

**Bush Industries, Inc.
Annual Summary Report for 2010 Groundwater
Monitored Natural Attenuation Program for
312 Fair Oak Street
Little Valley, New York**

Submitted to:
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Submitted by:
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February 2011

Project 6191

EXECUTIVE SUMMARY

AMEC Geomatrix, Inc. (AMEC) has been retained by Bush Industries, Inc. (Bush Industries) to conduct the 2010 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 AMEC in September 2010.

The results of the 2010 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.

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**ANNUAL SUMMARY REPORT FOR 2010 GROUNDWATER MONITORED NATURAL
ATTENUATION PROGRAM**

312 Fair Oak Street
Little Valley, New York

1.0 INTRODUCTION

1.1 BACKGROUND AND SITE DESCRIPTION

AMEC Geomatrix, Inc. (AMEC) has been retained by Bush Industries, Inc. (Bush Industries) to conduct the 2010 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

2.0 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 of 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 2010 MNA GROUNDWATER SAMPLING EVENT

AMEC Geomatrix personnel conducted the annual MNA sampling event for the Site on September 21, 2010. 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 2010 sampling event are listed below:

- 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.
- Monitoring well MW-5 was inadvertently left out of the sampling program for September 2010. After discovery of this omission, NYSDEC was notified and MW-5 was sampled on December 15, 2010 (results are included herein).

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.

3.0 SAMPLING EVENT RESULTS

3.1 DATA VALIDATION AND USABILITY

The analytical results and data packages for the September 2010 sampling event reported by the laboratory were validated by MECX, LPof 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 obtained September 21, 2010 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 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 4 of the 6 wells sampled.

The highest TCE concentration was measured in the sample from well MW-2 (reported concentration of 75 ug/L). Well MW-2 is located in the south central portion of the property. The reductive dechlorination product cis-1,2-dichloroethene was present at 1 ug/L or above in samples from 4 wells (32 ug/L in MW-2; 1 ug/L in MW-3; 27 ug/L in MW-6; and 16 ug/L in MW-D2). The reductive dechlorination product vinyl chloride was detected in 2 wells (2.1 ug/L in MW-2; and 2.6 ug/L in MW-6).

At the downgradient property boundary (MW-3), TCE was detected in the sample at 11 ug/L. In addition, the reductive dechlorination product cis-1,2-dichloroethene was present at 1 ug/L in this well. No other VOCs were detected in the sample from well MW-3.

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 2010.

MNA parameter results are discussed in the following section.

4.0 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 2010 sampling event results for TCE and its reductive dechlorination products are within the general ranges of historical values. Compared to 2009 MNA sampling results, there was a reported increase at well MW-3, while MW-D1 and MW-D2 showed decreases. TCE results for MW-6 showed a slight increase over 2009 MNA results and a slight decrease was measured in well MW-2. Given the relatively low levels of TCE measured in all of the wells, the observed variability in results over time, and inherent variation associated with sampling and analytical testing, none of these increases or decreases indicate any material change in the TCE results has occurred during the 2010 MNA monitoring period.

Additional annual sampling data will be necessary to assess any long term trends in the MNA monitoring wells.

4.2 REDUCTIVE DECHLORINATION

The data obtained during the September 2010 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 approximately 0.78 mg/L to 8.75 mg/L. The lowest DO concentrations were measured at wells MW-2 and MW-6. Reductive dechlorination products were detected in both of these wells.

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 ranged from not detected (conductive) to 2.67 mg/L (not conductive). Nitrate concentrations below 1 mg/L were measured in wells MW-2, MW-6 and MW-D2.

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 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 17.0 mg/L. Sulfide was not detected in any well during the 2010 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 2010 event (0.052 mg/L and 0.037 mg/L, respectively).

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 60.0 mg/L in the December 2010 sample from MW-5, and this value is used as “background” for comparison. Samples from the following wells had alkalinity levels greater than approximately twice the background concentration: MW-2, MW-3, MW-D1 and MW-D2.

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 wells during the 2010 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 2010 sampling event were between 10.58°C and 14.65°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 (9.49 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 two furthest downgradient wells on the property (MW-D1 and MW-3) had chloride concentrations of 50.4 mg/L and 42.3 mg/L, respectively. All other wells sampled had chloride concentrations below 30 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 not detected (in well MW-D2) to 1.6 mg/L in well MW-6 for the 2010 event.

Daughter Products

Transformation of TCE via reduction 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 2010 results indicate concentrations of TCE and daughter products in groundwater are within the general historical ranges. Additional annual sampling data will be necessary to assess any long term trends in the MNA monitoring wells.

The next annual report is due 90 days from completion of the 2011 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 ₂ SO 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

<i>Sample Type</i>	<i>Matrix</i>	<i>Sampling Device</i>	<i>No. of Samples</i> ⁽¹⁾⁽²⁾	<i>Parameter</i>	<i>Sample Container</i> ⁽³⁾⁽⁴⁾	<i>Sample Preservation</i>	<i>Analytical Method</i> ⁽⁵⁾	<i>PQL</i>	<i>Holding Time</i> ⁽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 = Volatile 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						
14:30	Begin Purge	14.15	6.91	0.391	2.21	112
14:35	2	12.28	6.79	0.370	1.02	97.8
14:40	4	12.07	6.93	0.367	0.87	78.1
14:45	5	12.00	6.80	0.365	0.81	73.1
14:50	6	11.96	6.79	0.363	0.81	78.2
MW-3						
8:28	Begin Purge	12.56	6.64	0.512	9.22	143
8:38	2	11.75	6.40	0.366	8.80	147
8:48	4	11.69	6.43	0.365	9.02	142
8:58	6	11.76	6.41	0.363	8.75	140
MW-6						
11:15	Begin Purge	15.07	6.31	0.224	4.05	68.8
11:25	3	14.56	6.01	0.208	2.28	36.8
11:35	6	14.55	5.98	0.219	0.90	34.3
11:45	10	14.65	5.97	0.219	0.78	35.6
MW-D1						
9:45	Begin Purge	15.10	6.53	0.503	8.13	135.0
10:00	2	13.49	6.38	0.447	7.38	134.0
10:15	4	13.39	6.38	0.435	7.36	134.0
10:30	6	13.37	6.36	0.437	7.37	135.0
MW-D2						
13:20	Begin Purge	11.37	6.87	0.343	4.77	99.3
13:30	3	10.85	6.81	0.324	3.49	96.0
13:40	4	10.66	6.75	0.291	2.56	90.3
13:50	5	10.64	6.74	0.286	2.50	88.6
14:00	6	10.58	6.72	0.285	2.49	88.1

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

Well ID	Measuring Point Elevation (fasl)	DTW (ft.) 9/21/10	Groundwater Elevation (fasl)
MW-2	1590.18	40.23	1549.95
MW-3	1591.37	56.21	1535.16
MW-5	1590.44	NA	NA
MW-6	1584.99	5.00	1579.99
MW-D1	1590.31	50.05	1540.26
MW-D2	1584.17	41.75	1542.42

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:	LVRA03-MNAGW-MW2	LVRA03-MNAGW-MW3	LVRA03-MNAGW-MW5	LVRA03-MNAGW-MW6	LVRA03-MNAGW-MWD1	LVRA03-MNAGW-MWD2	LVRA03-MNAGW-DUP1 ⁽¹⁾
Date Sampled:	09/21/10	09/21/10	12/15/2010 ⁽²⁾	09/21/10	09/21/10	09/21/10	09/21/10
Volatile Organic Compounds (ug/L)							
1,1,1-Trichloroethane	1U	1U	1U	1U	1U	1U	1U
1,1,2,2-Tetrachloroethane	1U	1U	1U	1U	1U	1U	1U
1,1,2-Trichloro-1,2,2,-trifluoroethane	1U	1U	1U	1U	1U	1U	1U
1,1,2-Trichloroethane	1U	1U	1U	1U	1U	1U	1U
1,1-Dichloroethane	1U	1U	1U	1U	1U	1U	1U
1,1-Dichloroethene	0.51J	1U	1U	1U	1U	1U	1U
1,2,4-Trichlorobenzene	1U	1U	1U	1U	1U	1U	1U
1,2-Dibromo-3-Chloropropane	1UJ	1UJ	1U	1UJ	1UJ	1UJ	1UJ
1,2-Dibromomethane	1U	1U	1U	1U	1U	1U	1U
1,2-Dichlorobenzene	1U	1U	1U	1U	1U	1U	1U
1,2-Dichloroethane	1U	1U	1U	1U	1U	1U	1U
1,2-Dichloropropane	1U	1U	1U	1U	1U	1U	1U
1,3-Dichlorobenzene	1U	1U	1U	1U	1U	1U	1U
1,4-Dichlorobenzene	1U	1U	1U	1U	1U	1U	1U
2-Butanone	5U	5U	10U	5U	5U	5U	5U
2-Hexanone	5UJ	5UJ	5U	5UJ	5UJ	5UJ	5UJ
4-Methyl-2-pentanone	5UJ	5UJ	5U	5UJ	5UJ	5UJ	5UJ
Acetone	5U	5U	10U	5U	5U	5U	5U
Benzene	1U	1U	1U	1U	1U	1U	1U
Bromodichloromethane	1U	1U	1U	1U	1U	1U	1U
Bromoform	1UJ	1UJ	1U	1UJ	1UJ	1UJ	1UJ
Bromomethane	1U	1U	1U	1U	1U	1U	1U
Carbon Disulfide	1U	1U	1U	1U	1U	1U	1U
Carbon Tetrachloride	1U	1U	1U	1U	1U	1U	1U
Chlorobenzene	1U	1U	1U	1U	1U	1U	1U
Chloroethane	1U	1U	1U	1U	1U	1U	1U
Chloroform	1U	1U	1U	1U	1U	1U	1U
Chloromethane	1U	1U	1U	1U	1U	1U	1U
cis-1,2-Dichloroethene	32	1	1U	27	1U	16	16
cis-1,3-Dichloropropene	1U	1U	1U	1U	1U	1U	1U
Cyclohexane	1U	1U	1U	1U	1U	1U	1U
Dibromochloromethane	1U	1U	1U	1U	1U	1U	1U
Dichlorodifluoromethane	1U	1U	1U	1U	1U	1U	1U
Ethylbenzene	1U	1U	1U	1U	1U	1U	1U
Isopropylbenzene	1U	1U	1U	1U	1U	1U	1U
Methyl acetate	1UJ	1UJ	1U	1UJ	1UJ	1UJ	1UJ
Methylcyclohexane	1U	1U	1U	1U	1U	1U	1U
Methylene Chloride	1U	1U	1U	1U	1U	1U	1U
Methyl-tert-butyl ether	1U	1U	1U	1U	1U	1U	1U
Styrene	1U	1U	1U	1U	1U	1U	1U
Tetrachloroethene	1U	1U	1U	1U	1U	1U	1U
Toluene	1U	1U	1U	1U	1U	1U	1U
Total Xylenes	2U	2U	2U	2U	2U	2U	2U
trans-1,2,-Dichloroethene	1U	1U	1U	1U	1U	1U	1U
trans-1,3-Dichloropropene	1U	1U	1U	1U	1U	1U	1U
Trichloroethene	75	11	1U	2.1	2.2	72	72.0
Trichlorofluoromethane	1U	1U	1U	1U	1U	1U	1U
Vinyl chloride	2.1	1U	1U	2.6	1U	1U	1U

Monitored Natural Attenuation Parameters (mg/L)							
Chloride	24.1	42.3	9.49	13.3	50.4	28.1	28.2
Ethane	0.015U	0.0015U	0.015U	0.015U	0.0015U	0.0015U	0.0015U
Ethene	0.015U	0.0015U	0.015U	0.015U	0.0015U	0.0015U	0.0015U
Ferrous Iron	0.10 U	0.10U	0.10 U	0.10 U	0.10U	0.10U	0.10 U
Methane	0.052	0.001U	0.001 U	0.037	0.001U	0.001U	0.001U
Nitrate	0.05 U	1.04	1.07	0.054	2.67	0.189	0.209
Sulfate	17.0	14.1	6.92	10.6	11.5	13.2	13.2
Sulfide	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Alkalinity	194	155	60.0	89.8	165	126	125
Total Organic Carbon	0.9J	0.4J	1.2	1.6	0.8J	1.0U	1.0U

Notes:

U = Compound not detected above specified laboratory detection limit

J= Laboratory estimated concentration

(1) Duplicate sample collected at LVRA03-MNAGW-MWD2 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												BIAMW-3								
	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	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
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	--	--	--	--	--	--	--	--	--
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	--	--	--	--	--	0.12 J	--	--	--	--	--	--
2-Butanone	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	0.8 J	--	--	--	--	--	0.19 J	0.23 J	--	--	--	--	--	--	0.091 J	--	--	--	--	--	--
1,2-Dichloroethene (total)	54	51	40	42	NA	NA	NA	NA	NA	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	3	2.2	0.36 J	0.86	0.7	0.8	--	--	1
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	--	--	--	--	--	NA	--	--	--	--	--	--	--	--
Toluene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	230	190	84	87	110	36 D	58 D	58 D	69 J	75	77	75	8	6.3	2.2	7.9 J	5	6	4.2	3.7	11
Vinyl Chloride	4 J	2 J	1 J	1 J	NA	4.8	4	4.8	4.2	3	0.77 J	2.1	--	--	--	--	--	--	--	--	--
m/p-Xylene	NA	NA	NA	NA	NA	NA	0.1 J	--	--	--	--	--	NA	NA	--	--	--	--	--	--	--
MNA/Water Quality Parameters (mg/L)																					
Alkalinity	NA	NA	NA	NA	NA	180	190	180	176	194	173	194	NA	160	260	155	167	168	171	173	155
Chloride	NA	NA	NA	NA	NA	19	26	26	28.4	32.2	25.2	24.1	NA	44	78	64.4	46.0	46.3	31.8	32.1	42.3
Ferrous Iron	NA	NA	NA	NA	NA	--	0.17	0.14	--	--	--	--	NA	--	--	0.18	--	--	--	--	--
Methane	NA	NA	NA	NA	NA	0.54 JD	0.046 J	0.11 J	0.026	0.020	0.009	0.052	NA	0.07 J N	--	--	--	--	--	--	--
Nitrate	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	NA	1.2	1.9	1.5	1.4	1.3	1.43	1.46	1.04
Sulfate	NA	NA	NA	NA	NA	16	17	17	20.5	21.2	16.5	17	NA	12	27	23.8	13.8	13.2	11.5	11.0	14.1
Sulfide	NA	NA	NA	NA	NA	NA	0.02	0.018	--	--	--	--	NA	NA	0.018	--	--	--	--	--	--
TOC	NA	NA	NA	NA	NA	2.6	--	--	1.6	--	1.6 J	0.9J	NA	--	26	1.4	--	--	--	--	0.4J

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

	BIAMW-5							BIAMW-6							BIAMW-D1					
	12/13/1999	01/04/2001	10/30/2006	09/25/2007	09/25/2008	09/22/2009	12/15/2010	12/13/1999	01/10/2001	10/30/2006	09/25/2007	09/25/2008	09/22/2009	09/21/2010	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	--	--	--	--	--	--	--	--	--	--	0.66	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	NA	--	--	--	--	--	--	NA	--	--	--	--	--	--	NA	--	--	--	--	--
Benzene	--	--	0.23 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Butanone	--	--	--	--	--	3.6 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	--	--	0.13 J	--	--	--	--	--	--	0.11 J	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethene (total)	--	NA	NA	NA	NA	NA	NA	30	NA	NA	NA	NA	NA	NA	4 J	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	NA	--	--	--	--	--	--	NA	44	35 D	120	39	26	27	NA	8	4.8	0.42 J	0.92 J	--
trans-1,2-Dichloroethene	--	--	--	--	--	--	--	NA	--	0.48 J	0.31 J	--	--	--	NA	--	--	0.55	--	--
Ethylbenzene	--	--	0.13 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isopropylbenzene	NA	NA	--	--	--	--	--	NA	NA	--	--	--	--	--	NA	NA	--	--	--	--
Toluene	--	--	--	--	--	5.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	--	--	--	--	--	--	--	17	37	19	1.6 J	3	3.7	2.1	9 J	18	12	1.8	6.7	2.2
Vinyl Chloride	--	--	--	--	--	--	--	4 J	--	--	9.5 J	5	2.5	2.6	--	--	--	0.16 J	--	--
m/p-Xylene	NA	NA	--	--	--	--	--	NA	NA	--	--	--	--	--	NA	NA	NA	--	--	--
MNA/Water Quality Parameters (mg/L)																				
Alkalinity	NA	NA	70	65	65.4	61.8	60.0	NA	NA	88	75	86.1	92	89.8	NA	NA	190	200	151	165
Chloride	NA	NA	11	38.4	23.3	12	9.49	NA	NA	13	32.9	17.8	11.3	13.3	NA	NA	42	55	23.8	50.4
Ferrous Iron	NA	NA	0.18	--	--	--	--	NA	NA	--	--	--	--	--	NA	NA	--	--	--	--
Methane	NA	NA	--	0.0061	--	0.00031 J	--	NA	NA	0.082 J	0.098	0.064	0.098	0.037	NA	NA	0.06 J N	--	--	--
Nitrate	NA	NA	0.73	--	--	--	1.07	NA	NA	--	--	--	--	0.054	NA	NA	1.4	2.7	1.6	2.67
Sulfate	NA	NA	6.7	7.4	6.4	5.31	6.92	NA	NA	11	19.4	10.1	10.9	10.6	NA	NA	13	11	11.7	11.5
Sulfide	NA	NA	--	--	--	--	--	NA	NA	--	--	--	--	--	NA	NA	NA	--	--	--
TOC	NA	NA	--	1.3	--	1.1 J	1.2	NA	NA	--	1.7	--	2.5 J	1.6	NA	NA	--	--	1.0 J	0.8J

