July 25, 2013
File No. 21.0056546.00

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Re: Results of May 2013 Monitored Natural Attenuation Groundwater Sampling
Delphi Harrison Thermal Systems Site (Site)
Lockport, New York
Registry Site No. 932113

Dear Mr. May:

GZA GeoEnvironmental of New York (GZA) presents this letter report to summarize results of the May 2013 groundwater and monitored natural attenuation (MNA) parameter sampling event at the above-referenced Site. The groundwater sampling event conducted from May 1 through May 3, and May 16, 2013 included eight (8) monitoring wells (MW-4, -7, -10, -11, -12, -13, -14 and -15) that were sampled for the five (5) compounds of concern (COCs)[1] and MNA parameters as identified in the Site Management Plan[2] (SMP). In addition to the MNA parameters identified in the SMP, carbon dioxide, hydrogen, volatile fatty acids (VFAs), ethene and ethane were added to the sampling parameter list for 2013, consistent with the 2011 and 2012 sampling events.

BACKGROUND

In March 2005, NYSDEC issued a Record of Decision (ROD) for the Site, which selected MNA as the remedial alternative to address the COCs detected at the Site. Annual MNA groundwater sampling was completed voluntarily from October 2006 to May 2011. In November, GM Components Holdings, LLC (GMCH) entered into an Order on Consent and Administrative Settlement, discussed later in this section, which requires that annual sampling be conducted as part of the SMP.

Six (6) monitoring wells (MW-7, MW-11, MW-12, MW-13, MW-14 and MW-15) were monitored in October 2006, November 2007 and November 2008 (see Figure 1 for locations). MW-7 is located in the vicinity of the Area of Concern (AOC) and the other five wells, MW-11 through MW-15, are the downgradient monitoring locations.

[1] These five COCs are trichloroethylene, tetrachloroethylene, *cis*-1,2-dichloroethene, *trans*-1,2-dichloroethylene, and vinyl chloride.

[2] "Delphi Harrison Thermal Systems Site, Niagara County, New York, Site Management Plan, NYSDEC Site Number 9-32-113" dated October, 2011. Prepared for GM Components Holdings, LLC by GZA.

Based on the results of the groundwater sampling program through March 2009, the sampling program was expanded in July 2009 to include ten (10) monitoring well locations: MW-4, -7, -8, -9, -10, -11, -12, -13, -14 and -15.

The next groundwater sampling event completed in April 2010 indicated that natural attenuation is occurring with limited evidence of reductive dechlorination near the source area (MW-7) and midpoint (MW-4 and -10) of the groundwater plume. However, there was adequate to strong evidence for anaerobic biodegradation of COCs at the leading edge of the groundwater plume (MW-11 through -15). Given these conditions, coupled with the lack of evidence of an expanding plume, it appeared natural attenuation processes were effectively managing the COC plume migration..

Results of the April 2011 sampling round were similar to the April 2010 results *i.e.,* natural attenuation of COCs was occurring. However, there appeared to be a decreasing total organic carbon (TOC) concentration trend across the Site indicating that the "fuel" that drives reductive dechlorination may becoming depleted. GZA recommended continuing the annual groundwater sampling event utilizing eight (8) monitoring wells (MW-4, -7, -10, -11, -12, -13, -14 and -15), as stated in the SMP, in the Spring of 2012 and expanding the analyte list to include the following:

- Carbon dioxide;
- Alkalinity;
- Hydrogen;
- Volatile Fatty Acids (VFAs); and
- Ethene/Ethane.

In November 2011, GM Components Holdings, LLC (GMCH) entered into an Order on Consent and Administrative Settlement (Index #B9-0553-99-06) for the Site. The Final Engineering Report for the Site was submitted in March 2012 and a Certificate of Completion was issued by NYSDEC dated March 13, 2012. The Certificate of Completion required the following be completed:

- A record of notice for the Certificate of Completion must be filed with Niagara County within 30 days of issuance of the Certificate of Completion. The record of notice was recorded on April 10, 2012.
- A fact sheet must be issued describing the institutional and engineering controls that are required at the Site. The fact sheet was distributed by NYSDEC to their Listserv contact list in April 2012.
- The NYSDEC-approved SMP must be implemented.

The April 2012 groundwater sampling and natural attenuation parameter monitoring event was completed in accordance with the SMP.

The report of the April 2012 results indicated that natural attenuation of COCs is occurring via reductive dechlorination, and offered the following observations:

- The COC concentrations of the parent compounds were decreasing from the source area (MW-7) downgradient to the mid-point of the plume (MW-4 and MW-10) and on to the downgradient portions of the Site (MW-11 through MW-15).
- There was an increase in daughter compounds concentrations from the source area to the mid-point of the plume, with an overall decrease in total COC concentrations.
- The COC concentrations at the downgradient property line did not exceed the NYSDEC Class GA criteria.

There appears to be a temporal decreasing trend in TOC concentrations. TOC represents a surrogate measurement of the "fuel" that drives reductive dechlorination.

GZA recommended continuing the annual groundwater sampling event utilizing eight (8) monitoring wells (MW-4, -7, -10, -11, -12, -13, -14 and -15), as stated in the SMP, in the Spring of 2013, and utilize the natural attenuation analytical parameter list used during the 2012 testing in the 2013 sample round.

MAY 2013 GROUNDWATER MONITORING & SAMPLING

The May 2013 groundwater monitoring and sampling event was conducted in accordance with the SMP and included eight (8) monitoring wells (MW-4, -7, and -10 through -15, see Figure 1) from May 1 through May 3; and May 16, 2013. Hydrogen samples for 5 monitoring wells were recollected on May 16th due to an error at the laboratory.

METHODOLOGY

The groundwater monitoring and sampling was performed using low flow sampling techniques with a peristaltic pump, disposable polyethylene tubing and a water quality meter with a flow-through cell to collect water quality field parameters. The sampling technique and analytical parameters were consistent with the SMP.

The following is the list of the analytical parameters for this sampling event:

Field Measured Parameters: temperature, specific conductance, pH, turbidity, dissolved oxygen (DO) and oxidation reduction potential (ORP).

Compounds of Concerns: tetrachloroethylene (PCE), trichloroethylene (TCE), *cis*-1,2-dichloroethylene (*cis*-DCE), *trans*-1,2-dichloroethylene (*trans*-DCE) and vinyl chloride (VC).

Natural Attenuation Parameters: methane, iron, magnesium, manganese, potassium, sodium, alkalinity, TOC, chloride, nitrate, nitrite, sulfate, sulfide, carbon dioxide, hydrogen, VFAs, ethene, and ethane.

Groundwater pumping rates used during monitoring/sampling varied at the monitoring locations in order to establish a relatively stable water level. Once a stable water level was established within the monitoring well, flow rates were maintained during the monitoring/sampling period. Samples were collected for analysis after field-measured parameters stabilized, and a minimum of one (1) well volume was purged. It should be noted that a stable water level could not be established at well MW-7 (similar to previous rounds). Therefore, this location was purged to dry-like conditions and allowed to recharge until the recharge volume was sufficient to collect the sample parameters. Also, due to the lack of a stable water level, the hydrogen sample could not be collected. The Monitoring Well Observations & Groundwater Sampling Logs are included in Appendix A.

ANALYTICAL RESULTS & DISCUSSION

Analytical results for the COCs for the current sampling event along with the data from previous sample rounds are shown on Figure 1. A contour map of the Total COC concentrations is presented on Figure 2 and a groundwater elevation contour map of the groundwater elevation data collected is shown on Figure 3. It should be noted that the concentrations of *cis*-DCE and *trans*-DCE have been combined for presentation purposes as total 1,2-DCE in Figure 1, although the bulk of total 1,2-DCE mass includes the *cis* isomer. The analytical results for the COCs (current and historic) shown on Figure 1 have been graphically depicted and are included in Appendix B.

Analytical results for the MNA parameters are shown on Table 1, along with the data from previous sample rounds. The TestAmerica Laboratories, Inc. laboratory report is provided in Appendix C.

Compounds of Concern

Source Area Monitoring Well

MW-7: The TCE concentrations at MW-7 are generally in the range of 500 to 800 mg/L from October 1996 through May 2013 with the exception of four contiguous sample rounds from April 2003 through November 2008, where the results ranged from 1.1 to 430 ppm. The TCE concentration graph in Appendix B indicates a downward temporal trend in concentrations from April 1996 to October 1999, which is consistent with natural attenuation. The TCE concentrations from November 2007 to May 2013 fluctuated with a near order of magnitude upward trend that may be attributed to the decrease in TOC concentrations.

The concentrations of the PCE, 1,2-DCE and VC appear to generally be consistent since the start of the sampling in 1996, with some minor fluctuation.

Mid Plume Monitoring Wells

MW-4: The concentrations of the TCE, PCE, and VC appear to generally be consistent since the start of the sampling in 1996, with some minor fluctuations.

Since 2003, there has been a consistent downward temporal trend of 1,2-DCE concentrations at MW-4, which may reflect the decreasing TOC concentration temporal trend that would drive the microbially-mediated transformation of TCE→*cis*1,2-DCE.

MW-10: There is a downward temporal trend of TCE and 1,2-DCE concentrations at MW-10 since 1996, which is consistent with natural attenuation with some minor fluctuations. VC and PCE concentrations have been generally lower since 1999, also consistent with natural attenuation, with some fluctuation.

Downgradient Monitoring Wells

MW-11: The detected concentrations of PCE and TCE have been below method detection limits since the start of MW-11 sampling in 1997, generally consistent with natural attenuation.

The concentrations of 1,2-DCE have fluctuated from below method detection limits (multiple sample rounds) to 0.013 ppm (December 1998) with the majority of the detected concentrations (13 of 15 samples rounds) being below the NYSDEC Class GA criteria (0.005 ppm), including the 2013 sampling event.

The concentrations of VC have fluctuated from below method detection limits (multiple sample rounds) to 0.008 ppm (August 2001) in a temporal pattern generally similar to the 1,2-DCE. Results from the last nine (9) sample rounds have been at or below the NYSDEC Class GA criteria (0.002 ppm), including the 2013 sampling event, which was 0.0011 ppm.

MW-12: PCE and TCE were not detected above their respective Class GA criteria (0.005 ppm) from 2009 to 2013, TCE has been detected above the method detection limit but below the GA criteria four (4) of six (6) times and PCE two [2] of six [6] times..

The concentrations of 1,2-DCE have fluctuated from 0.011 ppm (November 2007) to 0.272 ppm (April 2010). The 1,2-DCE concentration for the 2013 sampling event was 0.151 ppm, which is above the average 1,2-DCE concentration detected at this location to date.

The concentrations of VC have fluctuated from 0.011 ppm (October 2001) to 0.190 ppm (August 1997). The VC concentration for the 2013 sampling event was 0.073 ppm, which is below the average VC concentration detected.

MW-13: The detected concentrations of PCE, TCE, 1,2-DCE and VC have been below method detection limits in all but one sample round (October 2006) since the start of MW-13 sampling in 2001. The results for 2013 were below method detection limits.

MW-14: The detected concentrations of TCE have been below method detection limits in nine (9) of the eleven (11) sample rounds conducted since the start of MW-14 sampling in 2001. The results for 2013 were below method detection limits.

The detected concentrations of PCE have all been below method detection limits since the start of MW-14 sampling in 2001.

The detected concentrations of 1,2-DCE have been below method detection limits or below its respective NYSDEC Class GA criteria in eight (8) of the eleven (11) sample rounds conducted since the start of MW-14 sampling in 2001. The concentration of 1,2-DCE during this round was below method detection limits.

