG/L	U	U	
Bromomethane	74-83-9	0.69	0.69	UG/L	U	U	
Carbon disulfide	75-15-0	0.19	0.19	UG/L	U	U	
Carbon tetrachloride	56-23-5	0.27	0.27	UG/L	U	U	
Chlorobenzene	108-90-7	0.75	0.75	UG/L	U	U	
Chloroethane	75-00-3	0.32	0.32	UG/L	U	U	
Chloroform	67-66-3	0.34	0.34	UG/L	U	U	
Chloromethane	74-87-3	0.35	0.35	UG/L	U	U	
cis-1,2-Dichloroethene	156-59-2	17	0.81	UG/L			
cis-1,3-Dichloropropene	10061-01-5	0.36	0.36	UG/L	U	U	
Cyclohexane	110-82-7	0.18	0.18	UG/L	U	U	
Dibromochloromethane	124-48-1	0.32	0.32	UG/L	U	U	
Dichlorodifluoromethane	75-71-8	0.68	0.68	UG/L	U	U	
Ethylbenzene	100-41-4	0.74	0.74	UG/L	U	U	
Isopropylbenzene	98-82-8	0.79	0.79	UG/L	U	U	
Methyl acetate	79-20-9	0.50	0.50	UG/L	U	U	
Methyl tert-butyl ether	1634-04-4	0.16	0.16	UG/L	U	U	

Analysis Method 8260B

Methylcyclohexane	108-87-2	0.16	0.16	UG/L	U	**U**
Methylene Chloride	75-09-2	0.44	0.44	UG/L	U	**U**
Styrene	100-42-5	0.73	0.73	UG/L	U	**U**
Tetrachloroethene	127-18-4	0.36	0.36	UG/L	U	**U**
Toluene	108-88-3	0.51	0.51	UG/L	U	**U**
trans-1,2-Dichloroethene	156-60-5	0.90	0.90	UG/L	U	**U**
trans-1,3-Dichloropropene	10061-02-6	0.37	0.37	UG/L	U	**U**
Trichloroethene	79-01-6	88	0.46	UG/L		
Trichlorofluoromethane	75-69-4	0.88	0.88	UG/L	U	**U**
Vinyl chloride	75-01-4	0.90	0.90	UG/L	U	**U**
Xylenes, Total	1330-20-7	0.66	0.66	UG/L	U	**U**

Analysis Method 8260B

Sample Name: RINSE BLANK **Matrix:** Water **Result Type:** FS

Lab Sample Name: 480-46182-4 **Sample Date:** 09/19/2013 **Validation Level:** III

Analyte:	CAS No	Result Value	RL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,1,1-Trichloroethane	71-55-6	0.82	0.82	UG/L	U	U	
1,1,2,2-Tetrachloroethane	79-34-5	0.21	0.21	UG/L	U	U	
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.31	0.31	UG/L	U	U	
1,1,2-Trichloroethane	79-00-5	0.23	0.23	UG/L	U	U	
1,1-Dichloroethane	75-34-3	0.38	0.38	UG/L	U	U	
1,1-Dichloroethene	75-35-4	0.29	0.29	UG/L	U	U	
1,2,4-Trichlorobenzene	120-82-1	0.41	0.41	UG/L	U	U	
1,2-Dibromo-3-Chloropropane	96-12-8	0.39	0.39	UG/L	U	U	
1,2-Dibromoethane	106-93-4	0.73	0.73	UG/L	U	U	
1,2-Dichlorobenzene	95-50-1	0.79	0.79	UG/L	U	U	
1,2-Dichloroethane	107-06-2	0.21	0.21	UG/L	U	U	
1,2-Dichloropropane	78-87-5	0.72	0.72	UG/L	U	U	
1,3-Dichlorobenzene	541-73-1	0.78	0.78	UG/L	U	U	
1,4-Dichlorobenzene	106-46-7	0.84	0.84	UG/L	U	U	
2-Butanone	78-93-3	1.3	1.3	UG/L	U	U	
2-Hexanone	591-78-6	1.2	1.2	UG/L	U	U	
4-Methyl-2-pentanone	108-10-1	2.1	2.1	UG/L	U	U	
Acetone	67-64-1	3.0	3.0	UG/L	U	U	
Benzene	71-43-2	0.41	0.41	UG/L	U	U	
Bromodichloromethane	75-27-4	0.39	0.39	UG/L	U	U	
Bromoform	75-25-2	0.26	0.26	UG/L	U	U	
Bromomethane	74-83-9	0.69	0.69	UG/L	U	U	
Carbon disulfide	75-15-0	0.19	0.19	UG/L	U	U	
Carbon tetrachloride	56-23-5	0.27	0.27	UG/L	U	U	
Chlorobenzene	108-90-7	0.75	0.75	UG/L	U	U	
Chloroethane	75-00-3	0.32	0.32	UG/L	U	U	
Chloroform	67-66-3	0.34	0.34	UG/L	U	U	
Chloromethane	74-87-3	0.35	0.35	UG/L	U	U	
cis-1,2-Dichloroethene	156-59-2	0.81	0.81	UG/L	U	U	
cis-1,3-Dichloropropene	10061-01-5	0.36	0.36	UG/L	U	U	
Cyclohexane	110-82-7	0.18	0.18	UG/L	U	U	
Dibromochloromethane	124-48-1	0.32	0.32	UG/L	U	U	
Dichlorodifluoromethane	75-71-8	0.68	0.68	UG/L	U	U	
Ethylbenzene	100-41-4	0.74	0.74	UG/L	U	U	
Isopropylbenzene	98-82-8	0.79	0.79	UG/L	U	U	
Methyl acetate	79-20-9	0.50	0.50	UG/L	U	U	
Methyl tert-butyl ether	1634-04-4	0.16	0.16	UG/L	U	U	