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

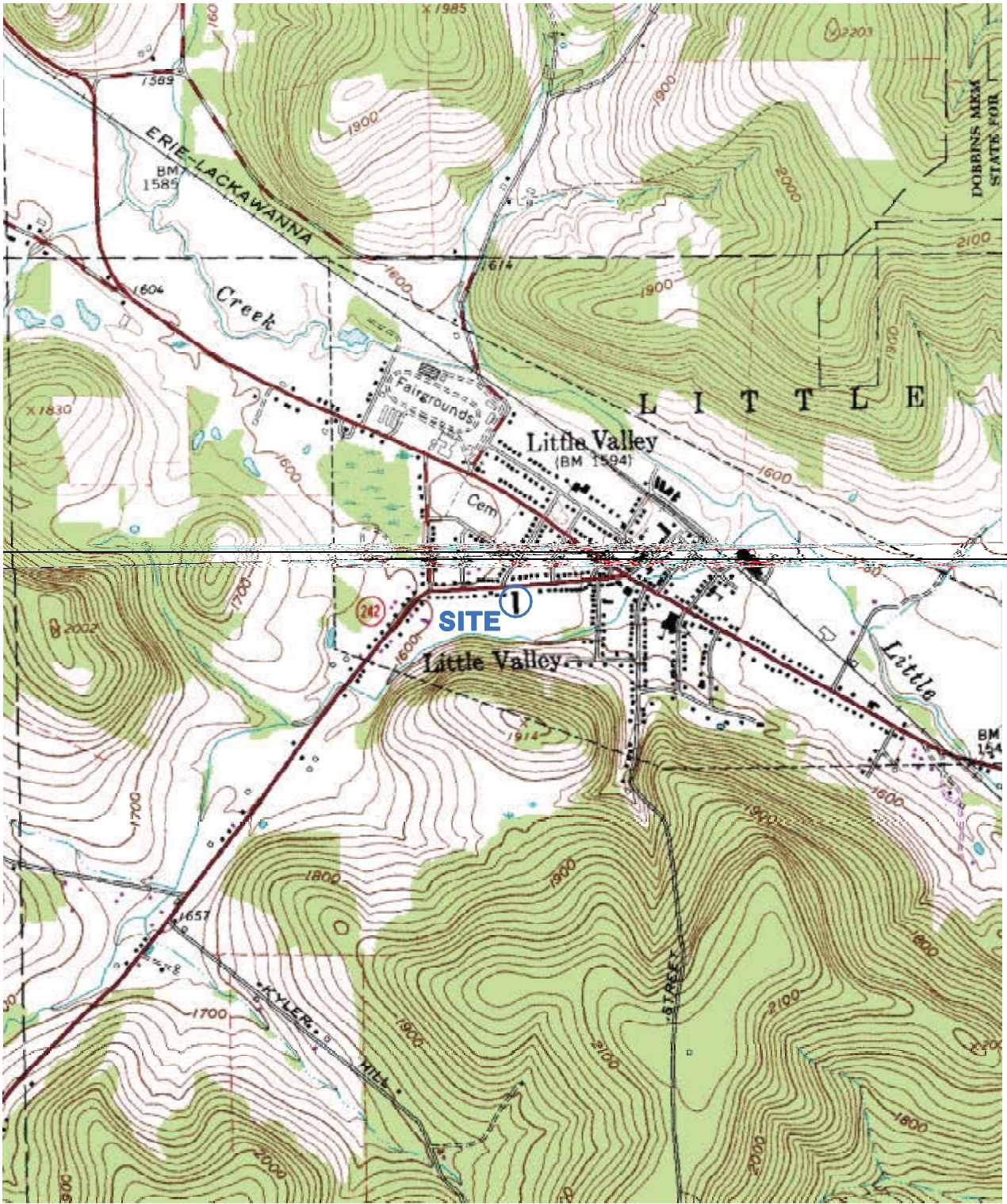
	BIAMW-D2									
	12/14/1999	01/10/2001	01/10/2001 Duplicate	12/11/2003	10/30/2006	09/25/2007	09/25/2007 Duplicate	09/25/2008	09/22/2009	09/21/2010
Volatile Organics (ug/L)										
1,1,2-Trichloroethane	--	--	--	--	0.084 J	--	--	--	--	--
1,1-Dichloroethene	0.4 J	--	--	0.81	0.54	0.44 J	0.47 J	--	0.71 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
cis-1,2-Dichloroethene	NA	36	29	18 D	26 D	33	33	25	32	16
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
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
Chloride	NA	NA	NA	22	31	37.8	37.8	33.4	27.3	28.1
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
Sulfate	NA	NA	NA	15	13	19.8	19.1	16.8	17	13.2
Sulfide	NA	NA	NA	NA	0.027	--	--	--	--	--
TOC	NA	NA	NA	2.4	--	1.8	--	--	0.9 J	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.



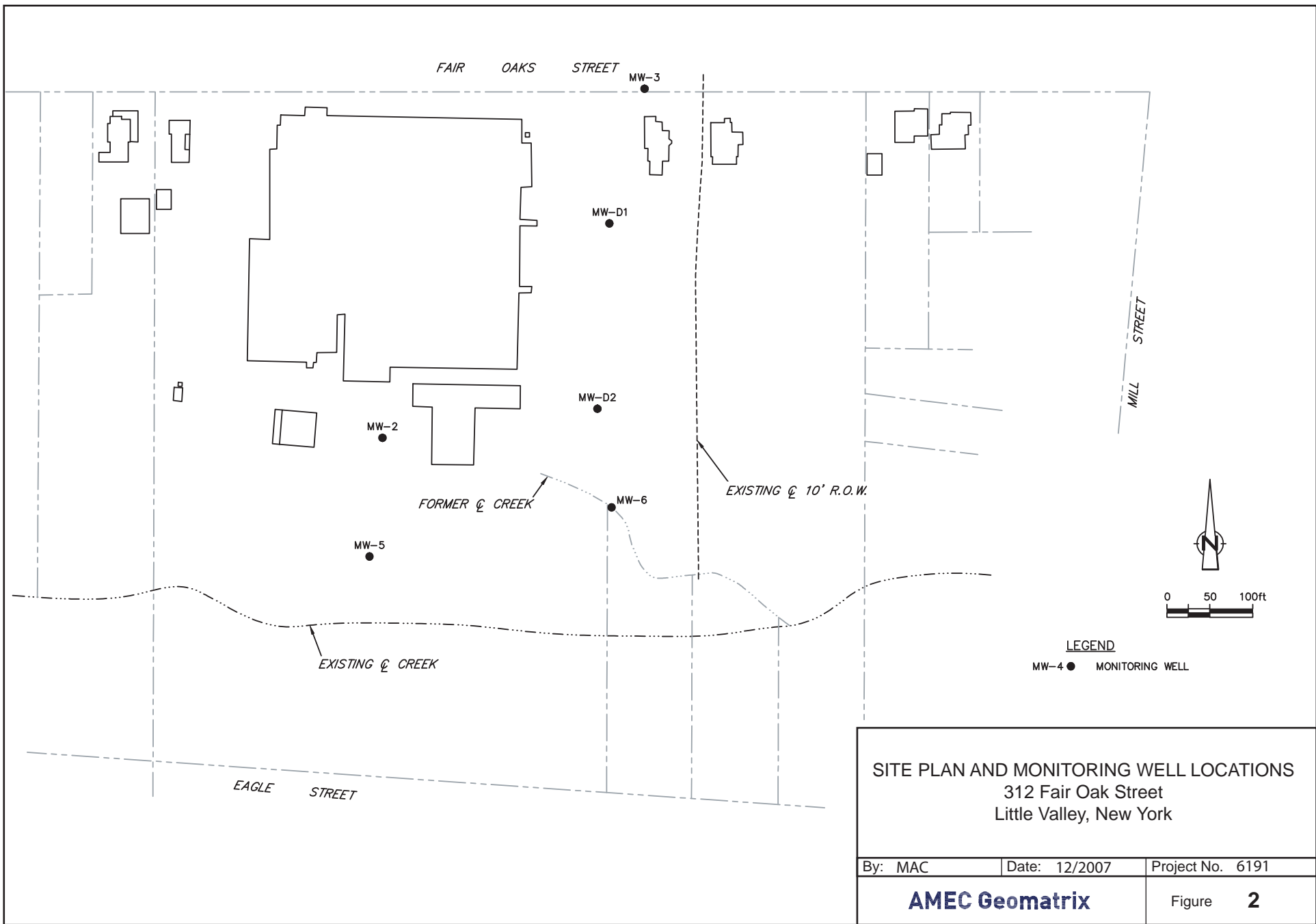
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AMEC Geomatrix

SITE LOCATION
 312 FAIR OAK STREET
 LITTLE VALLEY, NEW YORK

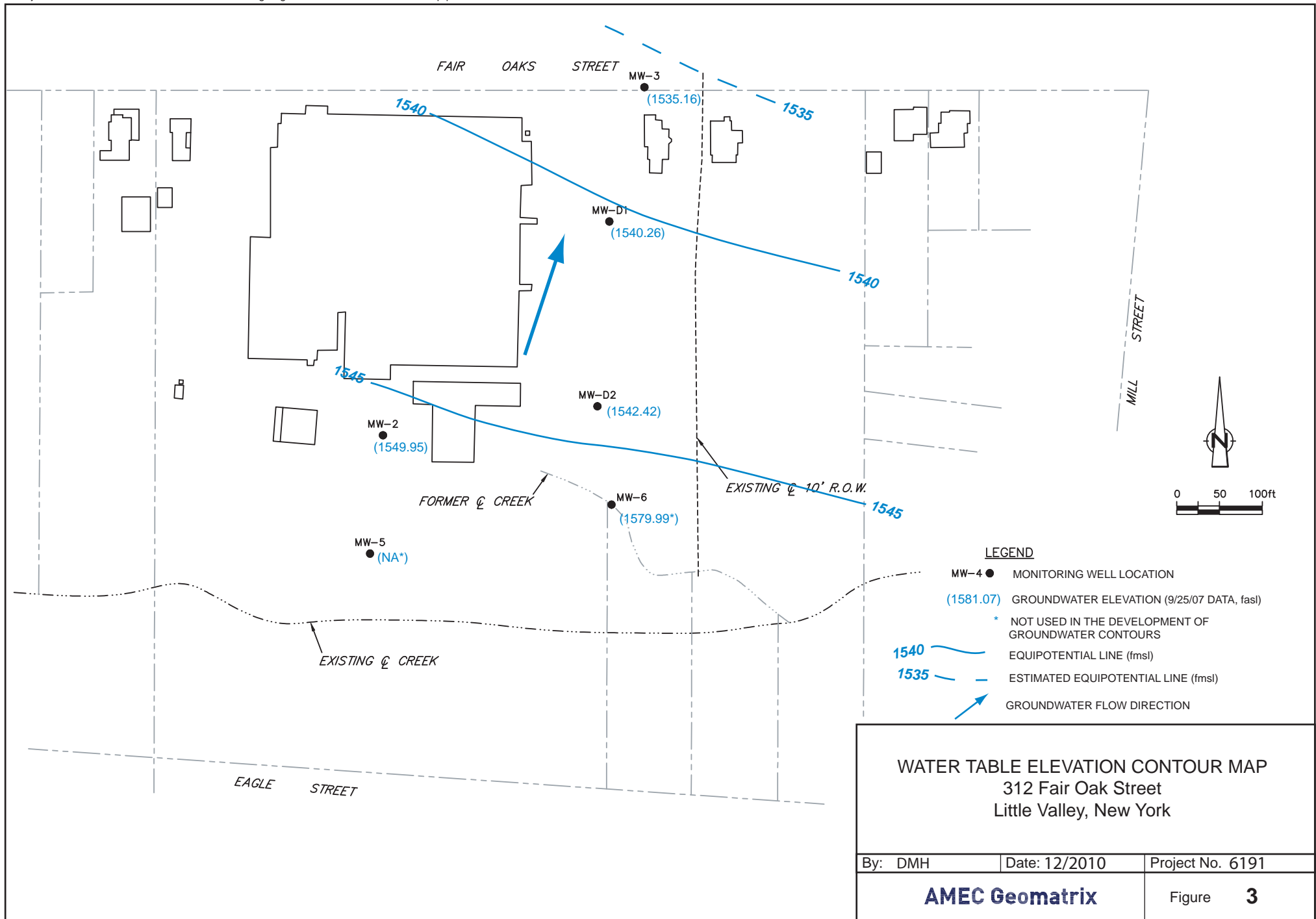
Project No.
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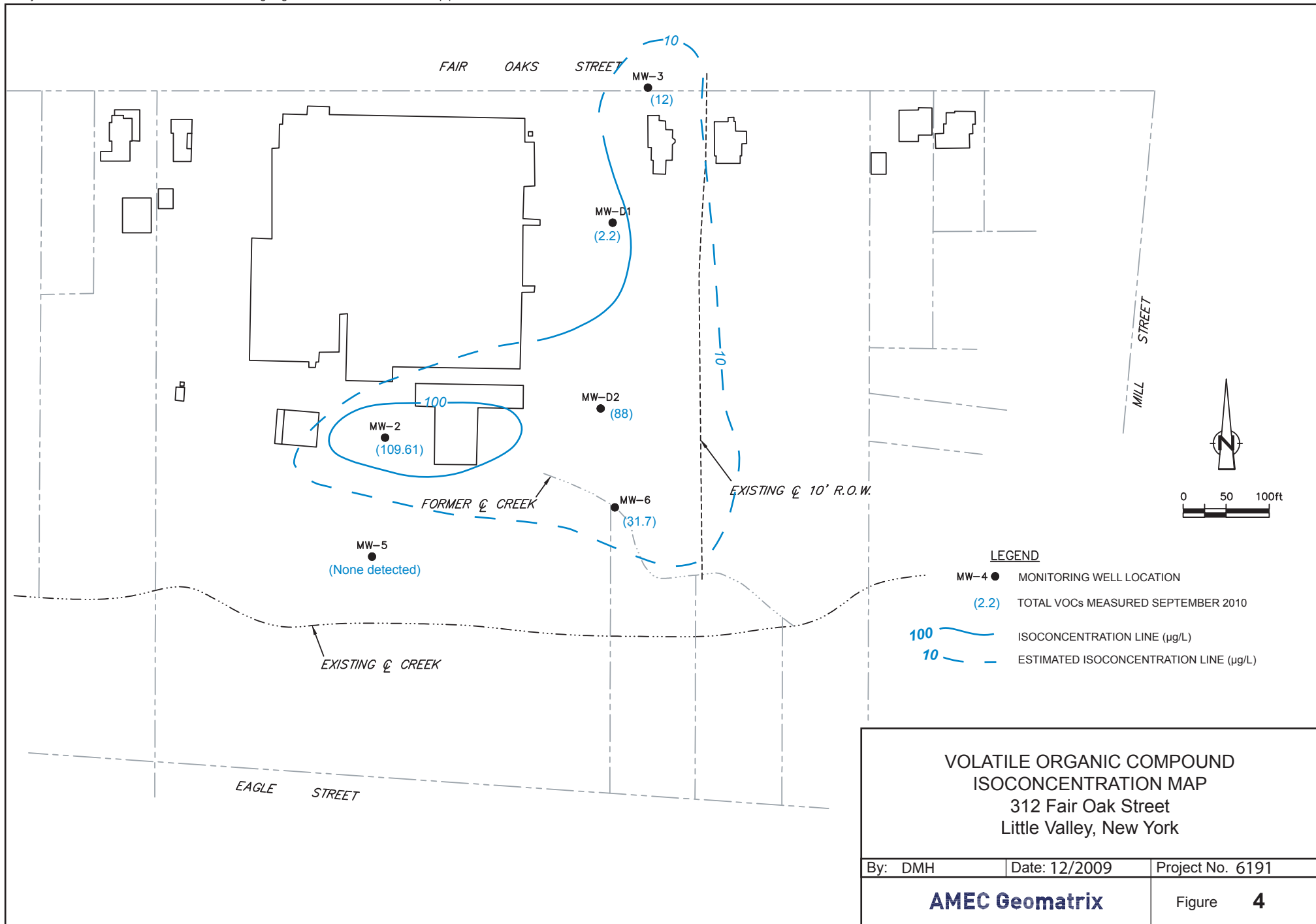
Figure
 1