The detected concentrations of VC have been below method detection limits in nine (9) of the eleven (11) sample rounds conducted since the start of MW-14 sampling in 2001. The one round where VC (0.003 ppm) did slightly exceed its respective NYSDEC Class GA criteria was in November 2008. The concentration of VC for this round was below method detection limits.

MW-15: The detected concentrations of TCE were below method detection limits (<0.005 ppm) in the first seven (7) of the eleven (11) sample rounds conducted since the start of MW-15 sampling in 2001. TCE has been detected in the past four (4) rounds at concentrations above the method detection limits (0.00064 to 0.0007 ppm), but below the NYSDEC Class GA criteria.

The detected concentrations of PCE have been above its NYSDEC Class GA criteria in the eleven (11) sample rounds conducted since the start of MW-15 sampling in 2001 ranging from 0.02 ppm (October 2001) to 0.0059 ppm (November 2008). There was a decrease in PCE concentrations in 2001, followed by asymptotic concentrations between about 0.005 and 0.01 mg/L thereafter. The detected concentration of PCE in the 2013 sample round was 0.0068, which is slightly above the NYSDEC Class GA criteria.

The detected concentrations of 1,2-DCE and VC have been below their method detection limits in the eleven (11) sampling rounds conducted since the start of MW-15 sampling in 2001.

Natural Attenuation Performance

GZA's review of the May 2013 groundwater analytical and water quality data is generally consistent with the substantive conclusions and trends noted in prior reports. During 2013, GZA used Wiedemeier *et. al.'s* (1998[3]) approach to evaluate the performance data to re-assess the strength of the evidence supporting reductive dechlorination. Tables summarizing the results of that evaluation are included in Appendix D, and the results are tabulated below.

WELL	STRENGTH OF NATURAL ATTENUATION EVIDENCE			
	INADEQUATE EVIDENCE	**LIMITED EVIDENCE**	**ADEQUATE EVIDENCE**	**STRONG EVIDENCE**
Source Area Well				
MW-7		X		
Mid Plume Wells				
MW-4			X	
MW-10		X		
Downgradient Wells				
MW-11		X		
MW-12			X	
MW-13	X			
MW-14		X		
MW-15	X			

Note: "X" indicates the respective strength of the evidence for natural attenuation by reductive dechlorination for the May 2013 groundwater monitoring round in accordance with Wiedemeier *et. al.*. (1998).

As summarized above in the embedded table, there is no strong evidence for natural attenuation by reductive dechlorination at any of the monitoring wells currently sampled annually during performance monitoring. There is adequate evidence for natural attenuation by reductive dechlorination at two (2) wells, limited evidence in the source area and at three (3) other wells, and inadequate evidence at two (2) wells. A decreasing TOC temporal trend may be limiting the effectiveness of natural attenuation by reductive dechlorination for managing cVOC migration at the Site.

CONCLUSIONS & RECOMMENDATIONS

Based on the results of the May 2013 sampling round within the framework of the historical results, natural attenuation of COCs is occurring via reductive dechlorination. GZA offers the following additional observations:

[3] Wiedemeier, T.H., Swanson, M.A., Moutoux, D.E., Gordon, E.K., Wilson, J.T., Wilson, B.H., Kampbell, D.H., Haas, P.E., Miller, R.N., Hansen, J.E., and Chapelle, F.H., 1998, Technical Protocol for Evaluating Natural Attenuation of Chlorinated Solvents in Ground Water, EPA/600/R-98/128, 78 p.

- The COC concentrations of the parent compounds are decreasing from the source area (MW-7) downgradient to the mid-point of the plume (MW-4 and MW-10), and from the mid-point and on to the downgradient portions of the Site (MW-11 through MW-13).
- There is an increase in daughter compound concentrations from the source area to the mid-point of the plume, with an overall decrease in total COC concentrations.
- The COC concentrations at the downgradient property line do not exceed the NYSDEC Class GA criteria.
- Ethene has been detected above the analytical reporting limit in groundwater samples collected from all eight (8) monitoring wells. Assuming the ethene represents the ultimate daughter product of cVOC reductive dechlorination, its detection at each monitoring well is a direct line of evidence that cVOCs have been degraded to completion at the Site.

It should be noted that there is a temporal decreasing trend in TOC concentrations across the Site. TOC, as discussed previously, represents a surrogate measurement of the "fuel" driving reductive dechlorination and should continue to be monitored.

GZA recommends continuing the annual groundwater sampling event utilizing eight (8) monitoring wells (MW-4, -7, -10, -11, -12, -13, -14 and -15), as stated in the SMP, in the Spring of 2014. The natural attenuation analytical parameter list used during the 2013 sample round should also be used in the 2014 sample round with the exception of the analysis of sodium (Na), calcium (Ca), potassium (K) and volatile fatty acids (VFAs) as these parameters provide limited benefit in the further evaluation of MNA at this site.

In addition, given there appears to be a decreasing temporal trend in TOC concentrations across the Site, GZA recommends a treatability study to evaluate whether the addition of an organic carbon amendment might re-stimulate natural attenuation by reductive dechlorination. The study would involve deployment of *in-situ* microcosms (Bio-Trap®, manufactured by Microbial Insights, Inc. of Rockford, Tennessee) "baited" with an organic carbon additive to evaluate whether reductive dechlorination can be re-stimulated. The methods, results, conclusions, and recommendations of that study would be reported in a letter report to be prepared following conclusion of the treatability study and the 2014 groundwater sampling event.

Please do not hesitate to contact the undersigned if you have any questions or require any additional information.

Sincerely,

GZA GEOENVIRONMENTAL OF NEW YORK

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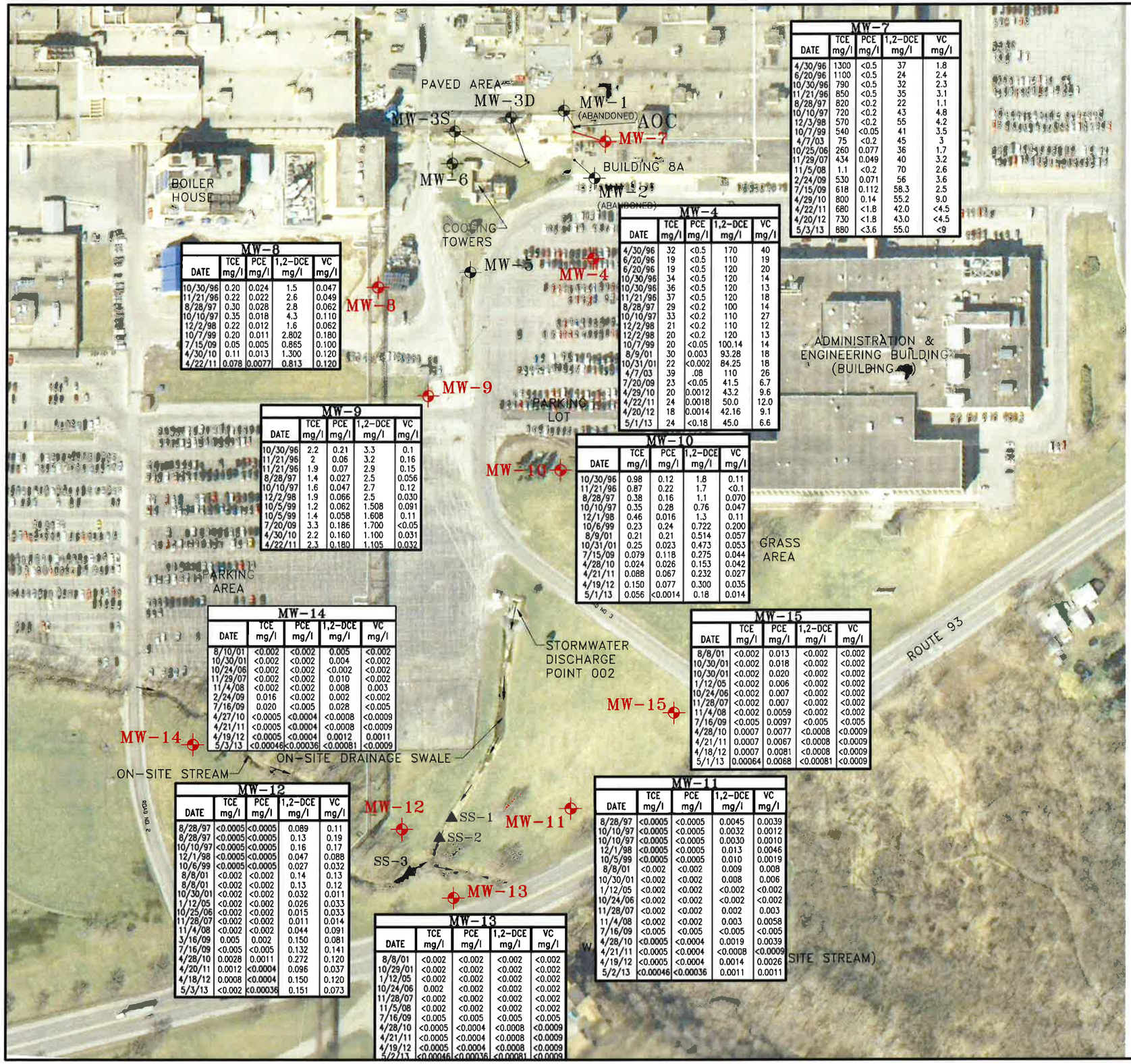
Table 1 – Natural Attenuation Parameter Results
Figure 1 – Site Plan & Compound of Concern Analytical Data
Figure 2 – Total COC Contour Plan
Figure 3 – Groundwater Contour Plan
Appendix A: Monitoring Well Observations & Groundwater Sampling Logs
Appendix B: COC Data Graphs
Appendix C: Test America Analytical Laboratory Report
Appendix D: EPA cVOC Monitored Natural Attenuation Ranking System Results

FIGURES



MW-8

DATE	TCE mg/l	PCE mg/l	1,2-DCE mg/l	VC mg/l
10/30/96	0.20	0.024	1.5	0.047
11/21/96	0.22	0.022	2.6	0.049
8/28/97	0.30	0.028	2.8	0.062
10/10/97	0.35	0.018	4.3	0.110
12/2/98	0.22	0.012	1.6	0.062
10/7/99	0.20	0.011	2.802	0.180
7/15/09	0.05	0.005	0.865	0.100
4/30/10	0.11	0.013	1.300	0.120
4/22/11	0.078	0.0077	0.813	0.120

MW-9

DATE	TCE mg/l	PCE mg/l	1,2-DCE mg/l	VC mg/l
10/30/96	2.2	0.21	3.3	0.1
11/21/96	2	0.06	3.2	0.16
11/21/96	1.9	0.07	2.9	0.15
8/28/97	1.4	0.027	2.5	0.056
10/10/97	1.6	0.047	2.7	0.12
12/2/98	1.9	0.066	2.5	0.030
10/5/99	1.2	0.062	1.508	0.091
10/5/99	1.4	0.058	1.608	0.11
7/20/09	3.3	0.186	1.700	<0.05
4/30/10	2.2	0.160	1.100	0.031
4/22/11	2.3	0.180	1.105	0.032