Analysis Method 8260B

Methylcyclohexane	108-87-2	0.16	0.16	UG/L	U	**U**
Methylene Chloride	75-09-2	0.44	0.44	UG/L	U	**U**
Styrene	100-42-5	0.73	0.73	UG/L	U	**U**
Tetrachloroethene	127-18-4	0.36	0.36	UG/L	U	**U**
Toluene	108-88-3	0.51	0.51	UG/L	U	**U**
trans-1,2-Dichloroethene	156-60-5	0.90	0.90	UG/L	U	**U**
trans-1,3-Dichloropropene	10061-02-6	0.37	0.37	UG/L	U	**U**
Trichloroethene	79-01-6	0.46	0.46	UG/L	U	**U**
Trichlorofluoromethane	75-69-4	0.88	0.88	UG/L	U	**U**
Vinyl chloride	75-01-4	0.90	0.90	UG/L	U	**U**
Xylenes, Total	1330-20-7	0.66	0.66	UG/L	U	**U**

Analysis Method 8260B

Sample Name: TRIP BLANK **Matrix:** Water **Result Type:** FS

Lab Sample Name: 480-46182-8 **Sample Date:** 09/19/2013 **Validation Level:** III

Analyte:	CAS No	Result Value	RL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,1,1-Trichloroethane	71-55-6	0.82	0.82	UG/L	U	U	
1,1,2,2-Tetrachloroethane	79-34-5	0.21	0.21	UG/L	U	U	
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.31	0.31	UG/L	U	U	
1,1,2-Trichloroethane	79-00-5	0.23	0.23	UG/L	U	U	
1,1-Dichloroethane	75-34-3	0.38	0.38	UG/L	U	U	
1,1-Dichloroethene	75-35-4	0.29	0.29	UG/L	U	U	
1,2,4-Trichlorobenzene	120-82-1	0.41	0.41	UG/L	U	U	
1,2-Dibromo-3-Chloropropane	96-12-8	0.39	0.39	UG/L	U	U	
1,2-Dibromoethane	106-93-4	0.73	0.73	UG/L	U	U	
1,2-Dichlorobenzene	95-50-1	0.79	0.79	UG/L	U	U	
1,2-Dichloroethane	107-06-2	0.21	0.21	UG/L	U	U	
1,2-Dichloropropane	78-87-5	0.72	0.72	UG/L	U	U	
1,3-Dichlorobenzene	541-73-1	0.78	0.78	UG/L	U	U	
1,4-Dichlorobenzene	106-46-7	0.84	0.84	UG/L	U	U	
2-Butanone	78-93-3	1.3	1.3	UG/L	U	U	
2-Hexanone	591-78-6	1.2	1.2	UG/L	U	U	
4-Methyl-2-pentanone	108-10-1	2.1	2.1	UG/L	U	U	
Acetone	67-64-1	3.0	3.0	UG/L	U	U	
Benzene	71-43-2	0.41	0.41	UG/L	U	U	
Bromodichloromethane	75-27-4	0.39	0.39	UG/L	U	U	
Bromoform	75-25-2	0.26	0.26	UG/L	U	U	
Bromomethane	74-83-9	0.69	0.69	UG/L	U	U	
Carbon disulfide	75-15-0	0.19	0.19	UG/L	U	U	
Carbon tetrachloride	56-23-5	0.27	0.27	UG/L	U	U	
Chlorobenzene	108-90-7	0.75	0.75	UG/L	U	U	
Chloroethane	75-00-3	0.32	0.32	UG/L	U	U	
Chloroform	67-66-3	0.34	0.34	UG/L	U	U	
Chloromethane	74-87-3	0.35	0.35	UG/L	U	U	
cis-1,2-Dichloroethene	156-59-2	0.81	0.81	UG/L	U	U	
cis-1,3-Dichloropropene	10061-01-5	0.36	0.36	UG/L	U	U	
Cyclohexane	110-82-7	0.18	0.18	UG/L	U	U	
Dibromochloromethane	124-48-1	0.32	0.32	UG/L	U	U	
Dichlorodifluoromethane	75-71-8	0.68	0.68	UG/L	U	U	
Ethylbenzene	100-41-4	0.74	0.74	UG/L	U	U	
Isopropylbenzene	98-82-8	0.79	0.79	UG/L	U	U	
Methyl acetate	79-20-9	0.50	0.50	UG/L	U	U	
Methyl tert-butyl ether	1634-04-4	0.16	0.16	UG/L	U	U	