SITE PLAN AND MONITORING WELL LOCATIONS
 312 Fair Oak Street
 Little Valley, New York

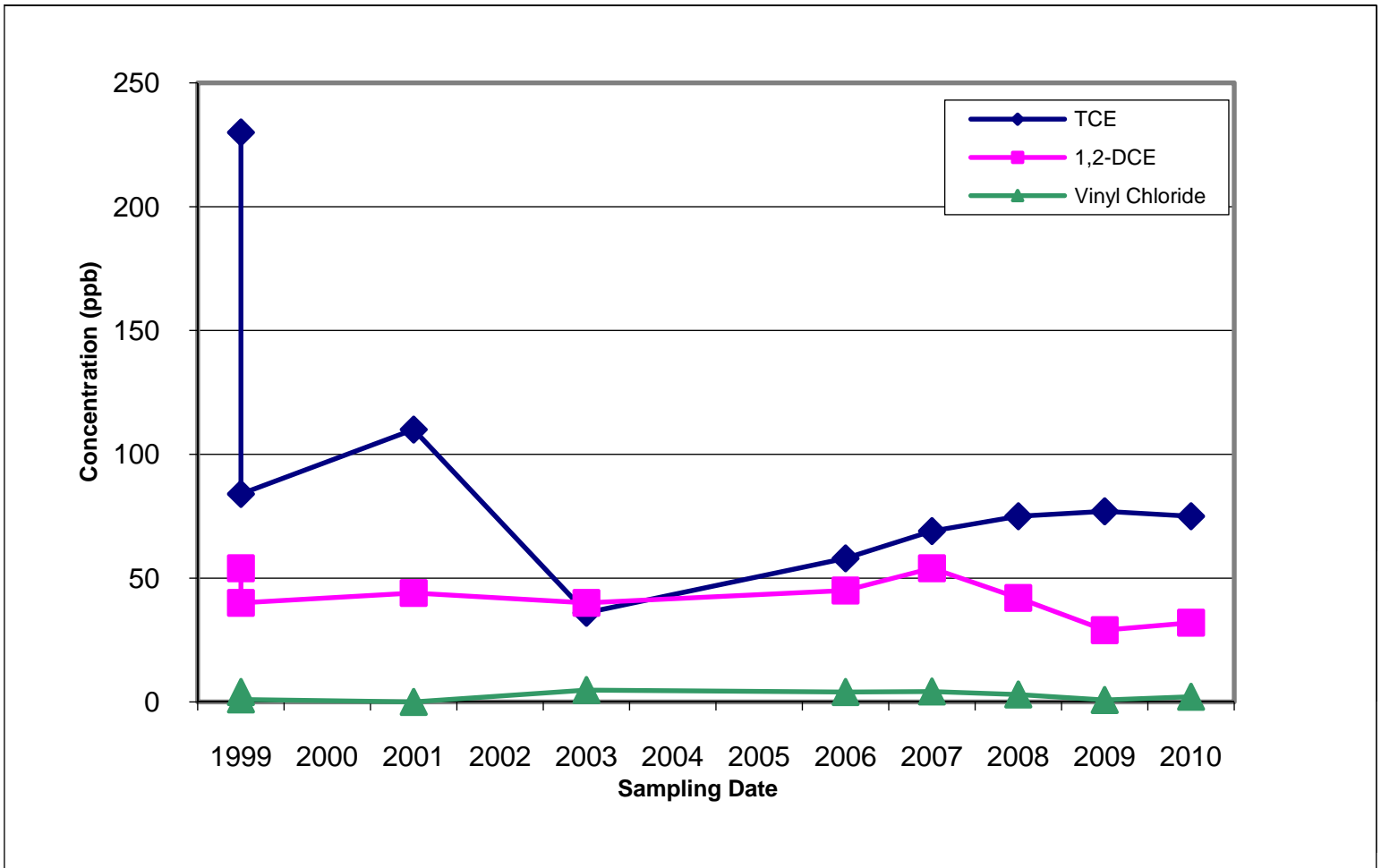
By: MAC	Date: 12/2007	Project No. 6191
AMEC Geomatrix		Figure 2