MW-14

DATE	TCE mg/l	PCE mg/l	1,2-DCE mg/l	VC mg/l
8/10/01	<0.002	<0.002	0.005	<0.002
10/30/01	<0.002	<0.002	0.004	<0.002
10/24/06	<0.002	<0.002	<0.002	<0.002
11/29/07	<0.002	<0.002	0.010	<0.002
11/4/08	<0.002	<0.002	0.008	0.003
2/24/09	0.016	<0.002	0.002	<0.002
7/16/09	0.020	<0.005	0.028	<0.005
4/27/10	<0.0005	<0.0004	<0.0008	<0.0009
4/21/11	<0.0005	<0.0004	<0.0008	<0.0009
4/19/12	<0.0005	<0.0004	0.0012	0.0011
5/3/13	<0.00046	<0.00036	<0.00081	<0.0009

MW-12

DATE	TCE mg/l	PCE mg/l	1,2-DCE mg/l	VC mg/l
8/28/97	<0.0005	<0.0005	0.089	0.11
8/28/97	<0.0005	<0.0005	0.13	0.19
10/10/97	<0.0005	<0.0005	0.16	0.17
12/1/98	<0.0005	<0.0005	0.047	0.088
10/6/99	<0.0005	<0.0005	0.027	0.032
8/8/01	<0.002	<0.002	0.14	0.13
8/8/01	<0.002	<0.002	0.13	0.12
10/30/01	<0.002	<0.002	0.032	0.011
1/12/05	<0.002	<0.002	0.026	0.033
10/25/06	<0.002	<0.002	0.015	0.033
11/28/07	<0.002	<0.002	0.011	0.014
11/4/08	<0.002	<0.002	0.044	0.091
3/16/09	0.005	0.002	0.150	0.081
7/16/09	<0.005	<0.005	0.132	0.141
4/28/10	0.0028	0.0011	0.272	0.120
4/20/11	0.0012	<0.0004	0.096	0.037
4/18/12	0.0008	<0.0004	0.150	0.120
5/3/13	<0.002	<0.00036	0.151	0.073

MW-13

DATE	TCE mg/l	PCE mg/l	1,2-DCE mg/l	VC mg/l
8/8/01	<0.002	<0.002	<0.002	<0.002
10/29/01	<0.002	<0.002	<0.002	<0.002
1/12/05	<0.002	<0.002	<0.002	<0.002
10/24/06	0.002	<0.002	<0.002	<0.002
11/28/07	<0.002	<0.002	<0.002	<0.002
11/5/08	<0.002	<0.002	<0.002	<0.002
7/16/09	<0.005	<0.005	<0.005	<0.005
4/28/10	<0.0005	<0.0004	<0.0008	<0.0009
4/21/11	<0.0005	<0.0004	<0.0008	<0.0009
4/19/12	<0.0005	<0.0004	<0.0008	<0.0009
5/2/13	<0.00046	<0.00036	<0.00081	<0.0009

MW-4

DATE	TCE mg/l	PCE mg/l	1,2-DCE mg/l	VC mg/l
4/30/96	32	<0.5	170	40
6/20/96	19	<0.5	110	19
6/20/96	19	<0.5	120	20
10/30/96	34	<0.5	120	14
10/30/96	36	<0.5	120	13
11/21/96	37	<0.5	120	18
8/28/97	29	<0.2	100	14
10/10/97	33	<0.2	110	27
12/2/98	21	<0.2	110	12
12/2/98	20	<0.2	120	13
10/7/99	20	<0.05	100.14	14
8/9/01	30	0.003	93.28	18
10/31/01	22	<0.002	84.25	18
4/7/03	39	.08	110	26
7/20/09	23	<0.05	41.5	6.7
4/29/10	20	0.0012	43.2	9.6
4/22/11	24	0.0018	50.0	12.0
4/20/12	18	0.0014	42.16	9.1
5/1/13	24	<0.18	45.0	6.6

MW-10

DATE	TCE mg/l	PCE mg/l	1,2-DCE mg/l	VC mg/l
10/30/96	0.98	0.12	1.8	0.11
11/21/96	0.87	0.22	1.7	<0.1
8/28/97	0.38	0.16	1.1	0.070
10/10/97	0.35	0.28	0.76	0.047
12/1/98	0.46	0.016	1.3	0.11
10/6/99	0.23	0.24	0.722	0.200
8/9/01	0.21	0.21	0.514	0.057
10/31/01	0.25	0.023	0.473	0.053
7/15/09	0.079	0.118	0.275	0.044
4/28/10	0.024	0.026	0.153	0.042
4/21/11	0.088	0.067	0.232	0.027
4/19/12	0.150	0.077	0.300	0.035
5/1/13	0.056	<0.0014	0.18	0.014

MW-7

DATE	TCE mg/l	PCE mg/l	1,2-DCE mg/l	VC mg/l
4/30/96	1300	<0.5	37	1.8
6/20/96	1100	<0.5	24	2.4
10/30/96	790	<0.5	32	2.3
11/21/96	850	<0.5	35	3.1
8/28/97	820	<0.2	22	1.1
10/10/97	720	<0.2	43	4.8
12/3/98	570	<0.2	55	4.2
10/7/99	540	<0.05	41	3.5
4/7/03	75	<0.2	45	3
10/25/06	260	0.077	36	1.7
11/29/07	434	0.049	40	3.2
11/5/08	1.1	<0.2	70	2.6
2/24/09	530	0.071	56	3.6
7/15/09	618	0.112	58.3	2.5
4/29/10	800	0.14	55.2	9.0
4/22/11	680	<1.8	42.0	<4.5
4/20/12	730	<1.8	43.0	<4.5
5/3/13	880	<3.6	55.0	<9

MW-15

DATE	TCE mg/l	PCE mg/l	1,2-DCE mg/l	VC mg/l
8/8/01	<0.002	0.013	<0.002	<0.002
10/30/01	<0.002	0.018	<0.002	<0.002
10/30/01	<0.002	0.020	<0.002	<0.002
1/12/05	<0.002	0.006	<0.002	<0.002
10/24/06	<0.002	0.007	<0.002	<0.002
11/28/07	<0.002	0.007	<0.002	<0.002
11/4/08	<0.002	0.0059	<0.002	<0.002
7/16/09	<0.005	0.0097	<0.005	<0.005
4/28/10	0.0007	0.0077	<0.0008	<0.0009
4/21/11	0.0007	0.0067	<0.0008	<0.0009
4/18/12	0.0007	0.0081	<0.0008	<0.0009
5/1/13	0.00064	0.0068	<0.00081	<0.0009

MW-11

DATE	TCE mg/l	PCE mg/l	1,2-DCE mg/l	VC mg/l
8/28/97	<0.0005	<0.0005	0.0045	0.0039
10/10/97	<0.0005	<0.0005	0.0032	0.0012
10/10/97	<0.0005	<0.0005	0.0030	0.0010
12/1/98	<0.0005	<0.0005	0.013	0.0046
10/5/99	<0.0005	<0.0005	0.010	0.0019
8/8/01	<0.002	<0.002	0.009	0.008
10/30/01	<0.002	<0.002	0.008	0.006
1/12/05	<0.002	<0.002	<0.002	<0.002
10/24/06	<0.002	<0.002	<0.002	<0.002
11/28/07	<0.002	<0.002	0.002	0.003
11/4/08	<0.002	<0.002	0.003	0.0058
7/16/09	<0.005	<0.005	<0.005	<0.005
4/28/10	<0.0005	<0.0004	0.0019	0.0039
4/21/11	<0.0005	<0.0004	<0.0008	<0.0009
4/19/12	<0.0005	<0.0004	0.0014	0.0026
5/2/13	<0.00046	<0.00036	0.0011	0.0011

NORTH

NOTES:

1. BASE MAP ADAPTED FROM A 2005 AERIAL PHOTOGRAPH DOWNLOADED FROM http://www.nysgis.state.ny.us/gateway/mg/interactive_main.html AND SITE OBSERVATIONS.

2. ANALYTICAL TESTING WAS COMPLETED BY TEST AMERICA LABORATORIES.

3. UNITS ARE LISTED IN MILLIGRAMS PER LITER (mg/l). (< - INDICATES COMPOUND NOT DETECTED ABOVE THE SPECIFIED DETECTION LIMIT)

4. THE SIZE AND LOCATION OF EXISTING SITE FEATURES SHOULD BE CONSIDERED APPROXIMATE.

LEGEND:

MW-8 — APPROXIMATE LOCATION AND DESIGNATION OF MONITORING WELL INSTALLED BY GZA

▲SS-1 — APPROXIMATE LOCATION AND DESIGNATION OF STREAM WATER SAMPLE

AOC — DENOTES AREA OF CONCERN

TCE = TRICHLOROETHENE

PCE = TETRACHLOROETHENE

1,2-DCE = TRANS & CIS 1,2-DICHLOROETHENE

VC = VINYL CHLORIDE

DRAWN BY: MDK

DATE: MAY 2013

GZA GeoEnvironmental of New York

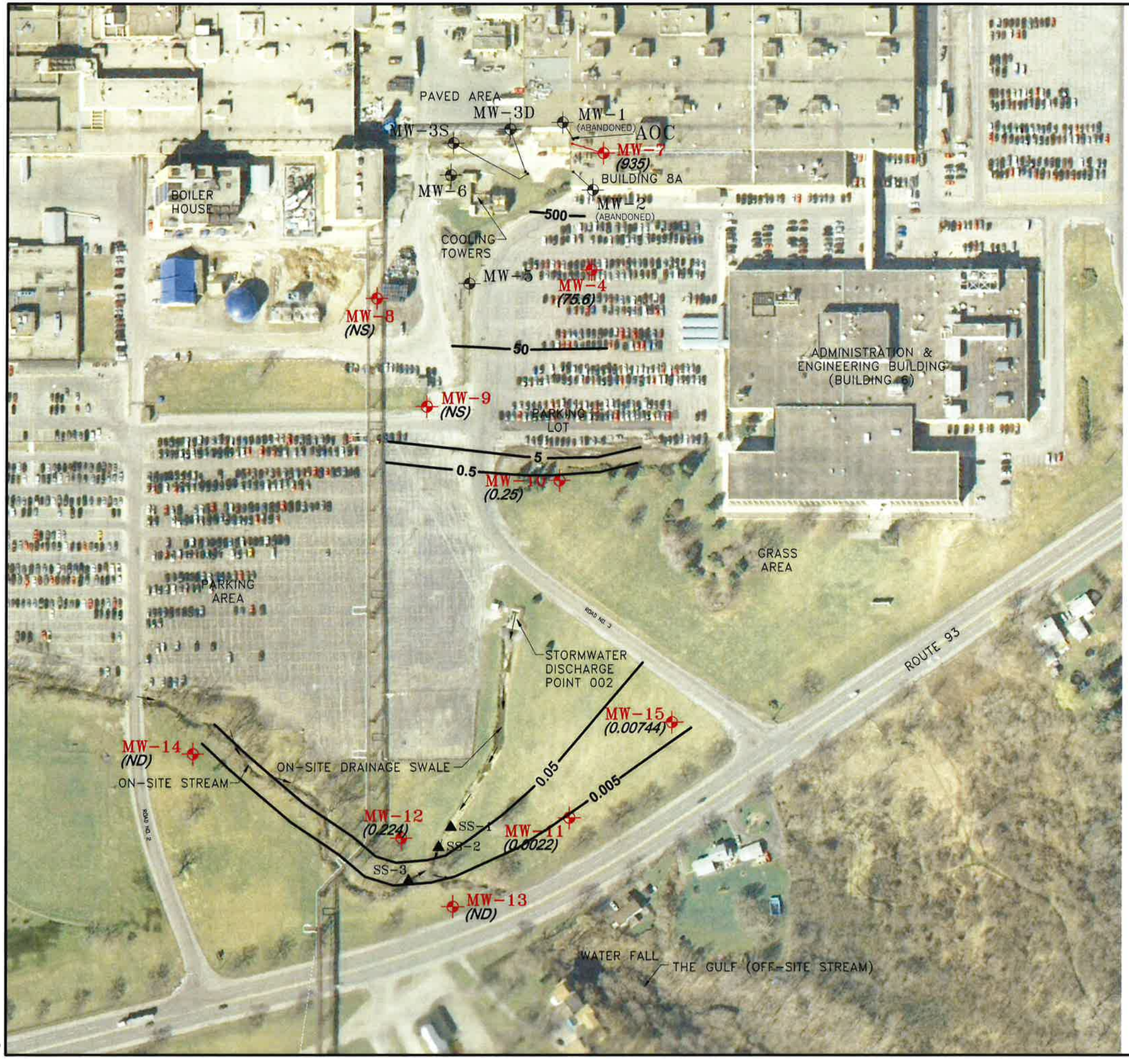
APPROXIMATE SCALE IN FEET
0 90 180 360

GM COMPONENTS HOLDINGS, LLC
DELPHI HARRISON THERMAL SYSTEMS SITE
200 UPPER MOUNTAIN ROAD
LOCKPORT, NEW YORK
MAY 2013 SAMPLING