Analysis Method 8260B

Methylcyclohexane	108-87-2	0.16	0.16	UG/L	U	**U**
Methylene Chloride	75-09-2	0.44	0.44	UG/L	U	**U**
Styrene	100-42-5	0.73	0.73	UG/L	U	**U**
Tetrachloroethene	127-18-4	0.36	0.36	UG/L	U	**U**
Toluene	108-88-3	0.51	0.51	UG/L	U	**U**
trans-1,2-Dichloroethene	156-60-5	0.90	0.90	UG/L	U	**U**
trans-1,3-Dichloropropene	10061-02-6	0.37	0.37	UG/L	U	**U**
Trichloroethene	79-01-6	0.46	0.46	UG/L	U	**U**
Trichlorofluoromethane	75-69-4	0.88	0.88	UG/L	U	**U**
Vinyl chloride	75-01-4	0.90	0.90	UG/L	U	**U**
Xylenes, Total	1330-20-7	0.66	0.66	UG/L	U	**U**

Analysis Method 9060

Sample Name: DUP **Matrix:** Water **Result Type:** FS

Lab Sample Name: 480-46182-7 **Sample Date:** 09/19/2013 **Validation Level:** III

Analyte:	CAS No	Result Value	RL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Total Organic Carbon	7440-44-0	0.43	0.43	MG/L	U	U	

Sample Name: LVRA07-MNAGW-MW-2 **Matrix:** Water **Result Type:** FS

Lab Sample Name: 480-46182-3 **Sample Date:** 09/19/2013 **Validation Level:** III

Analyte:	CAS No	Result Value	RL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Total Organic Carbon	7440-44-0	0.82	0.43	MG/L	J	J	

Sample Name: LVRA07-MNAGW-MW-3 **Matrix:** Water **Result Type:** FS

Lab Sample Name: 480-46182-1 **Sample Date:** 09/19/2013 **Validation Level:** III

Analyte:	CAS No	Result Value	RL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Total Organic Carbon	7440-44-0	0.44	0.43	MG/L	J	J	

Sample Name: LVRA07-MNAGW-MW-5 **Matrix:** Water **Result Type:** FS

Lab Sample Name: 480-46182-6 **Sample Date:** 09/19/2013 **Validation Level:** III

Analyte:	CAS No	Result Value	RL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Total Organic Carbon	7440-44-0	0.69	0.43	MG/L	J	J	

Sample Name: LVRA07-MNAGW-MW-6 **Matrix:** Water **Result Type:** FS

Lab Sample Name: 480-46182-5 **Sample Date:** 09/19/2013 **Validation Level:** III

Analyte:	CAS No	Result Value	RL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Total Organic Carbon	7440-44-0	1.3	0.43	MG/L			

Sample Name: LVRA07-MNAGW-MW-D2 **Matrix:** Water **Result Type:** FS

Lab Sample Name: 480-46182-2 **Sample Date:** 09/19/2013 **Validation Level:** III

Analyte:	CAS No	Result Value	RL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Total Organic Carbon	7440-44-0	0.43	0.43	MG/L	U	U	

Analysis Method RSK-175

Sample Name: DUP **Matrix:** Water **Result Type:** FS

Lab Sample Name: 480-46182-7 **Sample Date:** 09/19/2013 **Validation Level:** III

Analyte:	CAS No	Result Value	RL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Ethane	74-84-0	0.49	0.49	UG/L	U	U	
Ethene	74-85-1	0.52	0.52	UG/L	U	U	
Methane	74-82-8	0.22	0.22	UG/L	U	U	