**VOLATILE ORGANIC COMPOUND
ISOCONCENTRATION MAP**
312 Fair Oak Street
Little Valley, New York

By: DMH	Date: 12/2009	Project No. 6191
AMEC Geomatrix		Figure 4

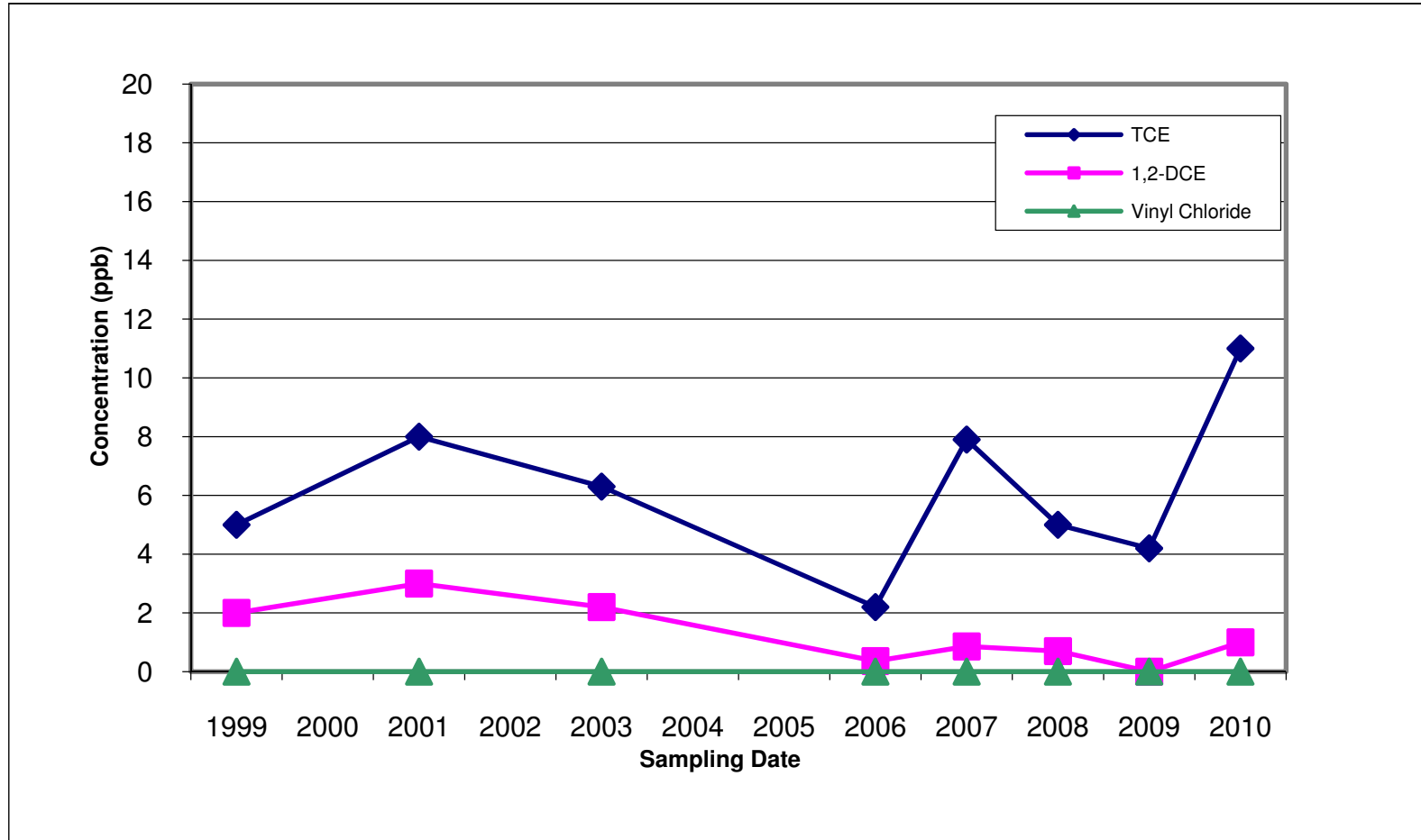


MW-2 VOC TIME-CONCENTRATION PLOT
312 Fair Oak Street
Little Valley, New York

By: DMH | Date: 12/2009 | Project No. 6191

AMEC Geomatrix

Figure 5

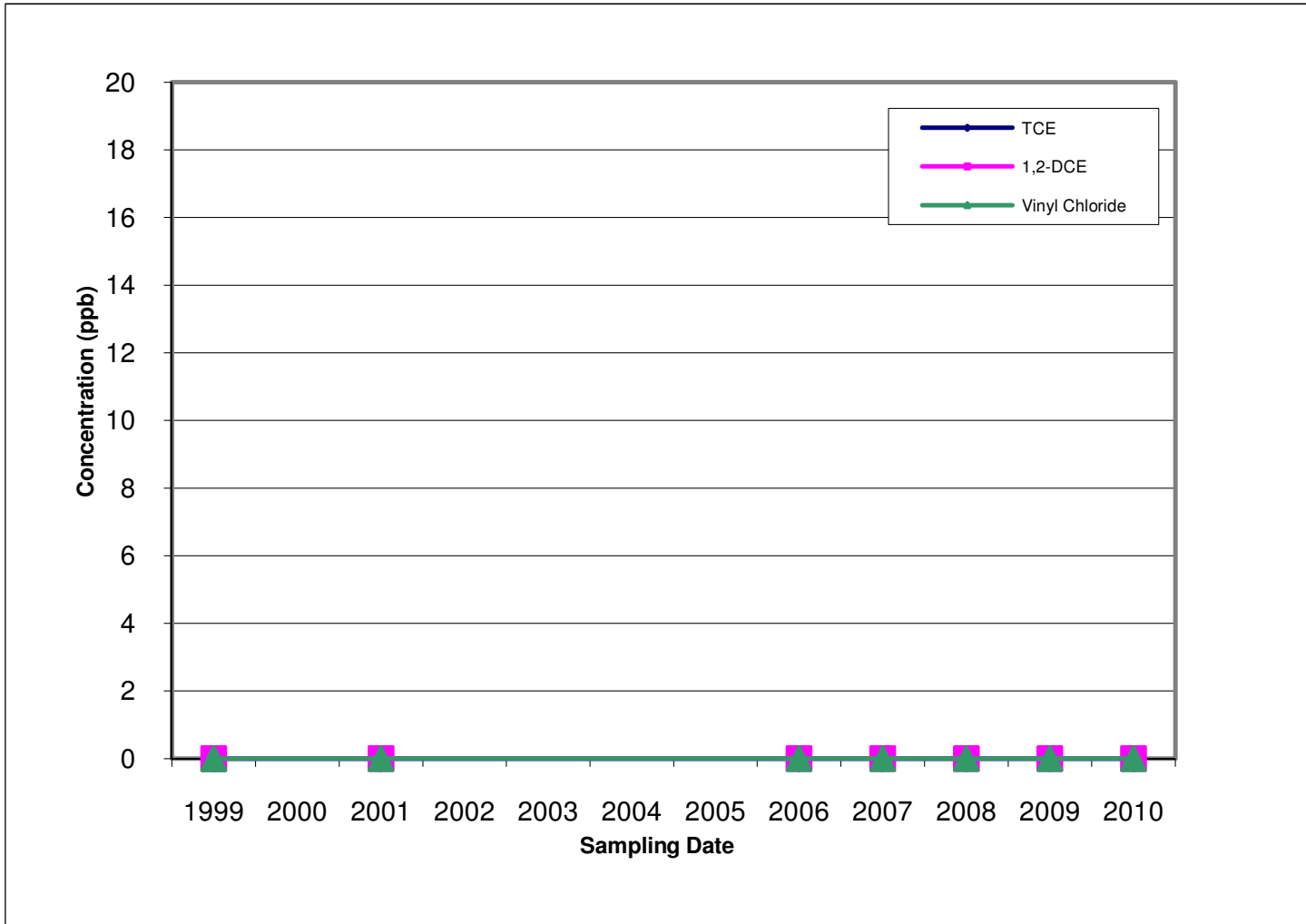


MW-3 VOC TIME-CONCENTRATION PLOT
312 Fair Oak Street
Little Valley, New York

By: DMH | Date: 12/2009 | Project No. 6191

AMEC Geomatrix

Figure 6

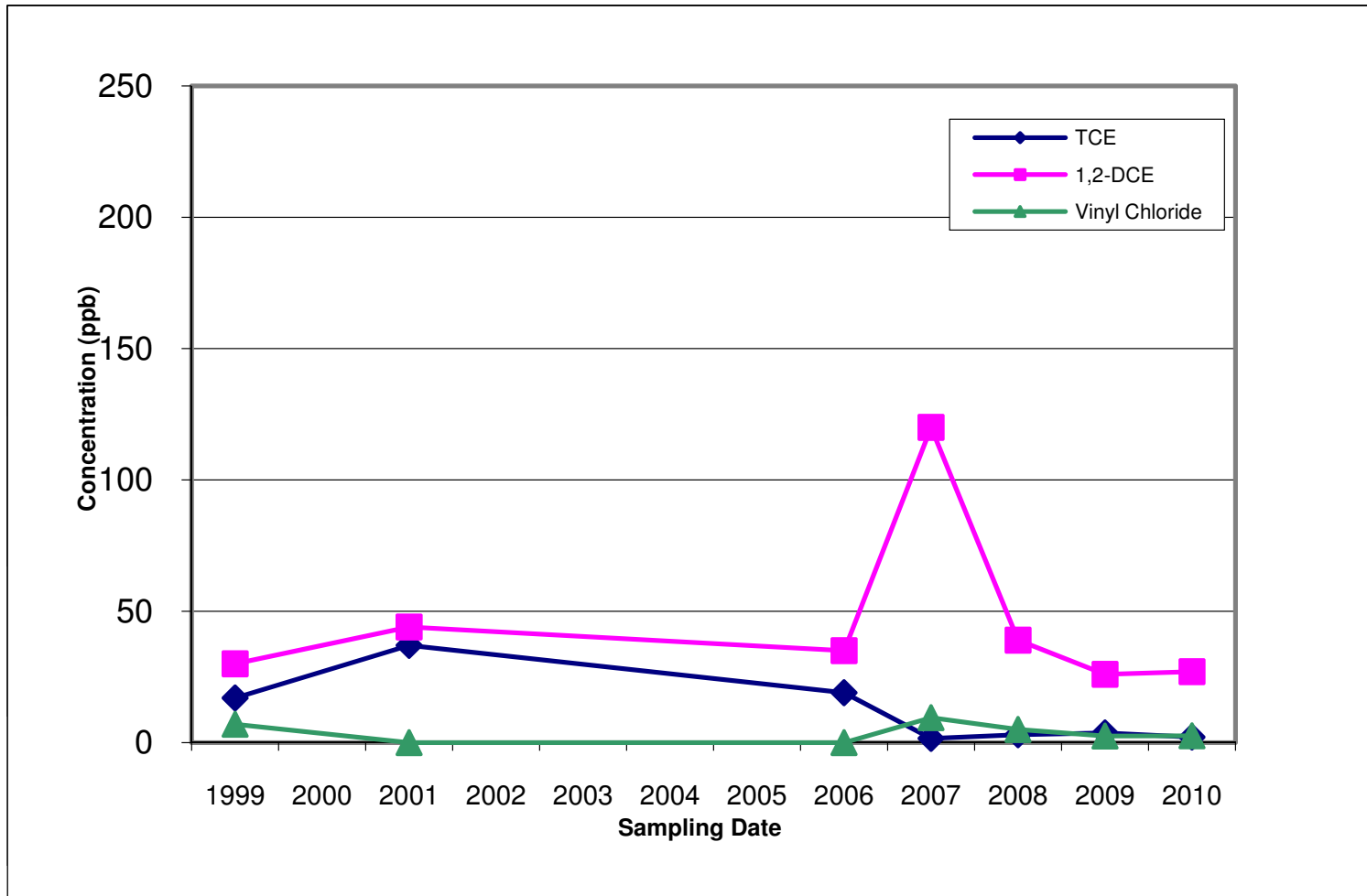


MW-5 VOC TIME-CONCENTRATION PLOT
312 Fair Oak Street
Little Valley, New York

By: DMH | Date: 12/2009 | Project No. 6191

AMEC Geomatrix

Figure 7

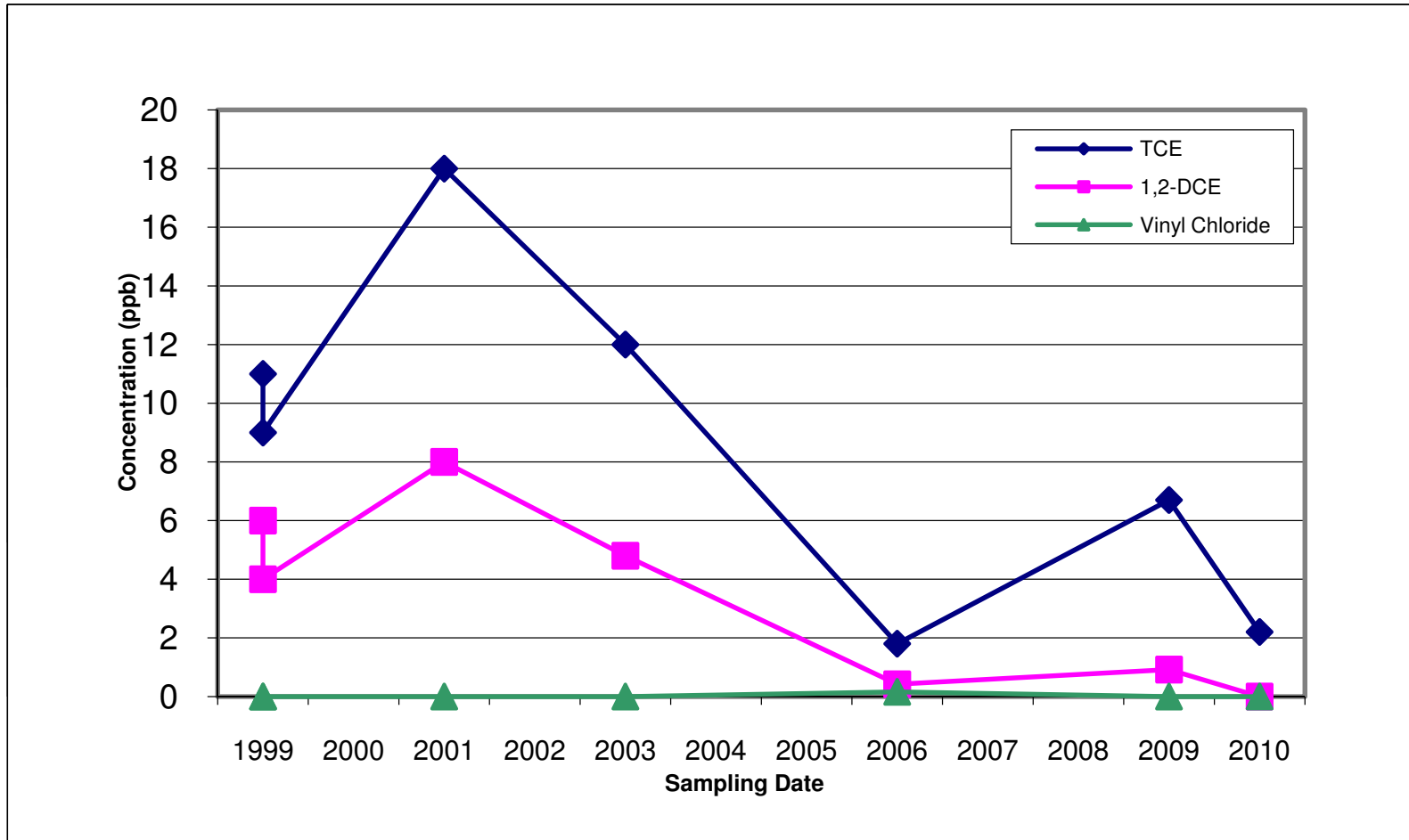


MW-6 VOC TIME-CONCENTRATION PLOT
312 Fair Oak Street
Little Valley, New York

By: DMH | Date: 12/2009 | Project No. 6191

AMEC Geomatrix

Figure 8

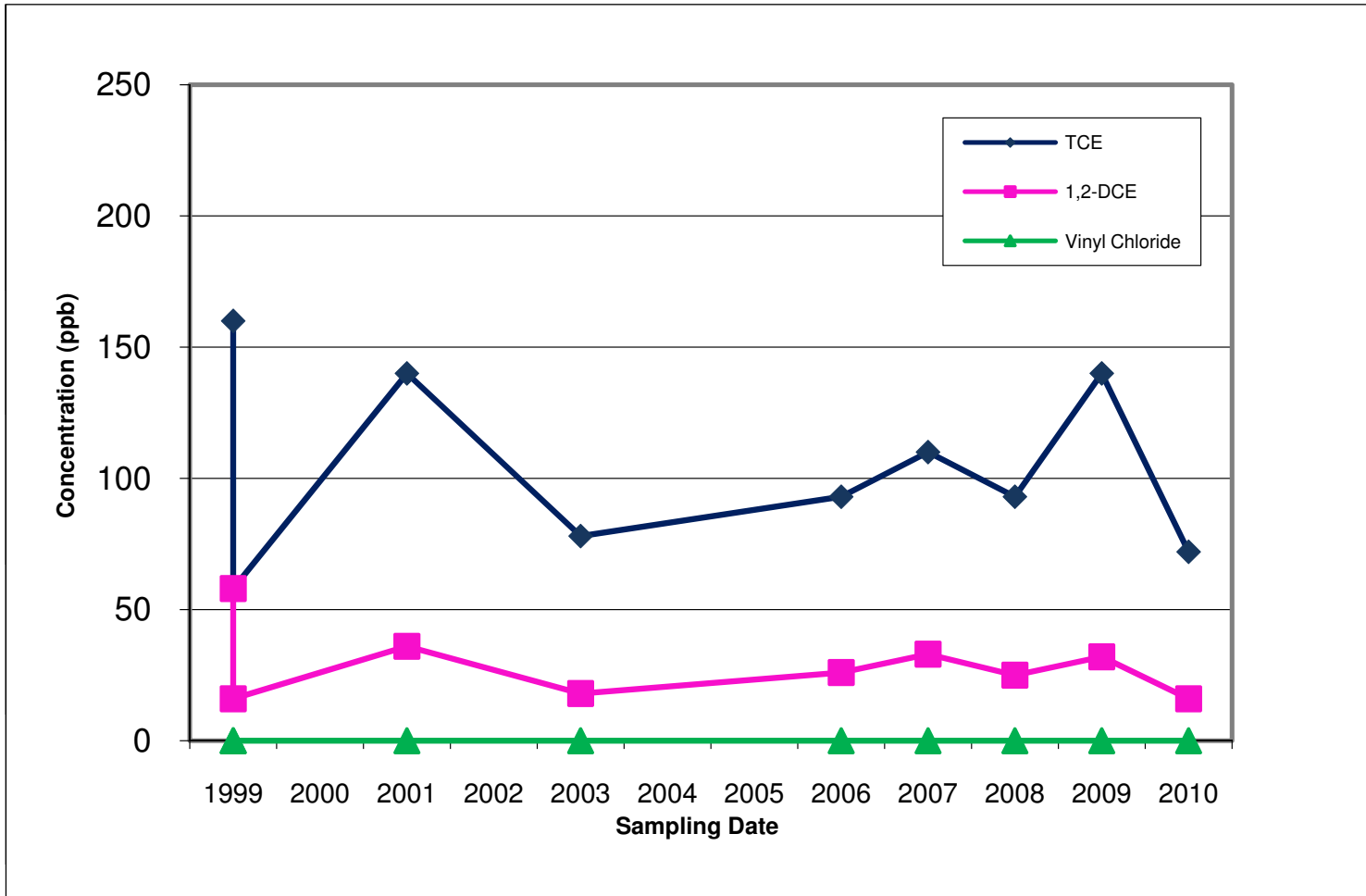


MW-D1 VOC TIME-CONCENTRATION PLOT
312 Fair Oak Street
Little Valley, New York

By: DMH | Date: 12/2009 | Project No. 6191

AMEC Geomatrix

Figure 9



MW-D2 VOC TIME-CONCENTRATION PLOT
312 Fair Oak Street
Little Valley, New York

By: DMH | Date: 12/2010 | Project No. 6191

AMEC Geomatrix

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
RTI1344**

PREPARED FOR:

**AMEC - Geomatrix
West Amherst, New York**

Reviewed by:

Reviewed by:

A handwritten signature in black ink, appearing to read "Patto Allen".

Approved by:

A handwritten signature in black ink, appearing to read "John W. [unclear]".

Prepared by

MEC^X, LP
12269 East Vassar Drive
Aurora, CO 80014

I. INTRODUCTION

Task Order Title: Bush Industries
 Contract Task Order: 1217.012D.00 003
 Sample Delivery Group: RTI1344
 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
LVRA04-MNAGW-MW3	RTI1344-01	Water	09/21/2010 0915	300.0, 353.2, 2320B, 3500FE, 4500-SF, 8260B, 9060, RSK175
LVRA04-MNAGW-MWD1	RTI1344-02	Water	09/21/2010 1030	300.0, 353.2, 2320B, 3500FE, 4500-SF, 8260B, 9060, RSK175
LVRA04-MNAGW-MW6	RTI1344-03	Water	09/21/2010 1150	300.0, 353.2, 2320B, 3500FE, 4500-SF, 8260B, 9060, RSK175
LVRA04-MNAGW-MWD2	RTI1344-04	Water	09/21/2010 1400	300.0, 353.2, 2320B, 3500FE, 4500-SF, 8260B, 9060, RSK175
Field Dup	RTI1344-05	Water	09/21/2010	300.0, 353.2, 2320B, 3500FE, 4500-SF, 8260B, 9060, RSK175
LVRA04-MNAGW-MW2	RTI1344-06	Water	09/21/2010 1500	300.0, 353.2, 2320B, 3500FE, 4500-SF, 8260B, 9060, RSK175
Field Blank	RTI1344-09	Water	09/21/2010 1220	8260B
Trip Blank	RTI1344-10	Water	09/21/2010	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. The COCs were appropriately signed and dated by field and/or laboratory personnel. No information regarding the custody seals was provided by the laboratory. If necessary, the client ID was added to the sample result summary by the reviewer. No additional sample receipt information was provided by the laboratory.

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 \geq reported compound was not present.	Not applicable.
-	False negative \geq 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, <i>Sample Management</i> , or Section III, <i>Method Analyses</i> . 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, <i>Sample Management</i> , or Section III, <i>Method Analyses</i> . 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: P. Meeks

Date Reviewed: October 28, 2010

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 (9/2006)*.

- Holding Times: The preserved water samples were analyzed within 14 days of collection.
- GC/MS Tuning: The BFB tunes met the method abundance criteria. All samples were analyzed within 12 hours of the BFB injection time.
- Calibration: The average RRFs for the SPCCs were within the method required criteria of ≥ 0.1 (for chloromethane, 1,1-dichloroethane, and bromoform) and ≥ 0.3 (for chlorobenzene and 1,1,2,2-tetrachloroethane). The remaining average RRFs for the applicable target compounds were ≥ 0.05 . Initial calibration %RSDs were $\leq 15\%$ or r^2 values were ≥ 0.995 for all applicable target compounds.
- Continuing Calibration: The continuing calibration RRFs for the SPCCs were within the method required criteria of ≥ 0.1 for chloromethane, 1,1-dichloroethane, and bromoform and ≥ 0.3 for chlorobenzene and 1,1,2,2-tetrachloroethane. The remaining continuing calibration RRFs for the applicable target compounds were ≥ 0.05 . The %Ds for 1,2-dibromo-3-chloropropane, 4-methyl-2-pentanone, bromoform, and methyl acetate exceeded 20% in the CCV bracketing the analyses of LVRA04-MNAGW-MW-D2; therefore, the results for these compounds in LVRA04-MNAGW-MW-D2 (all nondetects) were qualified as estimated, "UJ." The %Ds for 1,2-dibromo-3-chloropropane, 2-hexanone, 4-methyl-2-pentanone, bromoform, and methyl acetate and acetone exceeded 20% in the CCV bracketing the remaining sample analyses; therefore, the results for these compounds (all nondetects) in the remaining samples were qualified as estimated, "UJ." The remaining %Ds were $\leq 20\%$.
- Blanks: The method blanks had no target compound detects above the MDL.
- Blank Spikes and Laboratory Control Samples: Fourteen target compounds were spiked in the LCS associated with LVRA04-MNAGW-MWD2. All target compounds were spiked in the LCS associated with the remaining site samples. 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 LVRA04-MNAGW-MW2. Bromoform was recovered marginally below the control limit in the MS only and tetrachloroethene was recovered above the control limit in the MSD only. The 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. There were no detects reported above the MDL in the trip blank.
 - Field Blanks and Equipment Rinsates: Sample Field Blank was identified as the equipment blank associated with the samples in this SDG. There were no detects reported above the MDL in the equipment blank.
 - Field Duplicates: Samples LVRA04-MNAGW-D2 and FIELD DUP were identified as the field duplicate pair in this SDG. There were common detects for cis-1,2-dichloroethene and trichloroethene with calculated RPDs of 0% for each. 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. The sample result summaries were compared to the raw data and no transcription errors were noted.
- Compound Quantification Compound quantitation was not verified at this level of validation. The reporting limits were supported by the low point of the initial calibration and the 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: Review of the raw data indicated no problems with system performance.

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

Reviewed By: P. Meeks

Date Reviewed: October 28, 2010

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)*.

- 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 calibration r^2 values were ≥ 0.995 . The ICV and all CCV %Ds were $\leq 15\%$.
- Blanks: There were no detects above the reporting limit in the method blanks.
- Blank Spikes and Laboratory Control Samples: Recoveries 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 for sample LVRA04-MNAGW-MW2 of this SDG. 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. The sample result summaries were compared to the raw data and no transcription errors were noted.
- Compound Quantification and Reported Detection Limits: Compound quantification was verified. The reporting limits were supported by the low point of the initial calibration and the MDL. Samples LVRA04-MNAGW-MW2 and LVRA04-MNAGW-MW6 were analyzed at 10 \times dilutions in order to report methane within the linear range of the calibration. 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: Review of the raw data indicated no problems with system performance.
- 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 identified as the trip blank associated with the samples in this SDG. There were no detects above the MDL in the trip blank.
- Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.
- Field Duplicates and Field Split Samples: Field Duplicates: Samples LVRA04-MNAGW-D2 and FIELD DUP were identified as the field duplicate pair in this SDG. There were no detects reported above the MDL in the field duplicate samples and the pair was considered to be in good agreement.

C. VARIOUS EPA METHODS—General Minerals

Reviewed By: P. Meeks

Date Reviewed: November 23, 2009

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: Calibration criteria were met. Initial calibration r^2 values were ≥ 0.995 . ICVs were not analyzed for TOC, ferrous iron, nitrate and sulfide. As the check standards were acceptably recovered, no qualifications were deemed necessary. For chloride, sulfate, ferrous iron, sulfide, and nitrate the laboratory did not analyze CCVs. Instead, batch LCSs were analyzed every 10 field samples. As the site sample analyses were bracketed by one standard that was not reported as the associated LCS, the reviewer deemed that no qualifications were necessary. All initial and continuing calibration recoveries were within 90-110%. For the titrometric methods, sulfide and alkalinity, no verification of the titrant normalization was provided by the laboratory, although standard identification numbers were provided for the sulfide standards.
- Blanks: For chloride, sulfate, ferrous iron, sulfide, and nitrate the laboratory did not analyze CCBs. Instead, batch method blanks were analyzed every 10 field samples. As the site sample analyses were bracketed by one standard that was not reported as the associated method blank, the reviewer deemed that no qualifications were necessary. Method blanks and CCBs had no detects.

- Blank Spikes and Laboratory Control Samples: Recoveries were within laboratory-established QC limits.
- Laboratory Duplicates: No laboratory duplicate analyses were performed on a sample in this SDG.
- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed on LVRA04-MNAGW-MW2 for all analytes. All recoveries and RPDs were within the laboratory-established control limits and no qualifications were required.
- 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.
 - Field Duplicates: Field Duplicates: Samples LVRA04-MNAGW-D2 and FIELD 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 20%.