GROUNDWATER ANALYTICAL TEST RESULTS FOR TARGET CHLORINATED COMPOUNDS

PROJECT No.
21.0056546.00

FIGURE No.
1



NORTH

NOTES:

1. BASE MAP ADAPTED FROM A 2005 AERIAL PHOTOGRAPH DOWNLOADED FROM http://www.nysgis.state.ny.us/gateway/mg/interactive_main.html AND SITE OBSERVATIONS.

2. ANALYTICAL TESTING WAS COMPLETED BY TEST AMERICA LABORATORIES.

3. UNITS ARE LISTED IN MILLIGRAMS PER LITER (mg/l). (< - INDICATES COMPOUND NOT DETECTED ABOVE THE SPECIFIED DETECTION LIMIT)

4. THE SIZE AND LOCATION OF EXISTING SITE FEATURES SHOULD BE CONSIDERED APPROXIMATE.

LEGEND:

- 50 — APPROXIMATE LOCATION AND CONCENTRATION OF TOTAL VOC CONTOUR
- MW-4 (75.6) — APPROXIMATE LOCATION AND DESIGNATION OF MONITORING WELL INSTALLED BY GZA SHOWN WITH TOTAL VOC CONCENTRATION
- ▲SS-1 — APPROXIMATE LOCATION AND DESIGNATION OF STREAM WATER SAMPLE
- AOC — DENOTES AREA OF CONCERN
- NS = NOT SAMPLED

DRAWN BY: MDK

DATE: MAY 2013

GZA GeoEnvironmental of New York

APPROXIMATE SCALE IN FEET 0 90 180 360

GM COMPONENTS HOLDINGS, LLC

DELPHI HARRISON THERMAL SYSTEMS SITE

200 UPPER MOUNTAIN ROAD

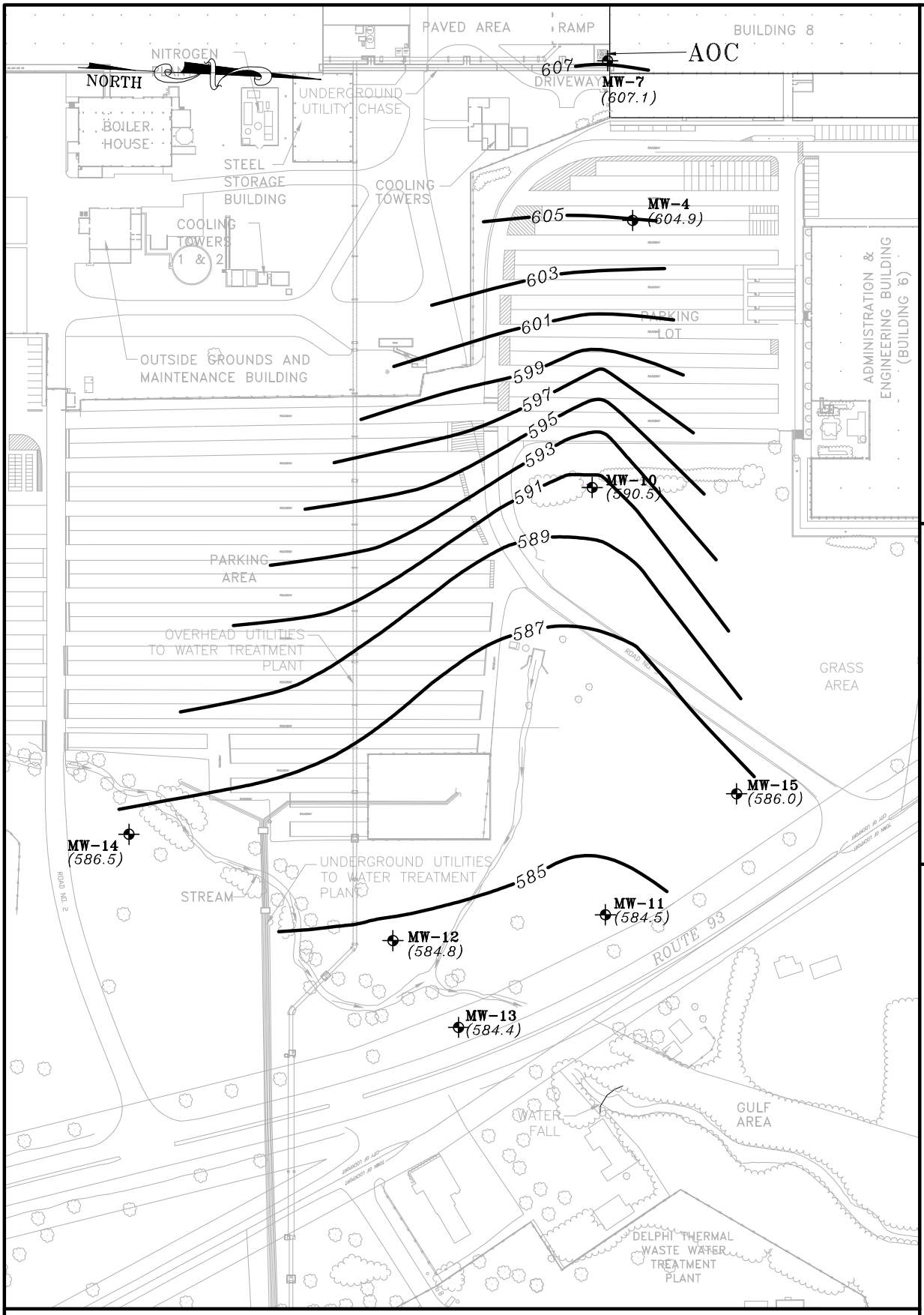
LOCKPORT, NEW YORK

MAY 2013 SAMPLING

TOTAL VOC CONTOUR MAP

PROJECT No. 21.0056546.00

FIGURE No. 2



LEGEND:

MW-4 (604.9) — APPROXIMATE LOCATION AND DESIGNATION OF EXISTING MONITORING WELL INSTALLED BY GZA

APPROXIMATE GROUNDWATER ELEVATION MEASURED ON DATE SHOWN IN TITLE BLOCK

AOC DENOTES AREA OF CONCERN

NOTES:

1. BASE MAP ADAPTED FROM AN AUTOCAD FILE PROVIDED BY DELPHI HARRISON THERMAL SYSTEMS.

2. WATER LEVEL READINGS HAVE BEEN MADE IN WELLS AT TIMES AND UNDER CONDITIONS PRESENTED IN THE REPORT. FLUCTUATIONS IN GROUNDWATER ELEVATIONS MAY OCCUR DUE TO VARIATIONS IN RAINFALL, BAROMETRIC PRESSURE, AND OTHER FACTORS.

DRAWN BY: MDK

DATE: MAY 2013

GZA GeoEnvironmental of New York

SCALE IN FEET

0 100 200 400

GM COMPONENTS HOLDINGS, LLC

DELPHI HARRISON THERMAL SYSTEMS SITE

200 UPPER MOUNTAIN ROAD

LOCKPORT, NEW YORK

MAY 2013 SAMPLING

GROUNDWATER CONTOUR PLAN

(MAY 16, 2013)

PROJECT No.

21.0056546.00

FIGURE No.

3

GZA–T:\PROJECTS\56500s\56546 GM Component LLC\TCE Release Area MNA Sampling\2013 Figures\FIGURE 3 GW CONTOURS.dwg [FIGURE 3] May 22, 2013 – 2:08pm michael.kress

TABLE

Table 1
Summary of Groundwater Field Measurements and Analytical Test Results for Natural Attenuation Parameters
May 2013 Groundwater Sampling
Delphi Thermal Systems
West Lockport Complex
Lockport, New York