Sample Name: LVRA07-MNAGW-MW-2 **Matrix:** Water **Result Type:** FS

Lab Sample Name: 480-46182-3 **Sample Date:** 09/19/2013 **Validation Level:** III

Analyte:	CAS No	Result Value	RL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Ethane	74-84-0	0.49	0.49	UG/L	J	J	
Ethene	74-85-1	0.52	0.52	UG/L	U	U	
Methane	74-82-8	75	0.22	UG/L			

Sample Name: LVRA07-MNAGW-MW-3 **Matrix:** Water **Result Type:** FS

Lab Sample Name: 480-46182-1 **Sample Date:** 09/19/2013 **Validation Level:** III

Analyte:	CAS No	Result Value	RL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Ethane	74-84-0	0.49	0.49	UG/L	U	U	
Ethene	74-85-1	0.52	0.52	UG/L	U	U	
Methane	74-82-8	0.22	0.22	UG/L	U	U	

Sample Name: LVRA07-MNAGW-MW-5 **Matrix:** Water **Result Type:** FS

Lab Sample Name: 480-46182-6 **Sample Date:** 09/19/2013 **Validation Level:** III

Analyte:	CAS No	Result Value	RL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Ethane	74-84-0	0.49	0.49	UG/L	U	U	
Ethene	74-85-1	0.52	0.52	UG/L	U	U	
Methane	74-82-8	0.22	0.22	UG/L	U	U	

Sample Name: LVRA07-MNAGW-MW-6 **Matrix:** Water **Result Type:** FS

Lab Sample Name: 480-46182-5 **Sample Date:** 09/19/2013 **Validation Level:** III

Analyte:	CAS No	Result Value	RL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Ethane	74-84-0	0.49	0.49	UG/L	U	U	
Ethene	74-85-1	0.52	0.52	UG/L	U	U	
Methane	74-82-8	100	0.22	UG/L			

Analysis Method RSK-175

Sample Name: LVRA07-MNAGW-MW-D2 **Matrix:** Water **Result Type:** FS

Lab Sample Name: 480-46182-2 **Sample Date:** 09/19/2013 **Validation Level:** III

Analyte:	CAS No	Result Value	RL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Ethane	74-84-0	0.49	0.49	UG/L	U	U	
Ethene	74-85-1	0.52	0.52	UG/L	U	U	
Methane	74-82-8	0.22	0.22	UG/L	U	U	

Sample Name: RINSE BLANK **Matrix:** Water **Result Type:** FS

Lab Sample Name: 480-46182-4 **Sample Date:** 09/19/2013 **Validation Level:** III

Analyte:	CAS No	Result Value	RL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Ethane	74-84-0	0.49	0.49	UG/L	U	U	
Ethene	74-85-1	0.52	0.52	UG/L	U	U	
Methane	74-82-8	0.22	0.22	UG/L	U	U	

Analysis Method SM 2320B

Sample Name: DUP **Matrix:** Water **Result Type:** FS

Lab Sample Name: 480-46182-7 **Sample Date:** 09/19/2013 **Validation Level:** III

Analyte:	CAS No	Result Value	RL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Alkalinity, Total	STL00171	142	0.79	MG/L			

Sample Name: LVRA07-MNAGW-MW-2 **Matrix:** Water **Result Type:** FS

Lab Sample Name: 480-46182-3 **Sample Date:** 09/19/2013 **Validation Level:** III

Analyte:	CAS No	Result Value	RL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Alkalinity, Total	STL00171	201	0.79	MG/L			

Sample Name: LVRA07-MNAGW-MW-3 **Matrix:** Water **Result Type:** FS

Lab Sample Name: 480-46182-1 **Sample Date:** 09/19/2013 **Validation Level:** III

Analyte:	CAS No	Result Value	RL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Alkalinity, Total	STL00171	165	0.79	MG/L			

Sample Name: LVRA07-MNAGW-MW-5 **Matrix:** Water **Result Type:** FS

Lab Sample Name: 480-46182-6 **Sample Date:** 09/19/2013 **Validation Level:** III

Analyte:	CAS No	Result Value	RL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Alkalinity, Total	STL00171	68.5	0.79	MG/L			

Sample Name: LVRA07-MNAGW-MW-6 **Matrix:** Water **Result Type:** FS

Lab Sample Name: 480-46182-5 **Sample Date:** 09/19/2013 **Validation Level:** III

Analyte:	CAS No	Result Value	RL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Alkalinity, Total	STL00171	92.2	0.79	MG/L			