Form 1

ORGANIC ANALYSIS DATA SHEET

LVRA04-MNAGW-MW-D1

8260B

Laboratory:	<u>TestAmerica Buffalo</u>	SDG:	<u>RT11344</u>
Client:	<u>AMEC Geomatrix Inc. - Amherst, NY</u>	Project:	<u>AMEC Geomatrix Inc. - NY3A9056.9</u>
Matrix:	<u>Ground Water</u>	Laboratory ID:	<u>RT11344-02</u>
		File ID:	<u>N0671.D</u>
Sampled:	<u>09/21/10 10:30</u>	Prepared:	<u>09/28/10 10:32</u>
		Analyzed:	<u>09/28/10 12:26</u>
Solids:		Preparation:	<u>5030B MS</u>
		Initial/Final:	<u>5 mL / 5 mL</u>
Batch:	<u>10I2032</u>	Sequence:	<u>T004255</u>
		Calibration:	<u>R10I026</u>
		Instrument:	<u>HP5973N</u>

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	
100-42-5	Styrene	1	1.0	U	
127-18-4	Tetrachloroethene	1	1.0	U	
108-88-3	Toluene	1	1.0	U	
156-60-5	trans-1,2-Dichloroethene	1	1.0	U	
10061-02-6	trans-1,3-Dichloropropene	1	1.0	U	
79-01-6	Trichloroethene	1	2.2		
75-69-4	Trichlorofluoromethane	1	1.0	U	
75-01-4	Vinyl chloride	1	1.0	U	
1330-20-7	Xylenes, total	1	2.0	U	
SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
1,2-Dichloroethane-d4	25.0	23.8	95	66 - 137	
4-Bromofluorobenzene	25.0	26.8	107	73 - 120	
Toluene-d8	25.0	26.2	105	71 - 126	
INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
1,4-Dichlorobenzene-d4	192421	9.91	200175	9.91	
1,4-Difluorobenzene	390789	4.65	402126	4.65	
Chlorobenzene-d5	361469	7.44	363941	7.44	

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MEC* validate

Form 1
ORGANIC ANALYSIS DATA SHEET

LVRA04-MNAGW-MW-6

8260B

Laboratory:	TestAmerica Buffalo	SDG:	RTI1344
Client:	AMEC Geomatrix Inc. - Amherst, NY	Project:	AMEC Geomatrix Inc. - NY3A9056.9
Matrix:	Ground Water	Laboratory ID:	RTI1344-03
		File ID:	N0672.D
Sampled:	09/21/10 11:50	Prepared:	09/28/10 10:32
		Analyzed:	09/28/10 12:49
Solids:		Preparation:	5030B MS
		Initial/Final:	5 mL / 5 mL
Batch:	10I2032	Sequence:	T004255
		Calibration:	R10I026
		Instrument:	HP5973N

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q		
71-55-6	1,1,1-Trichloroethane	1	1.0	U	↓ U	
79-34-5	1,1,2,2-Tetrachloroethane	1	1.0	U		
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1	1.0	U		
79-00-5	1,1,2-Trichloroethane	1	1.0	U		
75-34-3	1,1-Dichloroethane	1	1.0	U		
75-35-4	1,1-Dichloroethene	1	1.0	U		
120-82-1	1,2,4-Trichlorobenzene	1	1.0	U		
96-12-8	1,2-Dibromo-3-chloropropane	1	1.0	U		↓ U U
106-93-4	1,2-Dibromoethane	1	1.0	U		
95-50-1	1,2-Dichlorobenzene	1	1.0	U		↓ U
107-06-2	1,2-Dichloroethane	1	1.0	U		
78-87-5	1,2-Dichloropropane	1	1.0	U	↓ U	
541-73-1	1,3-Dichlorobenzene	1	1.0	U		
106-46-7	1,4-Dichlorobenzene	1	1.0	U	↓ U	
000078-93-3	2-Butanone	1	5.0	U		
591-78-6	2-Hexanone	1	5.0	U	↓ U U	
108-10-1	4-Methyl-2-pentanone	1	5.0	U		
67-64-1	Acetone	1	5.0	U	↓ U	
71-43-2	Benzene	1	1.0	U		
75-27-4	Bromodichloromethane	1	1.0	U	↓ U	
75-25-2	Bromoform	1	1.0	U		
74-83-9	Bromomethane	1	1.0	U	↓ U	
75-15-0	Carbon disulfide	1	1.0	U		
56-23-5	Carbon Tetrachloride	1	1.0	U	↓ U	
108-90-7	Chlorobenzene	1	1.0	U		
75-00-3	Chloroethane	1	1.0	U	↓ U	
67-66-3	Chloroform	1	1.0	U		
74-87-3	Chloromethane	1	1.0	U	↓ U	
156-59-2	cis-1,2-Dichloroethene	1	27			
10061-01-5	cis-1,3-Dichloropropene	1	1.0	U	↓ U	
110-82-7	Cyclohexane	1	1.0	U		
124-48-1	Dibromochloromethane	1	1.0	U	↓ U	
75-71-8	Dichlorodifluoromethane	1	1.0	U		
100-41-4	Ethylbenzene	1	1.0	U	↓ U	
98-82-8	Isopropylbenzene	1	1.0	U		
79-20-9	Methyl Acetate	1	1.0	U	↓ U	
108-87-2	Methylcyclohexane	1	1.0	U		
75-09-2	Methylene Chloride	1	1.0	U	↓ U	
1634-04-4	Methyl-t-Butyl Ether (MTBE)	1	1.0	U		

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Form 1
ORGANIC ANALYSIS DATA SHEET

LVRA04-MNAGW-MW-D2

8260B

Laboratory: TestAmerica Buffalo SDG: RT11344
 Client: AMEC Geomatrix Inc. - Amherst, NY Project: AMEC Geomatrix Inc. - NY3A9056.9
 Matrix: Ground Water Laboratory ID: RT11344-04 File ID: N0701.D
 Sampled: 09/21/10 14:00 Prepared: 09/28/10 18:06 Analyzed: 09/29/10 00:23
 Solids: Preparation: 5030B MS Initial/Final: 5 mL / 5 mL
 Batch: 10E2100 Sequence: T004279 Calibration: R101026 Instrument: HP5973N

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q		
100-42-5	Styrene	1	1.0	U		
127-18-4	Tetrachloroethene	1	1.0	U		
108-88-3	Toluene	1	1.0	U		
156-60-5	trans-1,2-Dichloroethene	1	1.0	U		
10061-02-6	trans-1,3-Dichloropropene	1	1.0	U		
79-01-6	Trichloroethene	1	72			
75-69-4	Trichlorofluoromethane	1	1.0	U		
75-01-4	Vinyl chloride	1	1.0	U		
1330-20-7	Xylenes, total	1	2.0	U		
SYSTEM MONITORING COMPOUND		ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
1,2-Dichloroethane-d4		25.0	23.8	95	66 - 137	
4-Bromofluorobenzene		25.0	26.1	104	73 - 120	
Toluene-d8		25.0	26.4	106	71 - 126	
INTERNAL STANDARD		AREA	RT	REF AREA	REF RT	Q
1,4-Dichlorobenzene-d4		183483	9.9	191164	9.9	
1,4-Difluorobenzene		378831	4.65	383389	4.65	
Chlorobenzene-d5		354034	7.44	347865	7.44	

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FIELD DUP

8260B

Laboratory: TestAmerica Buffalo SDG: RTI1344
 Client: AMEC Geomatrix Inc. - Amherst, NY Project: AMEC Geomatrix Inc. - NY3A9056.9
 Matrix: Ground Water Laboratory ID: RTI1344-05 File ID: N0674.D
 Sampled: 09/21/10 00:00 Prepared: 09/28/10 10:32 Analyzed: 09/28/10 13:34
 Solids: Preparation: 5030B MS Initial/Final: 5 mL / 5 mL
 Batch: 10I2032 Sequence: T004255 Calibration: R10I026 Instrument: HP5973N

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)		Q	
100-42-5	Styrene	1	1.0		U	
127-18-4	Tetrachloroethene	1	1.0		U	
108-88-3	Toluene	1	1.0		U	
156-60-5	trans-1,2-Dichloroethene	1	1.0		U	
10061-02-6	trans-1,3-Dichloropropene	1	1.0		U	
79-01-6	Trichloroethene	1	72			
75-69-4	Trichlorofluoromethane	1	1.0		U	
75-01-4	Vinyl chloride	1	1.0		U	
1330-20-7	Xylenes, total	1	2.0		U	
SYSTEM MONITORING COMPOUND		ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
1,2-Dichloroethane-d4		25.0	23.6	95	66 - 137	
4-Bromofluorobenzene		25.0	26.7	107	73 - 120	
Toluene-d8		25.0	26.3	105	71 - 126	
INTERNAL STANDARD		AREA	RT	REF AREA	REF RT	Q
1,4-Dichlorobenzene-d4		188100	9.9	200175	9.91	
1,4-Difluorobenzene		385973	4.65	402126	4.65	
Chlorobenzene-d5		355034	7.44	363941	7.44	

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LVR44-MNAGW-MW-2

8260B

Laboratory: TestAmerica Buffalo SDG: RTI1344
 Client: AMEC Geomatrix Inc. - Amherst, NY Project: AMEC Geomatrix Inc. - NY3A9056.9
 Matrix: Ground Water Laboratory ID: RTI1344-06 File ID: N0675.D
 Sampled: 09/21/10 15:00 Prepared: 09/28/10 10:32 Analyzed: 09/28/10 13:57
 Solids: Preparation: 5030B MS Initial/Final: 5 mL / 5 mL
 Batch: 10I2032 Sequence: T004255 Calibration: R10I026 Instrument: HP5973N

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)		Q	
100-42-5	Styrene	1	1.0		U	
127-18-4	Tetrachloroethene	1	1.0		U	
108-88-3	Toluene	1	1.0		U	
156-60-5	trans-1,2-Dichloroethene	1	1.0		U	
10061-02-6	trans-1,3-Dichloropropene	1	1.0		U	
79-01-6	Trichloroethene	1	75			
75-69-4	Trichlorofluoromethane	1	1.0		U	
75-01-4	Vinyl chloride	1	2.1			
1330-20-7	Xylenes, total	1	2.0		U	
SYSTEM MONITORING COMPOUND		ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
1,2-Dichloroethane-d4		25.0	23.6	95	66 - 137	
4-Bromofluorobenzene		25.0	26.7	107	73 - 120	
Toluene-d8		25.0	26.0	104	71 - 126	
INTERNAL STANDARD		AREA	RT	REF AREA	REF RT	Q
1,4-Dichlorobenzene-d4		186613	9.9	200175	9.91	
1,4-Difluorobenzene		382338	4.65	402126	4.65	
Chlorobenzene-d5		353426	7.44	363941	7.44	

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Form 1
ORGANIC ANALYSIS DATA SHEET

FIELD BLANK

8260B

Laboratory: TestAmerica Buffalo SDG: RTI1344
 Client: AMEC Geomatrix Inc. - Amherst, NY Project: AMEC Geomatrix Inc. - NY3A9056.9
 Matrix: Ground Water Laboratory ID: RTI1344-09 File ID: N0678.D
 Sampled: 09/21/10 12:20 Prepared: 09/28/10 10:32 Analyzed: 09/28/10 15:06
 Solids: Preparation: 5030B MS Initial/Final: 5 mL / 5 mL
 Batch: 10I2032 Sequence: T004255 Calibration: R10I026 Instrument: HP5973N

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)		Q	
100-42-5	Styrene	1	1.0		U	
127-18-4	Tetrachloroethene	1	1.0		U	
108-88-3	Toluene	1	1.0		U	
156-60-5	trans-1,2-Dichloroethene	1	1.0		U	
10061-02-6	trans-1,3-Dichloropropene	1	1.0		U	
79-01-6	Trichloroethene	1	1.0		U	
75-69-4	Trichlorofluoromethane	1	1.0		U	
75-01-4	Vinyl chloride	1	1.0		U	
1330-20-7	Xylenes, total	1	2.0		U	
SYSTEM MONITORING COMPOUND		ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
1,2-Dichloroethane-d4		25.0	23.9	96	66 - 137	
4-Bromofluorobenzene		25.0	26.7	107	73 - 120	
Toluene-d8		25.0	26.6	106	71 - 126	
INTERNAL STANDARD		AREA	RT	REF AREA	REF RT	Q
1,4-Dichlorobenzene-d4		188854	9.91	200175	9.91	
1,4-Difluorobenzene		379184	4.65	402126	4.65	
Chlorobenzene-d5		350937	7.44	363941	7.44	

U

Form 1
ORGANIC ANALYSIS DATA SHEET

TRIP BLANK

8260B

Laboratory: TestAmerica Buffalo SDG: RTI1344
 Client: AMEC Geomatrix Inc. - Amherst, NY Project: AMEC Geomatrix Inc. - NY3A90569
 Matrix: Ground Water Laboratory ID: RTI1344-10 File ID: N0679.D
 Sampled: 09/21/10 00:00 Prepared: 09/28/10 10:32 Analyzed: 09/28/10 15:29
 Solids: Preparation: 5030B MS Initial/Final: 5 mL / 5 mL
 Batch: 10I2032 Sequence: T004255 Calibration: R10I026 Instrument: HP5973N

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)		Q	
100-42-5	Styrene	1	1.0		U	
127-18-4	Tetrachloroethene	1	1.0		U	
108-88-3	Toluene	1	1.0		U	
156-60-5	trans-1,2-Dichloroethene	1	1.0		U	
10061-02-6	trans-1,3-Dichloropropene	1	1.0		U	
79-01-6	Trichloroethene	1	1.0		U	
75-69-4	Trichlorofluoromethane	1	1.0		U	
75-01-4	Vinyl chloride	1	1.0		U	
1330-20-7	Xylenes, total	1	2.0		U	
SYSTEM MONITORING COMPOUND		ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
1,2-Dichloroethane-d4		25.0	24.1	96	66 - 137	
4-Bromofluorobenzene		25.0	26.3	105	73 - 120	
Toluene-d8		25.0	26.2	105	71 - 126	
INTERNAL STANDARD		AREA	RT	REF AREA	REF RT	Q
1,4-Dichlorobenzene-d4		186571	9.9	200175	9.91	
1,4-Difluorobenzene		379371	4.65	402126	4.65	
Chlorobenzene-d5		352843	7.44	363941	7.44	

U

Form 1
ORGANIC ANALYSIS DATA SHEET
RSK175

LVRA04-MNAGW-MW-3

Laboratory: TestAmerica Buffalo SDG: RT11344
Client: AMEC Geomatrix Inc. - Amherst, NY Project: AMEC Geomatrix Inc. - NY3A9056.9
Matrix: Ground Water Laboratory ID: RT11344-01 File ID: 21B08090
Sampled: 09/21/10 09:15 Prepared: 10/03/10 07:37 Analyzed: 10/03/10 12:36
Solids: Preparation: RSK-175 Initial/Final: 1 mL / 1 mL
Batch: 10J0137 Sequence: T004417 Calibration: R10A051 Instrument: HP5890-21

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q
74-84-0	Ethane	1	1.5	U
74-85-1	Ethene	1	1.5	U
74-82-8	Methane	1	1.0	U

MEC^x validated

Form 1
ORGANIC ANALYSIS DATA SHEET
RSK175

LVRA04-MNAGW-MW-6

Laboratory:	<u>TestAmerica Buffalo</u>	SDG:	<u>RT11344</u>
Client:	<u>AMEC Geomatrix Inc. - Amherst, NY</u>	Project:	<u>AMEC Geomatrix Inc. - NY3A9056.9</u>
Matrix:	<u>Ground Water</u>	Laboratory ID:	<u>RT11344-03RE1</u>
Sampled:	<u>09/21/10 11:50</u>	Prepared:	<u>10/04/10 05:07</u>
Solids:		Preparation:	<u>RSK-175</u>
Batch:	<u>10J0145</u>	Sequence:	<u>T004418</u>
		Calibration:	<u>R10A051</u>
		Instrument:	<u>HP5890-21</u>

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q
74-84-0	Ethane	10	15	UD
74-85-1	Ethene	10	15	UD
74-82-8	Methane	10	37	D

MEC x validated

Form 1
ORGANIC ANALYSIS DATA SHEET
RSK175

TRIP BLANK

Laboratory: TestAmerica Buffalo SDG: RT11344
Client: AMEC Geomatrix Inc. - Amherst, NY Project: AMEC Geomatrix Inc. - NY3A9056.9
Matrix: Ground Water Laboratory ID: RT11344-10 File ID: 21B08101
Sampled: 09/21/10 00:00 Prepared: 10/03/10 07:37 Analyzed: 10/03/10 15:35
Solids: Preparation: RSK-175 Initial/Final: 1 mL / 1 mL
Batch: 10J0137 Sequence: T004417 Calibration: R10A051 Instrument: HP5890-21

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q
74-84-0	Ethane	1	1.5	U
74-85-1	Ethene	1	1.5	U
74-82-8	Methane	1	1.0	U

MECK validated

221/885

Form 1
INORGANIC ANALYSIS DATA SHEET
2320B

LVRA04-MNAGW-MW-3

Laboratory: TestAmerica Buffalo

SDG: RTI1344

Client: AMEC Geomatrix Inc. - Amherst, NY

Project: AMEC Geomatrix Inc. - NY3A9056.9

Matrix: Ground Water

Laboratory ID: RTI1344-01

File ID:

Sampled: 09/21/10 09:15

Prepared: 09/22/10 13:16

Analyzed: 09/22/10 13:16

Solids: 0.00

Preparation: No Prep Alkalinity

Initial/Final: 50 mL / 50 mL

Batch: 10I1623

Sequence:

Calibration:

Instrument: Inst

CAS NO.	Analyte	Concentration	Units	Dilution Factor	Q	Method
STL00171	Alkalinity, Total	155	mg/L	1		2320B

MECX validated

INORGANIC ANALYSIS DATA SHEET

2320B

LVRA04-MNAGW-MW-D1

Laboratory: TestAmerica Buffalo

SDG: RTI1344

Client: AMEC Geomatrix Inc. - Amherst, NY

Project: AMEC Geomatrix Inc. - NY3A9056.9

Matrix: Ground Water

Laboratory ID: RTI1344-02

File ID:

Sampled: 09/21/10 10:30

Prepared: 09/22/10 13:16

Analyzed: 09/22/10 13:16

Solids: 0.00

Preparation: No Prep Alkalinity

Initial/Final: 50 mL / 50 mL

Batch: 10I1623

Sequence:

Calibration:

Instrument: Inst

CAS NO.	Analyte	Concentration	Units	Dilution Factor	Q	Method
STL00171	Alkalinity, Total	165	mg/L	1		2320B

MEC^x validated

Form 1
INORGANIC ANALYSIS DATA SHEET
2320B

LVRA04-MNAGW-MW-6

Laboratory: TestAmerica Buffalo

SDG: RTI1344

Client: AMEC Geomatrix Inc. - Amherst, NY

Project: AMEC Geomatrix Inc. - NY3A9056.9

Matrix: Ground Water

Laboratory ID: RTI1344-03

File ID:

Sampled: 09/21/10 11:50

Prepared: 09/22/10 13:16

Analyzed: 09/22/10 13:16

Solids: 0.00

Preparation: No Prep Alkalinity

Initial/Final: 50 mL / 50 mL

Batch: 1011623

Sequence:

Calibration:

Instrument: Inst

CAS NO.	Analyte	Concentration	Units	Dilution Factor	Q	Method
STL00171	Alkalinity, Total	89.8	mg/L	1		2320B

MEC^x validated

272885

Form 1
INORGANIC ANALYSIS DATA SHEET
2320B

LVRA04-MNAGW-MW-D2

Laboratory: TestAmerica Buffalo

SDG: RTI1344

Client: AMEC Geomatrix Inc. - Amherst, NY

Project: AMEC Geomatrix Inc. - NY3A9056.9

Matrix: Ground Water

Laboratory ID: RTI1344-04

File ID:

Sampled: 09/21/10 14:00

Prepared: 09/22/10 13:16

Analyzed: 09/22/10 13:16

Solids: 0.00

Preparation: No Prep Alkalinity

Initial/Final: 50 mL / 50 mL

Batch: 1011623

Sequence:

Calibration:

Instrument: Inst.

CAS NO.	Analyte	Concentration	Units	Dilution Factor	Q	Method
STL00171	Alkalinity, Total	126	mg/L	1		2320B

MEC^x validated

273685

Form 1
INORGANIC ANALYSIS DATA SHEET
2320B

FIELD DUP

Laboratory: TestAmerica Buffalo

SDG: RTI1344

Client: AMEC Geomatrix Inc. - Amherst, NY

Project: AMEC Geomatrix Inc. - NY3A9056.9

Matrix: Ground Water

Laboratory ID: RTI1344-05

File ID:

Sampled: 09/21/10 00:00

Prepared: 09/22/10 13:16

Analyzed: 09/22/10 13:16

Solids: 0.00

Preparation: No Prep Alkalinity

Initial/Final: 50 mL / 50 mL

Batch: 10I1623

Sequence:

Calibration:

Instrument: Inst

CAS NO.	Analyte	Concentration	Units	Dilution Factor	Q	Method
STL00171	Alkalinity, Total	125	mg/L	1		2320B

MEC^x validated

274/685

Form 1
INORGANIC ANALYSIS DATA SHEET
300

LVRA04-MNAGW-MW-3

Laboratory: TestAmerica Buffalo

SDG: RTI1344

Client: AMEC Geomatrix Inc. - Amherst, NY

Project: AMEC Geomatrix Inc. - NY3A9056.9

Matrix: Ground Water

Laboratory ID: RTI1344-01

File ID: 092310-2_012-0

Sampled: 09/21/10 09:15

Prepared: 09/23/10 11:37

Analyzed: 09/23/10 15:32

Solids: 0.00

Preparation: Direct Injection - Anions

Initial/Final: 5 mL / 5 mL

Batch: 10I1670

Sequence:

Calibration:

Instrument: IC2A

CAS NO.	Analyte	Concentration	Units	Dilution Factor	Q	Method
14808-79-8	Sulfate	14.1	mg/L	1		300

MEC^x validated

Form 1
INORGANIC ANALYSIS DATA SHEET

LVRA04-MNAGW-MW-D1

300

Laboratory: TestAmerica Buffalo

SDG: RT11344

Client: AMEC Geomatrix Inc. - Amherst, NY

Project: AMEC Geomatrix Inc. - NY3A9056.9

Matrix: Ground Water

Laboratory ID: RT11344-02

File ID: 092310-2_015-0

Sampled: 09/21/10 10:30

Prepared: 09/23/10 11:37

Analyzed: 09/23/10 16:02

Solids: 0.00

Preparation: Direct Injection - Anions

Initial/Final: 5 mL / 5 mL

Batch: 1011670

Sequence:

Calibration:

Instrument: IC2A

CAS NO.	Analyte	Concentration	Units	Dilution Factor	Q	Method
14808-79-8	Sulfate	11.5	mg/L	1		300

MEC^x validated

Form 1
INORGANIC ANALYSIS DATA SHEET
300

LVRA04-MNAGW-MW-D1

Laboratory: TestAmerica Buffalo

SDG: RTI1344

Client: AMEC Geomatrix Inc. - Amherst, NY

Project: AMEC Geomatrix Inc. - NY3A9056.9

Matrix: Ground Water

Laboratory ID: RTI1344-02

File ID: 092210-2_024-0

Sampled: 09/21/10 10:30

Prepared: 09/22/10 11:24

Analyzed: 09/22/10 19:15

Solids: 0.00

Preparation: Direct Injection - Anions

Initial/Final: 5 mL / 5 mL

Batch: 10I1561

Sequence:

Calibration:

Instrument: IC2A

CAS NO.	Analyte	Concentration	Units	Dilution Factor	Q	Method
16887-00-6	Chloride	50.4	mg/L	1		300

MEC^x validated

Form 1
INORGANIC ANALYSIS DATA SHEET
300

LVRA04-MNAGW-MW-6

Laboratory: TestAmerica Buffalo

SDG: RT11344

Client: AMEC Geomatrix Inc. - Amherst, NY

Project: AMEC Geomatrix Inc. - NY3A9056.0

Matrix: Ground Water

Laboratory ID: RT11344-03

File ID: 092210-2 027-0

Sampled: 09/21/10 11:50

Prepared: 09/22/10 11:25

Analyzed: 09/22/10 19:45

Solids: 0.00

Preparation: Direct Injection - Anions

Initial/Final: 5 mL / 5 mL

Batch: 1011562

Sequence:

Calibration:

Instrument: IC2A

CAS NO.	Analyte	Concentration	Units	Dilution Factor	Q	Method
16887-00-6	Chloride	13.3	mg/L	1		300
14808-79-8	Sulfate	10.6	mg/L	1		300

MEC* validated

Form 1
INORGANIC ANALYSIS DATA SHEET
300

LVRA04-MNAGW-MW-D2

Laboratory: TestAmerica Buffalo

SDG: RTI1344

Client: AMEC Geomatrix Inc. - Amherst, NY

Project: AMEC Geomatrix Inc. - NY3A9056.9

Matrix: Ground Water

Laboratory ID: RTI1344-04

File ID: 092210-2_028-0

Sampled: 09/21/10 14:00

Prepared: 09/22/10 11:25

Analyzed: 09/22/10 19:55

Solids: 0.00

Preparation: Direct Injection - Anions

Initial/Final: 5 mL / 5 mL

Batch: 10I1562

Sequence:

Calibration:

Instrument: IC2A

CAS NO.	Analyte	Concentration	Units	Dilution Factor	Q	Method
16887-00-6	Chloride	28.3	mg/L	1		300
14808-79-8	Sulfate	13.2	mg/L	1		300

MEC^x validated

Form 1
INORGANIC ANALYSIS DATA SHEET
300

FIELD DUP

Laboratory: TestAmerica Buffalo

SDG: RT11344

Client: AMEC Geomatrix Inc. - Amherst, NY

Project: AMEC Geomatrix Inc. - NY3A9056.9

Matrix: Ground Water

Laboratory ID: RT11344-05

File ID: 092210-2_029-0

Sampled: 09/21/10 00:00

Prepared: 09/22/10 11:25

Analyzed: 09/22/10 20:06

Solids: 0.00

Preparation: Direct Injection - Anions

Initial/Final: 5 mL / 5 mL

Batch: 10I1562

Sequence:

Calibration:

Instrument: IC2A

CAS NO.	Analyte	Concentration	Units	Dilution Factor	Q	Method
16887-00-6	Chloride	28.2	mg/L	1		300
14808-79-8	Sulfate	13.2	mg/L	1		300

MEC^x validated

294/685

Form 1
INORGANIC ANALYSIS DATA SHEET

LVRA04-MNAGW-MW-2

300

Laboratory: TestAmerica Buffalo

SDG: RTI1344

Client: AMEC Geomatrix Inc. - Amherst, NY

Project: AMEC Geomatrix Inc. - NY3A9056.9

Matrix: Ground Water

Laboratory ID: RTI1344-06

File ID: 092210-2_030-0

Sampled: 09/21/10 15:00

Prepared: 09/22/10 11:25

Analyzed: 09/22/10 20:16

Solids: 0.00

Preparation: Direct Injection - Anions

Initial/Final: 5 mL / 5 mL

Batch: 1011562

Sequence:

Calibration:

Instrument: IC2A

CAS NO.	Analyte	Concentration	Units	Dilution Factor	Q	Method
16887-00-6	Chloride	24.1	mg/L	1		300
14808-79-8	Sulfate	17.0	mg/L	1		300

MECK validated

295/695

Form 1
INORGANIC ANALYSIS DATA SHEET
3500FE

LVR04-MNAGW-MW-3

Laboratory: TestAmerica Buffalo

SDG: RTI1344

Client: AMEC Geomatrix Inc. - Amherst, NY

Project: AMEC Geomatrix Inc. - NY3A9056.9

Matrix: Ground Water

Laboratory ID: RTI1344-01

File ID:

Sampled: 09/21/10 09:15

Prepared: 09/21/10 21:28

Analyzed: 09/21/10 21:28

Solids: 0.00

Preparation: Direct

Initial/Final: 25 mL / 25 mL

Batch: 1011517

Sequence:

Calibration:

Instrument: Inst

CAS NO.	Analyte	Concentration	Units	Dilution Factor	Q	Method
15438-31-0	Ferrous Iron (dissolved)	0.100	mg/L	1	U	3500FE

MEC* validated

565/685

Form I
INORGANIC ANALYSIS DATA SHEET
3500FE

LVRA04-MNAGW-MW-D1

Laboratory: TestAmerica Buffalo

SDG: RTI1344

Client: AMEC Geomatrix Inc. - Amherst, NY

Project: AMEC Geomatrix Inc. - NY3A9056.9

Matrix: Ground Water

Laboratory ID: RTI1344-02

File ID:

Sampled: 09/21/10 10:30

Prepared: 09/21/10 21:28

Analyzed: 09/21/10 21:28

Solids: 0.00

Preparation: Direct

Initial/Final: 25 mL / 25 mL

Batch: 10I1517

Sequence:

Calibration:

Instrument: Inst

CAS NO.	Analyte	Concentration	Units	Dilution Factor	Q	Method
15438-31-0	Ferrous Iron (dissolved)	0.100	mg/L	1	U	3500FE

MEC^x validated

Form 1
INORGANIC ANALYSIS DATA SHEET
3500FE

LVRAD4-MNAGW-MW-6

Laboratory: TestAmerica Buffalo

SDG: RTI1344

Client: AMEC Geomatrix Inc. - Amherst, NY

Project: AMEC Geomatrix Inc. - NY3A9056.9

Matrix: Ground Water

Laboratory ID: RTI1344-03

File ID:

Sampled: 09/21/10 11:50

Prepared: 09/21/10 21:28

Analyzed: 09/21/10 21:28

Solids: 0.00

Preparation: Direct

Initial/Final: 25 mL / 25 mL

Batch: 10I1517

Sequence:

Calibration:

Instrument: Inst

CAS NO.	Analyte	Concentration	Units	Dilution Factor	Q	Method
15438-31-0	Ferrous Iron (dissolved)	0.100	mg/L	1	U	3500FE

MEC validated*

567685

Form 1
INORGANIC ANALYSIS DATA SHEET
 3500FE

LVR004-MNAGW-MW-D2

Laboratory: <u>TestAmerica Buffalo</u>	SDG: <u>RTI1344</u>
Client: <u>AMEC Geomatrix Inc. - Amherst, NY</u>	Project: <u>AMEC Geomatrix Inc. - NY3A9056.9</u>
Matrix: <u>Ground Water</u>	Laboratory ID: <u>RTI1344-04</u>
Sampled: <u>09/21/10 14:00</u>	Prepared: <u>09/21/10 21:28</u>
Solids: <u>0.00</u>	Preparation: <u>Direct</u>
Batch: <u>10I1517</u>	Sequence: _____
	Calibration: _____
	Instrument: <u>Inst</u>

CAS NO.	Analyte	Concentration	Units	Dilution Factor	Q	Method
15438-31-0	Ferrous Iron (dissolved)	0.100	mg/L	1	U	3500FE

MECK validated

Form 1
INORGANIC ANALYSIS DATA SHEET
3500FE

FIELD DUP

Laboratory: TestAmerica Buffalo SDG: RT11344
Client: AMEC Geomatrix Inc. - Amherst, NY Project: AMEC Geomatrix Inc. - NY3A9056.9
Matrix: Ground Water Laboratory ID: RT11344-05 File ID:
Sampled: 09/21/10 00:00 Prepared: 09/21/10 21:28 Analyzed: 09/21/10 21:28
Solids: 0.00 Preparation: Direct Initial/Final: 25 mL / 25 mL
Batch: 1011517 Sequence: Calibration: Instrument: Inst

CAS NO.	Analyte	Concentration	Units	Dilution Factor	Q	Method
15438-31-0	Ferrous Iron (dissolved)	0.100	mg/L	1	U	3500FE

MEC* validated

Form I
INORGANIC ANALYSIS DATA SHEET
3500FE

LVRA04-MNAGW-MW-2

Laboratory: TestAmerica Buffalo

SDG: RTI1344

Client: AMEC Geomatrix Inc. - Amherst, NY

Project: AMEC Geomatrix Inc. - NY3A9056.9

Matrix: Ground Water

Laboratory ID: RTI1344-06

File ID:

Sampled: 09/21/10 15:00

Prepared: 09/21/10 21:28

Analyzed: 09/21/10 21:28

Solids: 0.00

Preparation: Direct

Initial/Final: 25 mL / 25 mL

Batch: 10I1517

Sequence:

Calibration:

Instrument: Inst

CAS NO.	Analyte	Concentration	Units	Dilution Factor	Q	Method
15438-31-0	Ferrous Iron (dissolved)	0.100	mg/L	1	U	3500FE

MEC^x validated

570685

Form 1
INORGANIC ANALYSIS DATA SHEET

LVRA04 MNAGW-MW-3

353.2

Laboratory: TestAmerica Buffalo

SDG: RTI1344

Client: AMEC Geomatrix Inc. - Amherst, NY

Project: AMEC Geomatrix Inc. - NY3A0056.9

Matrix: Ground Water

Laboratory ID: RTI1344-01

File ID: N309200E-023

Sampled: 09/21/10 09:15

Prepared: 09/22/10 14:46

Analyzed: 09/22/10 18:47

Solids: 0.00

Preparation: No prep Nitrate

Initial/Final: 5 mL / 5 mL

Batch: 1011583

Sequence:

Calibration:

Instrument: Lachat

CAS NO.	Analyte	Concentration	Units	Dilution Factor	Q	Method
14797-55-8	Nitrate	1.04	mg/L as N	1		353.2

MEC^x validated

501/685

Form 1
INORGANIC ANALYSIS DATA SHEET

LVRA04-MNAGW-MW-D1

353.2

Laboratory: TestAmerica Buffalo

SDG: RTI1344

Client: AMEC Geomatrix Inc. - Amherst, NY

Project: AMEC Geomatrix Inc. - NY3A9056.9

Matrix: Ground Water

Laboratory ID: RTI1344-02

File ID: N309200E-024

Sampled: 09/21/10 10:30

Prepared: 09/22/10 14:46

Analyzed: 09/22/10 18:48

Solids: 0.00

Preparation: No prep Nitrate

Initial/Final: 5 mL / 5 mL

Batch: 1011583

Sequence:

Calibration:

Instrument: Lachat

CAS NO.	Analyte	Concentration	Units	Dilution Factor	Q	Method
14797-55-8	Nitrate	2.67	mg/L as N	1		353.2

MEC validated*

582/685

Form 1
INORGANIC ANALYSIS DATA SHEET

LVRA04-MNACW-MW-6

353.2

Laboratory: TestAmerica Buffalo

SDG: RTI1344

Client: AMEC Geomatrix Inc. - Amherst, NY

Project: AMEC Geomatrix Inc. - NY3A9056.9

Matrix: Ground Water

Laboratory ID: RTI1344-03

File ID: N309200E-025

Sampled: 09/21/10 11:50

Prepared: 09/22/10 14:46

Analyzed: 09/22/10 18:50

Solids: 0.00

Preparation: No prep Nitrate

Initial/Final: 5 mL / 5 mL

Batch: 1011583

Sequence:

Calibration:

Instrument: Lachat

CAS NO.	Analyte	Concentration	Units	Dilution Factor	Q	Method
14797-55-8	Nitrate	0.054	mg/L as N	1		353.2

MEC^x validated

583/685

Form 1
INORGANIC ANALYSIS DATA SHEET
353.2

LVRA04-MNAGW-MW-D2

Laboratory: TestAmerica Buffalo

SDG: RTI1344

Client: AMEC Geomatrix Inc. - Amherst, NY

Project: AMEC Geomatrix Inc. - NY3A9056.9

Matrix: Ground Water

Laboratory ID: RTI1344-04

File ID: N309200E-030

Sampled: 09/21/10 14:00

Prepared: 09/22/10 14:49

Analyzed: 09/22/10 18:55

Solids: 0.00

Preparation: No prep Nitrate

Initial/Final: 5 mL / 5 mL

Batch: 1011584

Sequence:

Calibration:

Instrument: Lachat

CAS NO.	Analyte	Concentration	Units	Dilution Factor	Q	Method
14797-55-8	Nitrate	0.189	mg/L as N	1		353.2

MEC³ validated

584/685

Form 1
INORGANIC ANALYSIS DATA SHEET
 353.2

I.VRA04-MNAGW-MW-2

Laboratory: TestAmerica Buffalo

SDG: RTI1344

Client: AMEC Geomatrix Inc. - Amherst, NY

Project: AMEC Geomatrix Inc. - NY3A9056.9

Matrix: Ground Water

Laboratory ID: RTI1344-06

File ID: N309200E-032

Sampled: 09/21/10 15:00

Prepared: 09/22/10 14:49

Analyzed: 09/22/10 18:57

Solids: 0.00

Preparation: No prep Nitrate

Initial/Final: 5 mL / 5 mL

Batch: 10I1584

Sequence:

Calibration:

Instrument: Lachat

CAS NO.	Analyte	Concentration	Units	Dilution Factor	Q	Method
14797-55-8	Nitrate	0.050	mg/L as N	1	U	353.2

MEC^x validated

586/885

Form 1
INORGANIC ANALYSIS DATA SHEET
4500-S F

LVRA04-MNAGW-MW-3

Laboratory: TestAmerica Buffalo

SDG: RTI1344

Client: AMEC Geomatrix Inc. - Amherst, NY

Project: AMEC Geomatrix Inc. - NY3A9056.9

Matrix: Ground Water

Laboratory ID: RTI1344-01

File ID:

Sampled: 09/21/10 09:15

Prepared: 09/22/10 10:30

Analyzed: 09/22/10 10:30

Solids: 0.00

Preparation: No prep Sulfide

Initial/Final: 100 mL / 100 mL

Batch: 1011598

Sequence:

Calibration:

Instrument: Inst

CAS NO.	Analyte	Concentration	Units	Dilution Factor	Q	Method
18496-25-8	Sulfide	1.0	mg/L	1	U	4500-S F

MEC[®] validated

640/685

Form 1
INORGANIC ANALYSIS DATA SHEET
4500-S F

LVRA04-MNAGW-MW-D1

Laboratory: TestAmerica Buffalo

SDG: RTI1344

Client: AMEC Geomatrix Inc. - Amherst, NY

Project: AMEC Geomatrix Inc. - NY3A9056.9

Matrix: Ground Water

Laboratory ID: RTI1344-02

File ID:

Sampled: 09/21/10 10:30

Prepared: 09/22/10 10:30

Analyzed: 09/22/10 10:30

Solids: 0.00

Preparation: No prep Sulfide

Initial/Final: 100 mL / 100 mL

Batch: 10I1598

Sequence:

Calibration:

Instrument: Int

CAS NO.	Analyte	Concentration	Units	Dilution Factor	Q	Method
18496-25-8	Sulfide	1.0	mg/L	1	U	4500-S F

MEC* validated

Form 1
INORGANIC ANALYSIS DATA SHEET
 4500-S F

LVRA04-MNACW-MW-6

Laboratory: <u>TestAmerica Buffalo</u>	SDG: <u>RTI1344</u>
Client: <u>AMEC Geomatrix Inc. - Amherst, NY</u>	Project: <u>AMEC Geomatrix Inc. - NY3A9056.9</u>
Matrix: <u>Ground Water</u>	Laboratory ID: <u>RTI1344-03</u>
Sampled: <u>09/21/10 11:50</u>	Prepared: <u>09/22/10 10:30</u>
Solids: <u>0.00</u>	Preparation: <u>No prep Sulfide</u>
Batch: <u>10I1598</u>	Sequence: _____
	Calibration: _____
	Instrument: <u>Inst</u>

CAS NO.	Analyte	Concentration	Units	Dilution Factor	Q	Method
18496-25-8	Sulfide	1.0	mg/L	1	U	4500-S F

MEC validated*

642685

Form 1
INORGANIC ANALYSIS DATA SHEET
4500-S F

LVRA04-MNAGW-MW-D2

Laboratory: <u>TestAmerica Buffalo</u>	SDG: <u>RTI1344</u>		
Client: <u>AMEC Geomatrix Inc. - Amherst, NY</u>	Project: <u>AMEC Geomatrix Inc. - NY3A9056.9</u>		
Matrix: <u>Ground Water</u>	Laboratory ID: <u>RTI1344-04</u>	File ID:	
Sampled: <u>09/21/10 14:00</u>	Prepared: <u>09/22/10 10:30</u>	Analyzed: <u>09/22/10 10:30</u>	
Solids: <u>0.00</u>	Preparation: <u>No prep Sulfide</u>	Initial/Final: <u>100 mL / 100 mL</u>	
Batch: <u>1011598</u>	Sequence:	Calibration:	Instrument: <u>Inst</u>

CAS NO.	Analyte	Concentration	Units	Dilution Factor	Q	Method
18496-25-8	Sulfide	1.0	mg/L	1	U	4500-S F

MECX validated

Form 1
INORGANIC ANALYSIS DATA SHEET
4500-S F

FIELD DUP

Laboratory: TestAmerica Buffalo

SDG: RTI1344

Client: AMEC Geomatrix Inc. - Amherst, NY

Project: AMEC Geomatrix Inc. - NY3A9056.9

Matrix: Ground Water

Laboratory ID: RTI1344-05

File ID:

Sampled: 09/21/10 00:00

Prepared: 09/22/10 10:30

Analyzed: 09/22/10 10:30

Solids: 0.00

Preparation: No prep Sulfide

Initial/Final: 100 mL / 100 mL

Batch: 10I1598

Sequence:

Calibration:

Instrument: Int

CAS NO.	Analyte	Concentration	Units	Dilution Factor	Q	Method
18496-25-8	Sulfide	1.0	mg/L	1	U	4500-S F

MEC^x validated

644/685

Form 1
INORGANIC ANALYSIS DATA SHEET
4500-S F

LVRA04-MNAGW-MW-2

Laboratory: TestAmerica Buffalo

SDG: RT11344

Client: AMEC Geomatrix Inc. - Amherst, NY

Project: AMEC Geomatrix Inc. - NY3A9056.9

Matrix: Ground Water

Laboratory ID: RT11344-06

File ID:

Sampled: 09/21/10 15:00

Prepared: 09/22/10 10:30

Analyzed: 09/22/10 10:30

Solids: 0.00

Preparation: No prep Sulfide

Initial/Final: 100 mL / 100 mL

Batch: 1011598

Sequence:

Calibration:

Instrument: Inst

CAS NO.	Analyte	Concentration	Units	Dilution Factor	Q	Method
18496-25-8	Sulfide	1.0	mg/L	1	U	4500-S F

MECX validated

645/685

INORGANIC ANALYSIS DATA SHEET

LVRA04-MNAGW-MW-3

9060

Laboratory: TestAmerica BuffaloSDG: RTI1344Client: AMEC Geomatrix Inc. - Amherst, NYProject: AMEC Geomatrix Inc. - NY3A9056.2Matrix: Ground WaterLaboratory ID: RTI1344-01File ID: E093010-100Sampled: 09/21/10 09:15Prepared: 09/27/10 15:00Analyzed: 09/27/10 20:56Solids: 0.00Preparation: No prep CarbonInitial/Final: 40 mL / 40 mLBatch: 1011981

Sequence:

Calibration:

Instrument: E616730030

CAS NO.	Analyte	Concentration	Units	Dilution Factor	Q	Method
7440-44-0	Total Organic Carbon	0.4	mg/L	1	J	9060

J

MEC^x validated

Form 1
INORGANIC ANALYSIS DATA SHEET

LVRA04-MNAGW-MW-D1

9060

Laboratory: TestAmerica Buffalo

SDG: RT11344

Client: AMEC Geomatrix Inc. - Amherst, NY

Project: AMEC Geomatrix Inc. - NY3A9056.9

Matrix: Ground Water

Laboratory ID: RT11344-02

File ID: E093010-101

Sampled: 09/21/10 10:30

Prepared: 09/27/10 15:00

Analyzed: 09/27/10 21:23

Solids: 0.00

Preparation: No prep Carbon

Initial/Final: 40 mL / 40 mL

Batch: 10I1981

Sequence:

Calibration:

Instrument: E616730030

CAS NO.	Analyte	Concentration	Units	Dilution Factor	Q	Method
7440-44-0	Total Organic Carbon	0.8	mg/L	1	J	9060

MEC^x validated

657/685

Form 1
INORGANIC ANALYSIS DATA SHEET
 9060

LVRA04-MNAGW-MW-6

Laboratory: TestAmerica Buffalo

SDG: RT11344

Client: AMEC Geomatrix Inc. - Amherst, NY

Project: AMEC Geomatrix Inc. - NY3A9056.9

Matrix: Ground Water

Laboratory ID: RT11344-03

File ID: ED93010-102

Sampled: 09/21/10 11:50

Prepared: 09/27/10 15:00

Analyzed: 09/27/10 21:51

Solids: 0.00

Preparation: No prep Carbon

Initial/Final: 40 mL / 40 mL

Batch: 10I1981

Sequence:

Calibration:

Instrument: E616730030

CAS NO.	Analyte	Concentration	Units	Dilution Factor	Q	Method
7440-44-0	Total Organic Carbon	1.6	mg/L	1		9060

MEC^x validated

658/695

Form 1
INORGANIC ANALYSIS DATA SHEET

LVR04-MNACW-MW-D2

9060

Laboratory: TestAmerica Buffalo

SDG: RT11344

Client: AMEC Geomatrix Inc. - Amherst, NY

Project: AMEC Geomatrix Inc. - NY3A9056.9

Matrix: Ground Water

Laboratory ID: RT11344-04

File ID: E093010-105

Sampled: 09/21/10 14:00

Prepared: 09/27/10 15:00

Analyzed: 09/27/10 23:22

Solids: 0.00

Preparation: No prep Carbon

Initial/Final: 40 mL / 40 mL

Batch: 10I1981

Sequence:

Calibration:

Instrument: E616730030

CAS NO.	Analyte	Concentration	Units	Dilution Factor	Q	Method
7440-44-0	Total Organic Carbon	1.0	mg/L	1	U	9060

MEC^x validated

659/885

Form 1
INORGANIC ANALYSIS DATA SHEET
9060

FIELD DUP

Laboratory: TestAmerica Buffalo

SDG: RT11344

Client: AMEC Geomatrix Inc. - Amherst, NY

Project: AMEC Geomatrix Inc. - NY3A9056.9

Matrix: Ground Water

Laboratory ID: RT11344-05

File ID: E093010-106

Sampled: 09/21/10 00:00

Prepared: 09/27/10 15:00

Analyzed: 09/27/10 23:49

Solids: 0.00

Preparation: No prep Carbon

Initial/Final: 40 mL / 40 mL

Batch: 1011981

Sequence:

Calibration:

Instrument: E616730030

CAS NO.	Analyte	Concentration	Units	Dilution Factor	Q	Method
7440-44-0	Total Organic Carbon	1.0	mg/L	1	U	9060

MEC* validated

660/685

Form 1
INORGANIC ANALYSIS DATA SHEET
9060

LVRA04-MNAGW-MW-2

Laboratory: TestAmerica Buffalo

SDG: RT11344

Client: AMEC Geomatrix Inc. - Amherst, NY

Project: AMEC Geomatrix Inc. - NY3A9056.9

Matrix: Ground Water

Laboratory ID: RT11344-06

File ID: E093010-107

Sampled: 09/21/10 15:00

Prepared: 09/27/10 15:00

Analyzed: 09/28/10 00:17

Solids: 0.00

Preparation: No prep Carbon

Initial/Final: 40 mL / 40 mL

Batch: 1011981

Sequence:

Calibration:

Instrument: E616730030

CAS NO.	Analyte	Concentration	Units	Dilution Factor	Q	Method
7440-44-0	Total Organic Carbon	0.9	mg/L	1	J	9060

MEC^x validated

APPENDIX B

Geologic Logs for Monitoring Wells MW-U1, MW-D1 and MW-D2

LOCATION OF BORING	RL 202	JOB NO	19558-008	CLIENT	BUSH LTD	LOCATION	LITTLE VALLEY N 1
		DRILLING METHOD	4 1/2" H.S.A			BORING NO	U-1
		MOBILE DRILL B-61					SHEET
		SAMPLING METHOD	SPLIT SPOON			DRILLING	
		COUNT & SCREEN					START TIME
		WATER LEVEL	31.2	30.5	30.1	FINISH TIME	
		TIME	1428	1435	1440	DATE	5-21
		DATE	5-21	5-21	5-21	DATE	5-21
		CASING DEPTH				DATE	5-21

SAMPLER TYPE	INCHES DRIVEN / INCHES RECOVERED	DEPTH OF CASING	SAMPLE NO / SAMPLE DEPTH	BLOWS/FT SAMPLER	NUMBER OF BLINDS	DEPTH IN FEET	SOIL GRAPH	SURFACE CONDITIONS:
						0		GRAY SANDY GRAVELS w/ SILT, DRY, DENSE - FELL
						1	SW	
						2		DARK GRAY BROWN SANDY SILT w/ GRAVEL, SLIGHTLY MOIST, LOOSE TO MEDIUM DENSE, FELL
SS	24 / 18		1 / 3'	6	3/D	3		
						4		FROM 3.0' BROWN SANDY GRAVELS w/ SILT, SLIGHTLY MOIST - ALLUVIAL (GRAVELS ARE ROUNDED) IS COARSE
						5		
SS	24 / 20		2 / 5'-7'	10 / 24 / 30	1 / D	6	GM	BROWN SANDY GRAVELS w/ SILT, SLIGHTLY MOIST, DENSE - ALLUVIAL
						7		
						8		SAME
						9		
						10		
SS	24 / 15		3 / 8'-12'	10 / 8	1 / D	11	GM	BROWN SANDY GRAVELS w/ SILT, SLIGHTLY MOIST, MEDIUM DENSE (MOIST TO WET FROM 10.5 TO 11.0') ALLUVIAL TYPE MATERIAL - GRAVELS REMAIN ROUNDED, COARSE
						12		
						13		
						14		
						15		BROWN SANDY GRAVELS w/ TRACES OF SILT, SLIGHTLY MOIST TO MOIST - MED. DENSE TO DENSE - ALLUVIAL, GRAVELS SHOW SIGNS OF SLIGHTLY WEATHER
SS	24 / 17		4 / 15'-17'	10 / 21 / 20	1 / D	16	GM	
						17		
						18		

DRILLING CONTR

No. 180695

BY BRAD McLOUGHLIN

DATE 5-21-91 CHK'D BY

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AUGERS GRIND HARD FROM 18' TO 20'
 FROM 3.0' TO 20' GRAVELS ARE 2" IN SIZE