		Field Parameters					Analytical Test Results - Inorganic and Miscellaneous Water Quality Parameters																							
Location	Sample Date	Temp. (Deg. C)	Specific Cond. (mS/cm)	DO (mg/L)	ORP (mv)	pH (Std Units)	Methane (mg/L)	Ethane (mg/L)	Ethene (mg/L)	Carbon Dioxide (mg/L)	Hydrogen (nm)	Organic Carbon (mg/L)	Alkalinity (mg/L)	Ammonia (mg/L)	Chloride (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Nitrate Nitrite (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	Calcium (mg/L)	Dissolved Calcium (mg/L)	Iron (mg/L)	Dissolved Iron (mg/L)	Magnesium (mg/L)	Dissolved Magnesium (mg/L)	Manganese (mg/L)	Dissolved Manganese (mg/L)	Sodium (mg/L)	Dissolved Sodium (mg/L)	Potassium (mg/L)	Dissolved Potassium (mg/L)	Volatile Fatty Acids (mg/L)
MW-4	12/2/1998	14.2	2.730	0.23	-56	6.6	2.9					19	354	1.23	986	0.30	<0.05		120	0.2	503	443	0.58	0.51	105	106	0.40	0.32	282	293	13.3	12.8	
MW-4 DUP	12/2/1998	NA	NA	NA	NA	NA	5.5					8	368	1.57	971	0.05	<0.05		120	0.2	431	335	0.59	0.52	107	100	0.39	0.34	282	306	13.2	13.5	
MW-4	10/7/1999	13.8	3.412	0.08	-92.8	6.7	4.2					47	360	1.03	1,010			0.08	110	0.3	269	318	0.42	0.45	98	116	0.23	0.34	240	305	10.4	13.1	
MW-4	8/9/2001	12.6	3.420	0.12	-5.1	6.5	0.12					20.2	366	1.20	1,300	0.11	<0.05		190	0.2	371		1.01		107		0.54		384		12.7		
MW-4	10/31/2001	13.8	3.444	0.10	-128.0	6.6	3.3					10.8	366	1.17	1,100	<0.05	<0.05		160	1.2			0.77		102		0.46		358		12.3		
MW-4	7/20/2009	17.7	1.263	0.28	35.1	6.41	5.28					13	330	3.83	5,320	<0.6	<0.6		295	2.0				3.21		193		2.64		2,100		50.5	
MW-4	4/29/2010	15.0	9.664	0.96	-2.1	6.5	1.8					4.3	333	NA	3,510	<0.05	<0.05		272	<1.0				3.15		152		1.86		1,700		26.1	
MW-4 DUP	4/22/2011	11.85	7.391	0.73	-349.0	6.77	2					0.6	343	1.9	3,260	<0.05	<0.05		370	<0.1	493		3.1		139		1.6		1420		17.8		
MW-4	4/20/2012 [9]	14.5	10.130	6.00	40.5	6.09	3.8	0.65	2.3	9.5	28	3.1	320	2.6	3,580	<0.05	<0.05		282	<0.1			2.7		138		1.5		1400		15.6		ND
MW-4	5/1/2013	14.5	13.320	0.18	-34.2	6.62	<0.22	<0.0049	<0.0052	23	0.63	2.8	329	3.4	4,300	<0.02	<0.02		268	<0.052			3.9		163		2.0		2080		20.2		ND
MW-6	12/2/1998	19.5	3740.000	0.30	-67	6.8	0.84					9	319	0.45	897	0.22	<0.05		160	0.2	161	156	7.98	1.13	35.6	28.8	0.48	0.29	619	638	9.64	9.51	
MW-6	10/7/1999	21.9	3283.000	0.12	-145.8	7.1	0.34					30	260	0.32	476			0.09	140	0.4	86.4	108	3.62	0.55	24	30.2	0.24	0.19	300	311	7.4	8.8	
MW-7	12/3/1998	17.3	3.130	0.33	-35	7.0	0.06					36	376	1.43	944	0.29	<0.05		200	0.4	382	375	0.14	0.02	118	136	<0.01	<0.01	288	351	20.5	23.0	
MW-7 [3]	10/7/1999	19.4	3.049	0.69	-52	7.1	0.02					58	420	1.10	1,180			0.11	180	0.4	286	255	0.86	0.05	138	145	0.05	0.02	292	306	21.4	24.0	
MW-7	10/25/2006	17.4	2.620	1.08	-92	7.1	0.06					28	376	1.33	600	<0.05	<0.05		470	<0.01			0.23		112		0.02		237		19.4		
MW-7	11/29/2007	15.5	2.162	0.83	-195	7.2	0.13					14	322	1.14	430	<0.05	<0.05		519	0.8			0.58		98.5		0.05		278		20.7		
MW-7	11/4/2008	16.2	3.152	0.33	-80	6.8	0.11					4.4	348	0.08	980	<0.05	<0.05		23	<0.1	327		6.06		74		2.28		277		4.39		
MW-7	2/24/2009	13.1	1.718	1.22	-68	7.3	0.04					NM	270	0.98	410	<0.05	<0.05		430	<0.1	193		0.09		86.7		0.04		213		14.2		
MW-7	7/20/2009	16.4	2.558	0.88	32	7.1	0.07					28	310	1.28	452	<0.6	<0.6		460	2.4				0.03		84.9		0.03		230		24.1	
MW-7	4/29/2010	15.0	1.540	3.14	-13.4	7.24	0.057					10.9	239	NA	280	<0.05	<0.05		479	<1.0				0.41		70.2		0.02		204		13.9	
MW-7	4/22/2011	10.4	1.241	3.75	-334	7.68	0.015					9.2	223	0.53	267	<0.05	<0.05		463	<0.1	121		0.20		60.1		0.025		3290		13.8		
MW-7	4/20/2012	15.4	1.830	0	-34	7.49	0.046	0.017	0.098	1.6		8.7	240	0.77	416	<0.05	<0.05		332	<0.1			0.06		67.1		0.024		193		13.2		Note 8.
MW-7	5/3/2013	13.2	2.530	2.05	-55.6	7.3	0.12	0.032	0.25	4.4		7.6	242	0.75	569	<0.02	<0.02		253	<0.052			0.02		76		0.190		254		14.3		Note 8.
MW-8	12/2/1998	16.7	3.210	0.90	-68	6.9	0.09					12	300	0.40	138	<0.05	<0.05		550	0.2	215	227	0.33	0.17	76	78	0.31	0.32	102	114	6.31	6.67	
MW-8	10/7/1999	19.7	1.640	0.08	-116.1	7.1	0.04					19	280	0.33	144			0.10	570	0.3	174	188	0.22	0.15	82.4	97.5	0.30	0.31	112	110	7.6	8.1	
MW-8	7/15/2009	16.3	2.408	0.20	-48.6	6.9	2.0					22	300	0.76	457	<0.6	<0.6		588	2				0.03		102		0.40		246		15.7		
MW-8	4/22/2011	9.39	2.327	4.56	-334	7.26	0.018					<1	244	0.30	683	<0.05	<0.05		562	<0.1	220		0.12		102		0.53		355		7.9		
MW-9	12/2/1998	16.2	7.150	1.6	120	6.9	0.04					3	309	0.23	640	0.25	<0.05		680	<0.1	330	300	0.33	<0.01	89	84.5	1.74	0.93	444	445	5.52	5.91	
MW-9	10/5/1999	18.7	4.042	0.08	103.5	6.9	0.02					24	330	0.20	963	0.46	<0.05		520	<0.1	250	283	0.20	0.02	63.8	89	1.36	0.99	476	535	4.6	26.5	
MW-9 DUP	10/5/1999	NA	NA	NA	NA	NA	0.02					27	340	0.14	833	0.63	<0.05		490	<0.1	252	284	0.20	0.02	72	86	1.46	0.94	478	560	5.0	5.6	
MW-9	7/20/2009	17.8	8.381	0.41	109.1	6.7	0.03					17	290	0.26	3,100	<0.6	0.9		379	1.2				<0.01		117		0.31		1,600		19.0	
MW-9	4/22/2011	9.49	7.263	0.24	-345	7.08	0.0069					<1	233	0.11	3,410	0.39	<0.05		362	<0.1	392		0.03		94.9		0.11		1,710		6.9		
MW-10	12/1/1998	14.5	4.100	0.40	-13.7	6.7	0.23					11	320	0.32	1,220	0.19	<0.05		270	0.2	310	305	1.95	0.76	54.6	85.5	2.30	2.07	584	645	13.4	13.2	
MW-10	10/5/1999	14.2	4.775	0.07	-2.0	6.8	0.14					24	280	0.29	1,010	0.15	0.10		240	<0.1	39.8	254	0.73	0.04	9.94	102	0.99	1.12	33.2	635	18.8	10.1	
MW-10	8/9/2001	12.2	5.033	0.17	249.1	6.6	0.018					10.0	334	0.16	1,700	0.08	<0.05		330	0.1	330		0.14		98.9	99.6	1.66		857	845	9.2		
MW-10	10/31/2001	14.4	3.990	0.15	90.9	6.7	0.20					3.6	336	0.12	2,800	0.17	<0.05		280	1.6			0.05		92.1		0.91		720		7.6		
MW-10	7/15/2009	13.2	9.579	0.76	79.6	6.6	0.36					33.0	330	0.27	4,260	<0.6	<0.6		276	0.8				0.08		103		2.63		1,950		21.1	
MW-10 (DUP)	4/28/2010	11.0	3.741	0.35	16.2	6.88	0.14					4.3	263	NA	1,460	0.053	<1.0		168	<1.0				10.5		35.0		1.31		890		4.57		
MW-10	4/19/2012 [9]	12.71	7.974	5.16	129.1	6.1	0.170	0.009	0.009	5.6	1	2.3	280	0.11	3,790	<0.05	<0.05		210	<0.1			0.32		95.5		2.40		2110		7		ND
MW-10	5/1/2013	11.9	4.820	0.75	131.2	7.05	0.058	0.001	0.001	7.4	0.77	3.3	270	0.039	1,470	0.33	<0.02		153	<0.052			0.48		31.8		1.50		845		3.4		ND
MW-11	12/1/1998	11.9	4.360	0.22	-271	7.6	0.01					17	275	0.58	188	0.17	<0.05		110	0.2	122	97.3	1.00	0.26	39.0	36.4	0.11	0.08	116	129	8.88	10.1	
MW-11	10/5/1999	11.9	5.228	2.34	-231	7.7	0.05					20	270	0.76	192	0.05	<0.05		210	0.5	93.4	150	0.34	0.30	46.4	103	0.08	0.08	180	695	10.9	27	
MW-11	8/8/2001	10.4	3.576	0.12	-73.6	7.4	<0.002					12	285	0.46	250	<0.05	<0.05		140	0.1	111		0.14		43.2		0.12		130		8.0		
MW-11	10/30/2001	12.0	4.126	0.04	-248.8	7.5	<0.002					3.1	265	0.46	230	<0.05	<0.05		110	2.8			0.02		38.7		0.41		120		9.1		
MW-11	10/24/2006	13.1	8.000	1.61	-106	7.3	0.008					1.9	341	0.12	108	0.16	<0.05		66	<0.1			0.80		30.7		0.08		85		7.6		
MW-11	11/28/2007	10.7	1.390	0.38	-309	7.2	0.008					3	233	0.38	410	0.18	<0.05		144	1.0			0.74		42.1		0.08		235		12.3		
MW-11	11/4/2008	14.4	1.377	0.56	-200	7.3	0.005					2.38	249	0.28	200	<0.05	<0.05		101	0.2	95.6		0.38		38.8		0.08		134		8.4		
MW-11	7/16/2009	13.7	1.143	0.33	-15.2	7.3	0.019					16	260	0.45	246	<0.6	<0.6		112	2.0				0.11		41.3		0.11		138		11.4		
MW-11	4/28/2010	9.2	1.145	0.46	-126.3	7.3	0.013					2.1	245	NA	325	0.109	<0.05		93.6	<1.0				2.55		44.3		0.220		152		8.94		
MW-11	4/21/2011	7.5	0.807	1.72	-325	7.56	0.0071					2.8	294	0.038	170	0.32	<0.05		53.5	<0.1	92.5		0.14		30.8		0.09		119		5.7		
MW-11	4/18/2012	10.9	1.450	0	-75	7.6	0.014	0.00099	0.0013	2.1	12	1.3	248	0.27	360	0.095	<0.05		98.9	0.053			0.20		48.5		0.14		143		8.3		ND
MW-11	5/2/2013	9.7	1.670	0.71	-101.9	7.41	0.04	0.001	0.0013	4.2	0.91	1.6	259	0.15	333	0.34	<0.02		84.6	<0.052			0.70		47.0		0.17		151		9.0		ND

Notes:
1. In general the field parameters were stable with very little variation. However, as noted, some readings varied.
2. Readings were collected using a low flow peristalic pump and water quailty meter with flow through cell..
3. Analytical Testing completed by TestAmerica Laboratories, Inc.
4. < - Indicates compound not detected above the specified detection limit.
5. Blank = Not tested.
6. NM = not measured
7. ND = non-detect for tested volatile fatty acids: acetic acid, formic acid, lactic acid, n-Butyric acid, propionic acid, and pyruvic acid.
8. All tested volatile fatty acids = ND; except acetic acid (7.0 ppm).
9. Water quality readings were recollected on 5/4/2012 due to lack of DO readings collected with initial water quality meter.