Sample Name: LVRA07-MNAGW-MW-D2 **Matrix:** Water **Result Type:** FS

Lab Sample Name: 480-46182-2 **Sample Date:** 09/19/2013 **Validation Level:** III

Analyte:	CAS No	Result Value	RL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Alkalinity, Total	STL00171	141	0.79	MG/L			

Analysis Method SM 3500 FE D

Sample Name: DUP **Matrix:** Water **Result Type:** FS

Lab Sample Name: 480-46182-7 **Sample Date:** 09/19/2013 **Validation Level:** III

Analyte:	CAS No	Result Value	RL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Ferrous Iron, Dissolved	15438-31-0	0.075	0.075	MG/L	U HF	U	

Sample Name: LVRA07-MNAGW-MW-2 **Matrix:** Water **Result Type:** FS

Lab Sample Name: 480-46182-3 **Sample Date:** 09/19/2013 **Validation Level:** III

Analyte:	CAS No	Result Value	RL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Ferrous Iron, Dissolved	15438-31-0	0.075	0.075	MG/L	U HF	U	

Sample Name: LVRA07-MNAGW-MW-3 **Matrix:** Water **Result Type:** FS

Lab Sample Name: 480-46182-1 **Sample Date:** 09/19/2013 **Validation Level:** III

Analyte:	CAS No	Result Value	RL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Ferrous Iron, Dissolved	15438-31-0	0.075	0.075	MG/L	U HF	U	

Sample Name: LVRA07-MNAGW-MW-5 **Matrix:** Water **Result Type:** FS

Lab Sample Name: 480-46182-6 **Sample Date:** 09/19/2013 **Validation Level:** III

Analyte:	CAS No	Result Value	RL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Ferrous Iron, Dissolved	15438-31-0	0.075	0.075	MG/L	U HF	U	

Sample Name: LVRA07-MNAGW-MW-6 **Matrix:** Water **Result Type:** FS

Lab Sample Name: 480-46182-5 **Sample Date:** 09/19/2013 **Validation Level:** III

Analyte:	CAS No	Result Value	RL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Ferrous Iron, Dissolved	15438-31-0	0.080	0.075	MG/L	J HF	J	

Sample Name: LVRA07-MNAGW-MW-D2 **Matrix:** Water **Result Type:** FS

Lab Sample Name: 480-46182-2 **Sample Date:** 09/19/2013 **Validation Level:** III

Analyte:	CAS No	Result Value	RL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Ferrous Iron, Dissolved	15438-31-0	0.075	0.075	MG/L	U HF	U	

Analysis Method SM 4500 S2 F

Sample Name: DUP **Matrix:** Water **Result Type:** FS

Lab Sample Name: 480-46182-7 **Sample Date:** 09/19/2013 **Validation Level:** III

Analyte:	CAS No	Result Value	RL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Sulfide	18496-25-8	0.67	0.67	MG/L	U	U	

Sample Name: LVRA07-MNAGW-MW-2 **Matrix:** Water **Result Type:** FS

Lab Sample Name: 480-46182-3 **Sample Date:** 09/19/2013 **Validation Level:** III

Analyte:	CAS No	Result Value	RL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Sulfide	18496-25-8	0.67	0.67	MG/L	U	U	

Sample Name: LVRA07-MNAGW-MW-3 **Matrix:** Water **Result Type:** FS

Lab Sample Name: 480-46182-1 **Sample Date:** 09/19/2013 **Validation Level:** III

Analyte:	CAS No	Result Value	RL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Sulfide	18496-25-8	0.67	0.67	MG/L	U	U	

Sample Name: LVRA07-MNAGW-MW-5 **Matrix:** Water **Result Type:** FS

Lab Sample Name: 480-46182-6 **Sample Date:** 09/19/2013 **Validation Level:** III

Analyte:	CAS No	Result Value	RL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Sulfide	18496-25-8	0.67	0.67	MG/L	U	U	

Sample Name: LVRA07-MNAGW-MW-6 **Matrix:** Water **Result Type:** FS

Lab Sample Name: 480-46182-5 **Sample Date:** 09/19/2013 **Validation Level:** III

Analyte:	CAS No	Result Value	RL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Sulfide	18496-25-8	0.67	0.67	MG/L	U	U	

Sample Name: LVRA07-MNAGW-MW-D2 **Matrix:** Water **Result Type:** FS

Lab Sample Name: 480-46182-2 **Sample Date:** 09/19/2013 **Validation Level:** III

Analyte:	CAS No	Result Value	RL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Sulfide	18496-25-8	0.67	0.67	MG/L	U	U	