LOCATION OF BORING

SEE PG. 1

JOB NO 19588-008		CLIENT BUSIA IND		LOCATION LITTLE VALLE N.Y.	
DRILLING METHOD C/W ID H.S.A. MOBILE DRILL B-61				BORING NO. U-1	
SAMPLING METHOD SPLIT SPOON 5.0' CENTER TO CENTER CONTINUOUS P SCREEN				SHEET 2 of 2	
WATER LEVEL 3		30.5'		START TIME 1305	FINIS TIME
TIME 1435				DATE 5-21	DATE
DATE					
CASING DEPTH					

DRILLING CONTR
 NO. 177747
 BY DEAR McLaughlin
 DATE 5-21-91
 CHK'D BY

DATUM		ELEVATION							
SAMPLER TYPE	INCHES DRIVEN INCHES RECORDED	DEPTH OF CASING	SAMPLE NO SAMPLE DEPTH	BLOWS/FT SAMPLER	NUMBER OF BLUES	DEPTH IN FEET	SOIL GRAPH		
				27	PPM	20			
SS	24" 18"		5 20-22	15 19	N/D	21	GM		
				20		22			
						23			
						24			
						25			
SS	24" 12"		6 25-27	13 10 27	N/D	26	GM		
				22		27			
						28			
						29			
				4		30			
SS	24" 19"		7 30-32	47 41	N/D	31	GM		
				13		32			
SS	24" 15"		8 32-34	10 23	N/D	33			
				20		34			
SS	24"		9 34-36	18 22	N/D	35			
				16		36			

SURFACE CONDITIONS: SEE PG. 1

20' - BROWN SANDY GRAVELS w/ SILT, SLIGHTLY MOIST TO MOIST, MEDIUM DENSE - ALLUVIAL TYPE MATERIAL, TRACES OF ONODABA LIMESTONE

21' - 23.0' TO 23.4' - GRINDING VERY HARD ON GRAVEL

22' - 24.5' TO 24.8' - GRINDING HARD AGAIN

23' -

24' -

25' -

26' - MOTTLED BROWN SANDY GRAVELS w/ SILT, MOIST TO WET FROM 25.0', DENSE - ALLUVIAL

27' -

28' - PEA SIZED GRAY GRAVELS FROM 27.5' TO 29.0' - AUGERS EASILY

29' -

30' - MOTTLED BROWN SANDY GRAVELS w/ SILT, TRACES OF CLAYEY SILT, WET - SATURATED, DENSE - ALLUVIAL

31' - 6" SILTY SAND @ 31.5 TO 32.0

32' -

33' -

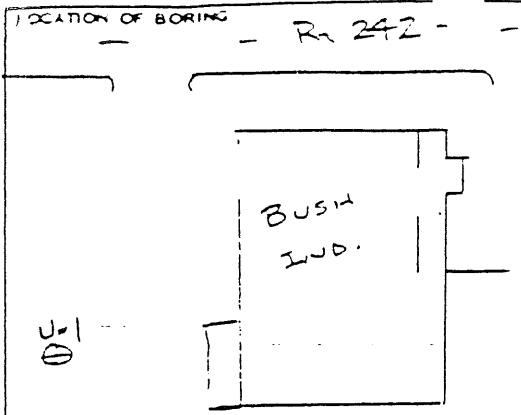
34' -

35' - MOTTLED BROWN - DARK BROWN SANDY GRAVELS w/ SILTY CLAY, WET MEDIUM DENSE - ALLUVIAL - GENERAL SLIGHTLY WEATHERING

36' -

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END U-1 @ 36.0'



JOB NO 19552-008		CLIENT Evan Lind		LOCATION LITTLE VALLEY IN. 71	
DRILLING METHOD: 4 1/4" H.S.A MOBILE DRILL B-61				BORING NO D-1	
SAMPLING METHOD: SPLIT SPOON				SHEET 1 of 3	
WATER LEVEL				START TIME	FINISH TIME
TIME				DATE	DATE
CASING DEPTH					

DRILLING CENTER

No. 180693

WALKER

DATER		ELEVATION		BLOWS/FT SAMPLER	NUMBER OF RINGS	DEPTH IN FEET	SOIL GRAPH
SAMPLER TYPE	INCHES DRIVEN RECOVERED	DEPTH OF CASING	SAMPLE NO DEPTH				
						0	GP
						1	
						2	GM
						3	
				14		4	
SS	22" 11"		21 27	21 27	N/D	5	GM
				18		6	
						7	
						8	
						9	
						10	
						11	
						12	
						13	

SURFACE CONDITIONS: GRAY SANDY GRAVELS w/
SILT, DENSE - PARKING LOT

BROWN SANDY GRAVELS w/
SILT, SLIGHTLY MOIST, MED
DENSE - ALLUVIAL (ROUNDED COARSE
GRAINED GRAVELS)

COARSE

8.5' TO 9.0' GRINDING HARD

GRINDING HARD IN COARSE GRAINED
GRAVELS FROM 12.5 TO 14.0'

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BROWN SANDY GRAVELS w/
SILT, SLIGHTLY MOIST - COARSE
GRAINED, ROUNDED GRAVELS
ALLUVIAL

SAMPLER TYPE	INCHES DRIVEN RECOVERED	DEPTH OF CASING	SAMPLE NO DEPTH	BLOWS/FT SAMPLER	NUMBER OF RINGS	DEPTH IN FEET	SOIL GRAPH
BS	16" 12"		2 3	20.3 27	35 50 1/2"	18 19 20	GM

BROWN SANDY GRAVELS w/
SILT, SLIGHTLY MOIST TO MOIST
DENSE - ALLUVIAL

DAMES & MOORE

LOCATION OF BORING

SEE PG. 1

JOB NO A588-008	CLIENT BUSH LTD	LOCATION LITTLE VALLEY N.Y.
DRILLING METHOD: 4" H.S.A. MOBILE DRILL B-61		BORING NO D-1
SAMPLING METHOD: SPLIT SPOON		SHEET 2 of 3
WATER LEVEL		DRILLING
TIME		START TIME
DATE		FINISH TIME
CASING DEPTH		DATE

DRILLING CONTR

No. 180694

By: BRAD McLAUGHLIN
DATE: 5-22-91
CHK'D BY:

DATUM		ELEVATION		BLOWS/FT SAMPLER	NUMBER OF RINGS	DEPTH IN FEET	SOIL GRAPH
SAMPLER TYPE	INCHES DRIVEN / INCHES RECOVERED	DEPTH OF CASING	SAMPLE NO / SAMPLE DEPTH				
				10		20	GM
				4		21	
				4		22	
				7		23	
				13		24	
SS	24" / 15"		3 / 24'-26'	4	N/D	25	
				5		26	
				7		27	
SS	24" / 15"		4 / 26'-28'	13	N/D	28	
				14		29	
				12		30	
				9		31	GM
				8		32	
SS	24" / 15"		5 / 24'-26'	12	N/D	33	
				24		34	
				33		35	
SS	24" / 15"		6 / 18'-20'	18	N/D	36	
				17		37	
				26		38	
						39	
						40	

SURFACE CONDITIONS: SEE PG. 1

20 - BROWN SANDY GRAVELS w/ SILT, MOIST - ALLUVIAL COARSE GRAINED GRAVELS = > 2"

24 - FROM 24.0 GRADES WET - BROWN SANDY GRAVELS w/ SILT - TRACES OF SILTY CLAY, WET, LOOSE

25 - GM

26 - ≈ 26.0 TO 27.0' - SANDY ZONE - BROWN WET, LOOSE

27 - GC

28 - GM

28 - BROWN SANDY GRAVELS w/ SILT, WET, MEDIUM DENSE ALLUVIAL

33 - MOTTLED BROWN SANDY GRAVELS w/ SILT, TRACES OF SILTY CLAY, MOIST, MEDIUM DENSE - GRAVELS ARE COARSE & SLIGHTLY WEATHERED

35 - SAME

DAMES & MOORE DOES NOT WARRANT THE ACCURACY OR COMPLETENESS OF THE INFORMATION ON THIS SHEET. ANY TRANSFER OF INFORMATION FROM THIS SHEET MUST BE ACCOMPANIED BY THIS DISCLAIMER.

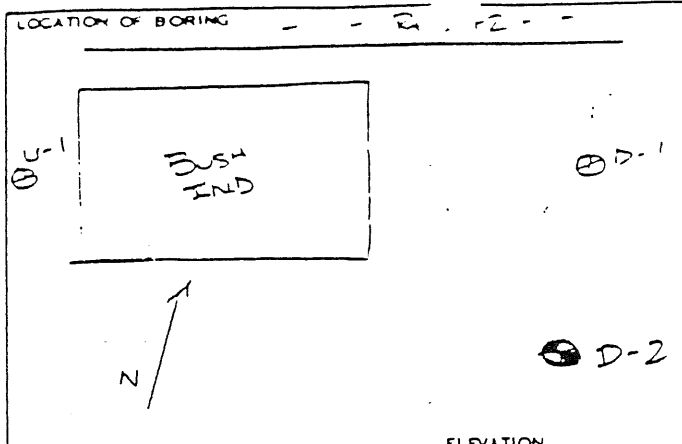
DAMES & MOORE

LOCATION OF BORING		JOB NO	CLIENT	LOCATION	
SEE PG. 1		19558-008	BUSH IND	LITTLE VALLEY TX	
		DRILLING METHOD: 4 1/2" H.S.A			BORING NO
		36" MOBILE DRILL			D-1
		SAMPLING METHOD: SPLIT SPOON			SHEET
			3 of 3		
			DRILLING		
			START	FINIS	
WATER LEVEL			44.3'	45.0'	
TIME			1055	1000	
DATE			5-24		
CASING DEPTH				5-24	

DATUM		ELEVATION		SURFACE CONDITIONS				
SAMPLER TYPE	INCHES DRIVEN / INCHES RECOVERED	DEPTH OF CASING	SAMPLE NO / SAMPLE DEPTH	BLOWS/FT SAMPLER	NUMBER OF THINGS	DEPTH IN FEET	SOIL GRAPH	
				11	(P/D) P/M	40		
SS	24" / 18"		7 / 40-42"	13	N/D	41	GM	BROWN SANDY GRAVELS w/ SILT, SOME CLAY, MOIST TO WET. ALLUVIAL - GRAVELS ARE COARSE GRAINED
				16		42		
						43		
						44		
				17		45	GM	BROWN SANDY GRAVELS w/ SILT - GRAVELS w/ LESS CLAY SILT, MOIST TO WET, DENSE, ALLUVIAL
SS	24" / 21"		8 / 45-47"	21	N/D	46		
				23		47		
				33		48		
						49		
						50	GM	BROWN SANDY GRAVELS w/ SILT WET, MED DENSE - ALLUVIAL
SS	18" / 12"		9 / 50-51"	10	N/D	51		
				8		52		
						53		END D-1 @ 53.0'
						4		
						5		
						6		

DRILLING CONTR. No. 180697
 BRAD M. LORANTZ
 DATE 5-22-91 CHK'D BY

DAMES & MOORE DOES NOT WARRANT THE ACCURACY OR COMPLETENESS OF THE INFORMATION ON THIS SHEET. ANY TRANSFER OF INFORMATION FROM THIS SHEET MUST BE ACCOMPANIED BY THIS DISCLAIMER.



JOB NO 19588-008		CLIENT BUSH END		LOCATION LITTLE VALLEY TX	
DRILLING METHOD: 4 1/4" H.S.A.				BORING NO D-2	
B.G.I. MOBILE DRILL				SHEET 1 of 3	
SAMPLING METHOD: SPLIT SPOON				DRILLING	
WATER LEVEL		38.6'	37.5'	START TIME	FINISH TIME
TIME		1145	1210		
DATE		5-23	5-23	DATE	DATE
CASING DEPTH				5/23	

No. 168850 DRILLING CONTR.

DATALOG		ELEVATION				SURFACE CONDITIONS:		
SAMPLER TYPE	INCHES DRIVEN / INCHES RECOVERED	DEPTH OF CASING	SAMPLE NO / SAMPLE DEPTH	BLOWS/FT SAMPLER	NUMBER OF RINGS	DEPTH IN FEET	SOIL GRAPH	GRAY SANDY GRAVELS w/ SILT - DRY, DENSE - PARKING LOT
					PH 7.7	0		
						1		
						2	GM	BROWN SANDY GRAVELS w/ SILT, SLIGHTLY MOIST TO MOIST, MED. DENSE - ALLUVIAL - GRAVELS ARE ROUNDED; COARSE GRAINED
						3		
						4		
						5		
						6	SM	~6.0' POCKET OF BROWN SILTY SAND w/ COARSE GRAINED GRAVELS, WET LOOSE
						7		
						8		
						9		
						10	GM	BROWN SANDY GRAVELS w/ SILT, MOIST, DENSE - ALLUVIAL TYPE MATERIAL

AMES & MOORE DOES NOT WARRANT THE ACCURACY OR COMPLETENESS OF THE INFORMATION ON THIS SHEET. ANY TRANSFER OF INFORMATION FROM THIS SHEET MUST BE ACCOMPANIED BY THIS DISCLAIMER.

AUGERS GRIND HARD FROM 12.5' TO 12.8'

BY BRAD

DATE	SS	24	15-17	16	27	N/D
		20		27		
				27		

15								
16	GM							GRAY BROWN SANDY GRAVELS w/ SILT, SLIGHTLY MOIST TO MOIST, DENSE
17								
18								
19								
20								

LOCATION OF BORING

JOB NO 19558-008	CUEN BUSIN LTD	LOCATION LITTLE VALLEY TX. 77
DRILLING METHOD: 4 1/4" H.S.A. E61 MOBILE DRILL		BORING NO D-2
SAMPLING METHOD: SPLIT SPOON		SHEET 2 of 3
WATER LEVEL		DRILLING START TIME
TIME		FINISH TIME
DATE		DATE
CASING DEPTH		5-23

SEE PG. 1

No. 180696 DRILLING CONTR

BY: KEAD W. LOUGHRAN
DATE: 5-23-91
CHK'D BY:

DATUM		ELEVATION				SURFACE CONDITIONS: SEE PG. 1	
SAMPLER TYPE	INCHES DRIVEN / INCHES RECOVERED	DEPTH OF CASING	SAMPLE NO / SAMPLE DEPTH	BLOWS/FT SAMPLER	NUMBER OF RINGS	DEPTH IN FEET	SOIL GRAPH
				17	17	20	GM
SS	17 / 13		2 / 20'-21.4'	56	N/D	21	
						22	GM
						23	
						24	GM
						25	
				15		26	GM
SS	24" / 19"		3 / 25'-27'	13	N/D	26	
						27	GM
						28	
				18		29	GM
SS	24" / 20"		4 / 27'-29'	16	N/D	28	
						30	GM
						31	
				8		32	GM
SS	24" / 19"		5 / 30'-32'	9	N/D	31	
						33	GM
						34	
						35	ML
						36	
				21		37	ML
SS	24" / 15"		6 / 35'-37'	27	N/D	36	
						38	ML
						39	
				33		40	ML
						41	

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FROM 34.5' GRAY SANDY SILT w/ CLAY & SOME GRAVELS, MOIST, STIFF - GLACIAL TILL - GRAVELS ^{MED TO} COARSE GRAINED & ROUNDED

LOCATION OF BORING

JOB NO

19588-008

CLEN

BUSH TND

LOCATION

LETTER VALLE
12-1

DRILLING METHOD

4 1/4" H.S.A

BORING NO

D-2

B 61 MOBILE DRILL

SHEET

3 of 3

SAMPLING METHOD

SPLIT SPOON

DRILLING

WATER LEVEL

38.6' 37.5'

START

FINISH

TIME

TIME

TIME

11:25 12:10

DATE

5-23 5-23

DATE

DATE

5-23

CASING DEPTH

SEE PG 1

DATUM

ELEVATION

SURFACE CONDITIONS

SEE PG 1

SAMPLER TYPE	INCHES DRIVEN INCHES RECOVERED	DEPTH OF CASING	SAMPLE NO DEPTH	BLOWS/FT SAMPLER	NUMBER OF RINGS	DEPTH IN FEET	SOIL GRAPH
				17		40	
SS	24" 13"		7 42-42	20 21		41	
				17 7		42	
SS	22" 15"		8 42-44	6 4		43	
				5 1/4		44	
						45	
						46	
						47	
						48	
						49	
						50	
						51	
						52	
						53	
						54	
						55	
						56	

FROM = 39.5' (GRAY BROWN SANDY GRAVELS w/ SILT & SOME CLAY) SILET WET, MEDIUM DENSE - GLACIO FLUVIAL

GRAY BROWN SANDY GRAVELS w/ SILT & SOME CLAY SILET, WET, LOOSE - GLACIO FLUVIAL

END D-2 @ 43.8'

DRILLING CONTR

No. 168892

BY: HEAD M' LOGGERS
DATE: 5-23-91 CHK'D BY:

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