Table 1
Summary of Groundwater Field Measurements and Analytical Test Results for Natural Attenuation Parameters
May 2013 Groundwater Sampling
Delphi Thermal Systems
West Lockport Complex
Lockport, New York

		Field Parameters					Analytical Test Results - Inorganic and Miscellaneous Water Quality Parameters																								
Location	Sample Date	Temp. (Deg. C)	Specific Cond. (mS/cm)	DO (mg/L)	ORP (mv)	pH (Std Units)	Methane (mg/L)	Ethane (mg/L)	Ethene (mg/L)	Carbon Dioxide (mg/L)	Hydrogen (nm)	Organic Carbon (mg/L)	Alkalinity (mg/L)	Ammonia (mg/L)	Chloride (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Nitrate Nitrite (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	Calcium (mg/L)	Dissolved Calcium (mg/L)	Iron (mg/L)	Dissolved Iron (mg/L)	Magnesium (mg/L)	Dissolved Magnesium (mg/L)	Manganese (mg/L)	Dissolved Manganese (mg/L)	Sodium (mg/L)	Dissolved Sodium (mg/L)	Potassium (mg/L)	Dissolved Potassium (mg/L)	Volatile Fatty Acids (mg/L)
MW-12	12/1/1998	13.4	2.006	0.39	-41	6.9	0.5					7	284	0.94	294	0.48	<0.05		73	0.2	119	104	7.48	4.01	26.8	25.3	4.41	4.40	183	197	4.1	3.81	3.81
MW-12	10/5/1999	15.8	1.849	0.10	-105.2	7.0	0.36					30	300	0.90	342	0.27	<0.05		66	0.2	104	126	<0.01	3.66	27.8	31.6	<0.01	4.90	166	226	4.9	5.3	5.3
MW-12	8/8/2001	13.5	3.300	0.24	-38.5	6.6	0.50					13.9	336	1.77	920	<0.05	<0.05		160	<0.1	217		16.9		57.5		8.41		427		6.3		
MW-12 DUP	8/8/2001	NA	NA	NA	NA	NA	0.74					14.9	338	1.85	930	<0.05	<0.05		160	<0.1	217		14.8		56.2		8.14		433		6.0		
MW-12	10/30/2001	14.2	2.850	0.14	-127.1	6.8	0.57					5.7	309	1.35	590	0.18	<0.05		110	3.5			4.73		37.0		4.69		342		5.0		
MW-12	10/25/2006	13.7	3.500	1.26	-127.1	6.9	0.024					6.5	333	1.55	1,300	<0.05	<0.05		110	<0.1			7.50		44.8		6.02		684		4.5		
MW-12	11/28/2007	11.2	3.307	0.18	-302	7.0	0.012					4.0	274	1.47	1,300	<0.05	<0.05		79	<0.04			6.68		46.0		4.44		666		3.9		
MW-12	11/4/2008	14.3	6.319	0.02	-88	6.7	0.12					2.74	332	2.08	2,000	<0.05	<0.05		138	<0.1	259		13.70		69.7		7.82		1110		5.6		
MW-12	3/16/2009	6.1	4.516	1.08	-48	6.6	0.87					NM	270	1.89	2,300	<0.05	<0.05		140	<0.1	269		11.50		81.7		8.60		1060		5.1		
MW-12	7/16/2009	14.5	6.493	0.64	-39.3	6.7	0.9					14	360	2.57	2,480	<0.6	<0.6		148	0.8				15.10		79.1		9.07		1,170		10.9	10.9
MW-12	4/28/2010	8.8	6.562	0.32	-46.1	6.6	0.46					5.0	315	NA	2,630	<0.05	0.039		153	<1.0				14.0		98.0		10.40		1,470		5.22	5.22
MW-12	4/20/2011	8.83	6.320	0.00	-65	6.9	0.042					3.3	272	1.1	1,880	<0.05	<0.05		108	<1.0	227		6.6		65.1		7.1		958		3.7		
MW-12	4/18/2012	10.02	7.920	0.59	-74	7.0	0.3	0.011	0.011	15	0.76	3.7	280	1.8	2,900	<0.05	<0.05		133	<1.0			12.7		84.3		9.1		1250		3.7		ND
MW-12	5/3/2013	9	7.300	0.31	-48.3	6.8	0.2	0.0031	0.0042	14	1.1	3.6	232	1.2	3,090	<0.02	<0.02		120	<0.052			8.1		76.4		7.4		1260		3.9		ND
MW-13	8/8/2001	15.4	5.742	0.23	-118.5	7.8	0.08					15.2	255	1.45	1,900	0.05	<0.05		160	<0.1	209		2.59		49.6		2.67		1,200		12.1		
MW-13	10/29/2001	15.5	6.625	0.20	-136	7.4	0.07					9.9	426	1.29	1,700	0.61	0.08		120	2.2			3.75		40.9		2.96		1,160		8.2		
MW-13	10/24/2006	15.2	6.090	2.67	-146	7.3	0.16					8.4	431	1.35	2,200	<0.05	<0.05		98	<0.1			9.21		53.7		6.03		1,210		9.1		
MW-13	11/28/2007	12.7	5.696	0.08	-274	7.3	0.003					7.0	420	1.74	2,200	0.05	<0.05		95	0.4			7.83		50.8		4.95		1,250		9.6		
MW-13	11/5/2008	7.08	6.782	0.12	-97	7.1	0.021					3.8	410	1.57	2,000	<0.05	<0.5		91	<0.1	196		7.60		52.3		5.40		1,430		11.0		
MW-13	7/16/2009	16.0	6.476	0.60	-113.4	7.2	6.15					15	400	2.10	2,290	<0.6	<0.6		112	<0.5				1.75		53.9		6.51		1,390		18.9	18.9
MW-13	4/28/2010	9.4	5.783	0.28	-133.5	7.2	0.17					6.1	382	NA	2,280	0.069	<0.05		102	<1.0				9.12		59.9		7.18		1,380		11.2	11.2
MW-13	4/21/2011	7.64	5.023	0.34	-336	7.4	0.058					5.8	368	0.94	2,090	0.069	<0.05		105	<0.1	210		7.4		53.2		6.30		1,320		8.3		
MW-13 DUP	4/19/2012	10.7	5.480	0.00	-120	7.4	0.093	0.0086	0.008	4.5	0.79	4	360	0.96	1,490	0.081	<0.05		71.3	<0.1			5.8		38.5		4.40		940		5.4		ND
MW-13	5/2/2013	10.5	5.410	1.27	-71.2	7.3	0.11	<0.0049	<0.0052	3.7	0.69	3.8	382	0.6	1,590	0.57	<0.02		62.7	<0.0052			4.7		39.4		4.30		964		6.2		ND
MW-14	8/9/2001	11.5	2.064	3.66	330.7	7.2	<0.002					14.1	328	0.19	680	0.08	<0.05		130	<0.1	144		0.18		64.1		0.04		394		6.4		
MW-14	10/30/2001	13.2	2.478	0.80	-39.1	7.2	0.013					4.3	334	0.31	770	<0.05	<0.05		120	2.5			0.06		64.8		0.06		466		7.3		
MW-14	10/24/2006	12.9	4.310	3.11	-60.6	7.2	0.31					3.3	336	0.25	1,700	<0.05	<0.05		88	<0.1			0.15		94.9		0.20		831		8.0		
MW-14	11/29/2007	10.3	4.402	1.27	-110	7.1	0.16					4.0	371	0.53	1,800	<0.05	<0.05		87	0.12			0.44		111		0.25		777		10.5		
MW-14	11/4/2008	14.5	6.397	0.13	11.2	6.8	0.14					2.4	340	0.39	2,100	<0.05	<0.05		80	<0.1	320		0.39		138		0.28		1010		13.5		
MW-14	2/24/2009	5.3	3.534	0.73	-34	7.2	0.15					NM	299	0.23	1,500	0.07	<0.05		68	<0.1	165		0.06		79.8		0.18		833		7.3		
MW-14	7/16/2009	11.6	5.970	1.87	72.6	6.8	0.465					51	380	0.69	2,430	<0.6	<0.6		81.4	1.2				0.11		132		0.53		931		21.1	21.1
MW-14	4/27/2010	9.8	3.726	0.32	16.8	7.1	0.055					2.7	354	NA	1,450	0.03	<0.05		65.7	<1.0				0.06		70.2		0.194		870		6.22	6.22
MW-14	4/21/2011	7.72	3.779	2.45	-335	7.5	0.016					2.8	339	0.14	1,750	0.093	<0.05		78.2	<0.1	149		0.052		68		0.19		875		5.4		
MW-14	4/19/2012	10.85	5.460	0.00	-9	7.3	0.071	0.0086	0.0083	2.9	6.7	1.5	328	0.25	1,720	<0.05	<0.05		88.2	<0.1			0.140		86.7		0.29		916		6.2		ND
MW-14	5/3/2013	10.1	4.670	0.17	-1.8	7.3	0.05	<0.00049	<0.00052	6.2	16	1.7	361	0.15	1,340	0.061	<0.02		60	<0.052			0.038		59.4		0.20		850		5.1		ND
MW-15	8/8/2001	13.0	2011.000	0.20	289.1	6.7	<0.002					11.7	410	0.08	600	1.34	<0.05		160	0.1	281		2.33		70.4		0.46		204		4.9		
MW-15	10/30/2001	14.6	1656.000	0.16	83.9	6.8	<0.002					4.1	395	0.07	410	0.85	<0.05		110	1.4			0.02		47.5		0.40		196		3.8		
MW-15 DUP	10/30/2001	NA	NA	NA	NA	NA	<0.002					3.7	386	0.05	450	0.91	<0.05		110	1.5			0.03		47.6		0.39		198		4.0		
MW-15	10/24/2006	13.9	2.180	1.14	64.2	6.8	<0.002					3.6	434	0.09	660	1.89	<0.05		84	<0.1			<0.02		62.3		0.27		311		4.7		
MW-15 DUP	11/4/2008	14.3	4.719	2.42	75	6.8	<0.002					1.77	345	0.07	1,900	0.34	<0.05		110	<0.1	327		<0.02		82.3		0.82		594		6.1		
MW-15	4/18/2012	10.95	3.537	4.77	385.1	7.1	0.00047	0.00078	0.00064	11	0.82	2	384	<0.02	962	0.73	<0.02		111	<0.1			<0.05		54.4		0.24		424		3.3		ND
MW-15	5/1/2013	11	2.950	0.19	88.3	6.9	<0.00022	<0.00049	<0.00052	15	0.75	2.1	415	<0.009	672	1.4	<0.02		74.7	<0.052			<0.019		43.7		0.21		384		3.2		ND
TK-2	10/6/1999	13.3	7.02	0.19	66.9	7.5							380		20.2																		
Stream (SS-1)	12/2/1998	8.0	300	10.0	50	8.0																											
Stream (SS-2)	10/7/1999	10.2	718	17.5	53.1	8.4																											
Stream (SS-3)	10/7/1999	8.5	1552	8.9	-28.9	7.7																											

Notes:
1. In general the field parameters were stable with very little variation. However, as noted, some readings varied.
2. Readings were collected using a low flow peristalic pump and water quailty meter with flow through cell..
3. Analytical Testing completed by TestAmerica Laboratories, Inc.
4. < - Indicates compound not detected above the specified detection limit.
5. Blank = Not tested.
6. NM = not measured
7. ND = non-detect for tested volatile fatty acids: acetic acid, formic acid, lactic acid, n-Butyric acid, propionic acid, and pyruvic acid.
8. All tested volatile fatty acids = ND; except acetic acid (7.0 ppm).
9. Water quality readings were recollected on 5/4/2012 due to lack of DO readings collected with initial water quality meter.

APPENDIX A

MONITORING WELL OBSERVATION & GROUNDWATER SAMPLING LOGS

SAMPLE COLLECTION DATA SHEET - GROUNDWATER SAMPLING PROGRAM

PROJECT NAME: Delphi Harrison Thermal Systems Site — PROJECT NO.: 56546

SAMPLING CREW MEMBERS: T. Bohlen — SUPERVISOR: C Baron

DATE OF SAMPLE COLLECTION: 5/1/2013 – 5/3/2013

[Note: For 2" dia. well, 1 ft. = 0.14 gal (imp) or 0.16 gal (us)]

Sample I.D. Number	Well No.	Measuring Point Elev. (ft. AMSL)	Bottom Depth (ft. btoc)	Water Depth (ft. btoc)	Water Elevation (ft. AMSL)	Well Volume (gallons)	Bailer Volume No. Bails	Volume Purged (gallons)	Field pH	Field Temp.	Field Cond.	Time	Sample Description & Analysis
MW-10-050113	MW-10	594.04	16.83	14.78	579.26	8.91 / 1.45		3.0	7.05	11.9	4.82	1025	VOC MNA H_2
MW-4-050113	MW-4	613.07	34.88	8.51	604.56	4.3		6.0	6.62	14.5	13.32	1415	VOC MNA H_2
MW-15-050113	MW-15	594.04	17.90	7.91	586.13	1.5		2.5	6.97	11.3	2.85	1558	VOC MNA, H_2
G-1-050213	G-1	595.10	17.93	12.82	582.28	0.83		2.0	6.88	10.2	11.93	840	VOC, MNA
MW-11-050213	MW-11	590.10	24.10	5.58	584.52	3.2		5.0	6.98	9.7	1.67	1620	VOC MNA H_2
MW-13-050213	MW-13	589.02	15.00	4.65	584.37	1.53		5.0	7.25	10.5	5.41	1340	VOC MNA, H_2
MW-12-050313	MW-12	590.71	15.10	5.98	584.73	1.70		3.0	6.82	9.0	7.30	858	VOC MNA, H_2
MW-14 050313	MW-14	592.77	19.10	5.80	586.97	2.5		4.0	7.33	10.1	4.67	1158	VOC MNA, H_2

Additional Comments:

Copies to:

FMG MODIFICATIONS MUST BE ACCOMPANIED BY A REVISION REQUEST FORM APPROVED BY THE PROJECT MANAGER

[illegible]
Revision 1 - October 24, 2012

SAMPLE COLLECTION DATA SHEET - GROUNDWATER SAMPLING PROGRAM

PROJECT NAME: Delphi Harrison Thermal Systems Site

PROJECT NO.: 56546

SAMPLING CREW MEMBERS: T. Bohlen

SUPERVISOR: C. Boron

DATE OF SAMPLE COLLECTION: 5/1/2013 - 5/3/2013

[Note: For 2" dia. well, 1 ft. = 0.14 gal (imp) or 0.16 gal (us)]

Sample I.D. Number	Well No.	Measuring Point Elev. (ft. AMSL)	Bottom Depth (ft. btoc)	Water Depth (ft. btoc)	Water Elevation (ft. AMSL)	Well Volume (gallons)	Bailer Volume No. Bails	Volume Purged (gallons)	Field pH	Field Temp.	Field Cond.	Time	Sample Description & Analysis
MW-7-050313	MW-7	613.86	28.94	7.02	606.84	3.6		4.2	7.30	13.2	253	1638	VOC MNA

Additional Comments:

Copies to:

FMG MODIFICATIONS MUST BE ACCOMPANIED BY A REVISION REQUEST FORM APPROVED BY THE PROJECT MANAGER

[illegible]
Revision 2 October 29, 2002

MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Data:

Project Name: Delphi Harrison
Ref. No.: 56546

Date: 5/1/13
Personnel: T. Bohlen

Monitoring Well Data:

Well No.: MW-4 1 of 2
Measurement Point: TOR
Constructed Well Depth (ft): 32.5
Measured Well Depth (ft): 34.88
Depth of Sediment (ft):

Screen Length (ft): 17.5-32.5= 15'
Depth to Pump Intake (ft)(1): 20'
Well Diameter, D (in): 2"
Well Screen Volume, V_s (mL)(2): 26.37 = 4.29 gal.
Initial Depth to Water (ft): 8.51'

Time	Pumping Rate (mL/min) + *	Depth to Water (ft)	Drawdown from Initial Water Level(3) (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V_p (mL)	No. of Well Screen Volumes Purged(4)
1150	110	8.79		6.98	14.7	12.33	85.1	7.49	6.24	0	0
1155	↓	8.98		6.95	14.0	12.40	70.1	7.01	6.00	0.25	0
1200		9.23		6.91	13.7	12.44	63.5	6.44	5.91	0.40	0
1205		9.47		6.75	13.6	12.84	53.9	3.94	5.00	0.50	0
1210		9.64		6.67	13.6	13.13	47.3	2.54	20.7	0.70	0
1215		9.81		6.65	14.0	13.21	43.3	1.62	21.3	0.90	0
1220		9.88		6.67	13.9	13.23	42.5	1.49	22.9	1.0	0
1225		10.00		6.64	14.0	13.23	40.7	1.30	24.4	1.1	0
1230		10.11		6.62	14.0	13.28	39.5	1.16	23.1	1.2	0
1235		10.26		6.62	13.9	13.30	39.6	1.10	22.2	1.3	0
1300		10.51		6.62	13.9	13.35	-2.9	0.54	14.6	2.1	0
1320		10.65		6.64	14.3	13.33	-4.1	0.44	10.3	3.0	0
1335	↓	10.99		6.63	14.6	13.33	-10.9	0.36	10.1	3.4	0

Notes:

(1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.

(2) The well screen volume will be based on a 5-foot screen length. $V_s = p*(D/2)^2*(5*12)*(2.54)^3$

(3) The drawdown from the initial water level should not exceed 0.3 ft.

(4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stablization criteria and appear to be stablizing), No. of Well Screen Volumes Purged= Vp/Vs.

OVM = 285 ppm peak @ TOR

+ - slowest Geo Pump setting
* - calculated w/ 1L bottle & stop watch

9.08

FMG MODIFICATIONS MUST BE ACCOMPANIED BY A REVISION REQUEST FORM APPROVED BY THE PROJECT MANAGER

MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Data:

Project Name: Delphi
Ref. No.: 56546

Date: 5/1/13
Personnel: T. Bohler

Monitoring Well Data:

Well No.: MW-4 2 of 2
Measurement Point: TOR
Constructed Well Depth (ft): 32.5
Measured Well Depth (ft): 34.88
Depth of Sediment (ft):

Screen Length (ft): 15
Depth to Pump Intake (ft)(1): 20
Well Diameter, D (in): 2
Well Screen Volume, V_s (mL)(2): 4.26 gal
Initial Depth to Water (ft): 8.51

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level(3) (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V_p (mL)	No. of Well Screen Volumes Purged(4)
1345	110	10.99		6.63	14.5	13.32	-31.1	0.19	7.52	3.9	0
1350	↓	10.99		6.63	14.3	13.31	-34.0	0.18	7.50	4.1	0
1355		10.99		6.62	14.5	13.32	-34.1	0.19	7.51	4.3	1
1400		10.99		6.63	14.4	13.32	-34.1	0.19	7.49	4.4	1
1405		10.99		6.62	14.5	13.32	-34.2	0.18	7.50	4.6	1

Notes:

(1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.

(2) The well screen volume will be based on a 5-foot screen length. $V_s = p*(D/2)^2*(5*12)*(2.54)^3$

(3) The drawdown from the initial water level should not exceed 0.3 ft.

(4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stablization criteria and appear to be stablizing). No. of Well Screen Volumes Purged= Vp/Vs.

MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Data:

Project Name: Delphi Harrison
Ref. No.: 56546

Date: 5/16/13
Personnel: T. Bohlen

Monitoring Well Data:

Well No.: MW-4
Measurement Point: TOR
Constructed Well Depth (ft): 32.5
Measured Well Depth (ft): 34.88
Depth of Sediment (ft):

Screen Length (ft): 17.5 - 32.5 = 15'
Depth to Pump Intake (ft)[1]: 20'
Well Diameter, D (in): 2"
Well Screen Volume, V_s (mL)[2]:
Initial Depth to Water (ft): 8.13

Time	Pumping Rate (ml/min)	Depth to Water (ft)	Drawdown from Initial Water Level[3] (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, Vp (mL)	No. of Well Screen Volumes Purged[4]
938		8.42		6.77	13.6	13.75	25.0	1.70	7.57	0	0
943		8.69		6.70	13.4	13.80	18.5	0.90	7.53	0.1	0
948		8.88		6.68	13.3	13.80	16.6	0.48	7.53	0.2	0
953		9.05		6.69	13.3	13.79	16.1	0.36	7.51	0.4	0
958		9.17		6.76	13.3	13.79	16.7	0.30	7.52	0.5	0
1003		9.30		6.80	13.4	13.78	16.0	0.24	7.41	0.6	0
1008		9.39		6.80	13.4	13.76	16.0	0.23	7.45	0.7	0

Notes:

(1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.

(2) The well screen volume will be based on a 5-foot screen length. $V_s = p*(D/2)^2*(5*12)*(2.54)^3$

(3) The drawdown from the initial water level should not exceed 0.3 ft.

(4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stablization criteria and appear to be stablizing). No. of Well Screen Volumes Purged = Vp/Vs.

OVM TOR = 25 ppm peak

- collected H2O quality readings for 1/2 hr. during H2 equilibration

WELL PURGING FIELD INFORMATION FORM

JOB# 56546

SITE/PROJECT NAME: Delphi Harrison

WELL # MW-4

WELL PURGING INFORMATION

050113	050113	4.3	6.0
PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	WATER VOL. IN CASING (LITERS/GALLONS)	ACTUAL VOLUME PURGED (LITERS/GALLONS)

PURGING AND SAMPLING EQUIPMENT

PURGING EQUIPMENT DEDICATED (Y) N (CIRCLE ONE)

SAMPLING EQUIPMENT DEDICATED (Y) N (CIRCLE ONE)

PURGING DEVICE: B — A - SUBMERSIBLE PUMP; B - PERISTALTIC PUMP; C - BLADDER PUMP; D - GAS LIFT PUMP; E - PURGE PUMP; F - DIPPER BOTTLE; G - BAILER; H - WATERRA

SAMPLING DEVICE: B

PURGING DEVICE: E — A - TEFLON; B - STAINLESS STEEL; C - POLYPROPYLENE; D - PVC; E - POLYETHYLENE

SAMPLING DEVICE: E

PURGING DEVICE: E — A - TEFLON; B - TYGON; C - ROPE; D - POLYPROPYLENE; E - POLYETHYLENE; F - SILICONE; G - COMBINATION TEFLON/POLYPROPYLENE

SAMPLING DEVICE: E

FILTERING DEVICES 0.45: A - IN-LINE DISPOSABLE; B - PRESSURE; C - VACUUM

FIELD MEASUREMENTS

WELL ELEVATION: 613.07 (m/ft)

GROUNDWATER ELEVATION: 604.56 (m/ft)

DEPTH TO WATER: 8.51 (m/ft)

WELL DEPTH: 34.88 (m/ft)

pH	TURBIDITY	CONDUCTIVITY	ORP	DO	SAMPLE TEMPERATURE
(std)	(ntu)	(µmhos/cm at 25°C)	(mV)		(°C)
(std)	(ntu)	(µmhos/cm at 25°C)	(mV)		(°C)
(std)	(ntu)	(µmhos/cm at 25°C)	(mV)		(°C)
(std)	(ntu)	(µmhos/cm at 25°C)	(mV)		(°C)
(std)	(ntu)	(µmhos/cm at 25°C)	(mV)		(°C)

FIELD COMMENTS

SAMPLE APPEARANCE: Good ODOR: None COLOR: Clear TURBIDITY: Clear

WEATHER CONDITIONS: WIND SPEED ______ DIRECTION ______ PRECIPITATION Y/N OUTLOOK ______

SPECIFIC COMMENTS

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE PROTOCOLS

5/1/13 Thomas Bohlen Thomas Bohlen

DATE NAME SIGNATURE

FORM MODIFICATIONS MUST BE ACCOMPANIED BY A REVISION REQUEST FORM APPROVED BY THE PROJECT MANAGER

MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Data:

Project Name: Delphi / GMCH
Ref. No.: 56546

Date: 5/2/13
Personnel: T. Bohlen

Monitoring Well Data:

Well No.: MW-7
Measurement Point: TOR
Constructed Well Depth (ft): 27.20
Measured Well Depth (ft): 28.94
Depth of Sediment (ft):

Screen Length (ft): 12.2 - 27.2 = 15'
Depth to Pump Intake (ft)[1]: 22'
Well Diameter, D (in): 2"
Well Screen Volume, V_s (mL)[2]: 1 well vol. = 3.6 gal.
Initial Depth to Water (ft): 7.02

Time	Pumping Rate (ml/min)	Depth to Water (ft)	Drawdown from Initial Water Level[3] (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, Vp (mL)	No. of Well Screen Volumes Purged[4]
1552		7.27		7.53	13.9	2.65	62.5	3.37	5.32	0	0
1557		8.02		7.34	13.5	2.58	46.1	1.85	5.21	0.2	0
1602		8.75		7.31	12.8	2.57	34.6	1.60	3.41	0.4	0
1607		10.41		7.31	12.8	2.56	22.2	0.76	2.14	0.9	0
5/2/13 1612		11.84		7.30	12.4	2.56	-0.7	0.66	2.02	1.2	0
1617		15.01		7.29	12.2	2.53	-33.0	0.90	2.62	2.0	0
1622		15.35		7.29	12.1	2.53	-51.4	1.26	2.51	2.5	0
1627		18.64		7.28	12.3	2.56	-58.8	1.82	2.45	3.1	0
1632		19.74		7.29	12.7	2.53	-65.0	1.79	2.41	3.8	1
1637		22.15		7.30	13.2	2.53	-55.6	2.05	2.15	4.2	1
1638		*Dry*									
5/3/13 1406		7.15 -	sampled recharged w/ 11								

Notes:

(1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.

(2) The well screen volume will be based on a 5-foot screen length. $V_s = p*(D/2)^2*(5*12)*(2.54)^3$

(3) The drawdown from the initial water level should not exceed 0.3 ft.

(4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stablization criteria and appear to be stablizing). No. of Well Screen Volumes Purged= Vp/Vs.

OVM = 65 ppm. peak @ TOR

WELL PURGING FIELD INFORMATION FORM

JOB# 56546

SITE/PROJECT NAME: Delphi / GMCH

WELL# MW-7

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	WATER VOL. IN CASING (GALLONS)	ACTUAL VOLUME PURGED (GALLONS)
050213	050313	3.6	4.2

PURGING AND SAMPLING EQUIPMENT

PURGING EQUIPMENT DEDICATED Y (N) (CIRCLE ONE)

SAMPLING EQUIPMENT DEDICATED (Y) N (CIRCLE ONE)

	Code	Options
PURGING DEVICE	B	A- SUBMERSIBLE PUMP, B- PERISTALTIC PUMP, C- BAILER, D- GAS LIFT PUMP, E- PURGE PUMP, H- WATERRA, F- DIPPER BOTTLE, X- OTHER
SAMPLING DEVICE	B	
PURGING DEVICE	E	A- TEFLON, B- STAINLESS STEEL, C- POLYPROPYLENE, D- PVC, E- POLYETHYLENE, X- OTHER
SAMPLING DEVICE	E	
PURGING DEVICE	E	A- TEFLON, B- TYGON, C- ROPE, D- POLYPROPYLENE, E- POLYETHYLENE, F- SILICONE, G- COMBINATION TEFLON/POLYPROPYLENE, X- OTHER
SAMPLING DEVICE	E	

FILTERING DEVICES 0.45 [ ] A- INLINE DISPOSABLE B- PRESSURE C- VACUUM

FIELD MEASUREMENTS

WELL ELEVATION (msl/ft)	613.86	GROUNDWATER ELEVATION (msl/ft)	606.84
DEPTH TO WATER (msl/ft)	7.02	WELL DEPTH (msl/ft)	28.13

pH	TURBIDITY (ntu)	CONDUCTIVITY (µmhos/cm at 25°C)	ORP (mV)	DO	SAMPLE TEMPERATURE (°C)

FIELD COMMENTS

SAMPLE APPEARANCE: Good/Slight Sheen ODOR: Slight COLOR: Clear TURBIDITY: Clear

WEATHER CONDITIONS: WIND SPEED: 0-5 DIRECTION: SW PRECIPITATION: 0 OUTLOOK: Sunny ~75°F

SPECIFIC COMMENTS

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE PROTOCOLS

DATE TIME SIGNATURE

EMG MODIFICATIONS MUST BE ACCOMPANIED BY A REVISION REQUEST FORM APPROVED BY THE PROJECT MANAGER

MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Data:

Project Name: Delphi
Ref. No.: 56546

Date: 5/16/13
Personnel: T. Bohlen

Monitoring Well Data:

Well No.: MW-10
Measurement Point: TOR
Constructed Well Depth (ft): 21.3
Measured Well Depth (ft): 23.69
Depth of Sediment (ft):

Screen Length (ft): 12.5-21.3= 8.8'
Depth to Pump Intake (ft)(1): 19'
Well Diameter, D (in): 2
Well Screen Volume, V_s (mL)(2):
Initial Depth to Water (ft): 14.22

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level(3) (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V_p (mL)	No. of Well Screen Volumes Purged(4)
842		14.58		7.06	11.7	5.47	144.7	3.19	3.44	0	0
849		14.58		7.03	11.9	5.76	127.3	1.02	3.21	0.2	0
854		14.58		7.03	11.9	5.95	118.2	0.91	2.90	0.4	0
859		14.58		7.04	11.9	6.05	112.5	0.87	2.85	0.6	0
904		14.58		7.05	12.1	6.07	108.5	0.82	2.73	0.8	0
909		14.58		7.06	12.1	6.10	106.3	0.79	2.71	1.0	0
912		14.58		7.06	12.1	6.10	105.0	0.82	2.70	1.2	0

Notes:

(1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.

(2) The well screen volume will be based on a 5-foot screen length. $V_s = p*(D/2)^2*(5*12)*(2.54)^3$

(3) The drawdown from the initial water level should not exceed 0.3 ft.

(4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stablization criteria and appear to be stablizing). No. of Well Screen Volumes Purged= Vp/Vs.

- re sampling of H_2 - collected H_2O quality readings for 16 hour equilibration time.

FMG MODIFICATIONS MUST BE ACCOMPANIED BY A REVISION REQUEST FORM APPROVED BY THE PROJECT MANAGER

MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Data:

Project Name: GMCH / Delphi
Ref. No.: 21.0056546.00 Task J4

Date: 5/1/13
Personnel: T. Bohlen

Monitoring Well Data:

Well No.: MW-10
Measurement Point: TOR
Constructed Well Depth (ft): 21.3
Measured Well Depth (ft): 23.69
Depth of Sediment (ft):

Screen Length (ft): 12.5-21.3 = 8.8'
Depth to Pump Intake (ft)(1): 19'
Well Diameter, D (in): 2
~~Well Screen~~ Well Volume, V_s (mL)(2): 1.45 gal
Initial Depth to Water (ft): 14.78 (TOR)

Time	Pumping Rate (mL/min) *	Depth to Water (ft)	Drawdown from Initial Water Level(3) (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, Vp (mL)	No. of Well Screen Volumes Purged(4)
945	157	15.32	0.54	7.02	11.8	4.31	168.3	1.97	12.0	0	0
950	↓	↓	↓	7.02	11.8	4.32	157.7	1.56	10.2	0.25	0
955				7.01	11.7	4.33	154.3	1.58	10.87	0.5	0
1000				7.01	11.7	4.40	148.7	1.85	10.50	0.75	0
1005				7.03	11.8	4.58	143.0	2.46	9.1	1	0
1010				7.04	11.9	4.70	137.9	1.51	5.12	1.2	0
1015				7.05	11.8	4.79	133.1	0.79	5.05	1.4	0
1020				7.05	11.9	4.85	133.2	0.79	5.01	1.6	1
1025				7.05	11.9	4.82	131.2	0.75	5.01	1.8	1

Notes:

(1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.

(2) The well screen volume will be based on a 5-foot screen length. $V_s = p*(D/2)^2*(5*12)*(2.54)^3$

(3) The drawdown from the initial water level should not exceed 0.3 ft.

(4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stablization criteria and appear to be stablizing), No. of Well Screen Volumes Purged= Vp/Vs.

OVM = 0.0ppm TOR

* - measured w/ 1 L bottle & stop watch

6.38 min

FMG MODIFICATIONS MUST BE ACCOMPANIED BY A REVISION REQUEST FORM APPROVED BY THE PROJECT MANAGER

WELL PURGING FIELD INFORMATION FORM

JOB# 56546

SITE/PROJECT NAME: GMCH/Delphi

WELL# MW-1D

WELL PURGING INFORMATION

PURGE DATE (MMDDYY)	SAMPLE DATE (MMDDYY)	WATER VOL. IN CASING (LITERS/GALLONS)	ACTUAL VOLUME PURGED (LITERS/GALLONS)
050113	050113	1.5	3.0

PURGING AND SAMPLING EQUIPMENT

PURGING EQUIPMENT DEDICATED Y (N) (CIRCLE ONE)

SAMPLING EQUIPMENT DEDICATED (Y) N (CIRCLE ONE)

PURGING DEVICE: B — A - SUBMERSIBLE PUMP; B - PERISTALTIC PUMP; C - BLADDER PUMP; D - GAS LIFT PUMP; E - PURGE PUMP; F - DIPPER BOTTLE; G - BAILER; H - WATERRA; X - PURGING OTHER (SPECIFY)

SAMPLING DEVICE: B — X - SAMPLING OTHER (SPECIFY)

PURGING DEVICE: E — A - TEFLON; B - STAINLESS STEEL; C - PVC; D - POLYPROPYLENE; E - POLYETHYLENE; X - PURGING OTHER (SPECIFY)

SAMPLING DEVICE: E — X - SAMPLING OTHER (SPECIFY)

PURGING DEVICE: E — A - TEFLON; B - TYGON; C - ROPE; D - POLYPROPYLENE; E - POLYETHYLENE; F - SILICONE; G - COMBINATION TEFLON/POLYPROPYLENE; X - PURGING OTHER (SPECIFY)

SAMPLING DEVICE: E — X - SAMPLING OTHER (SPECIFY)

FILTERING DEVICES 0.45: C — A - IN-LINE DISPOSABLE; B - PRESSURE; C - VACUUM

FIELD MEASUREMENTS

WELL ELEVATION: 604.70 (m/ft)

GROUNDWATER ELEVATION: 590.22 (m/ft)

DEPTH TO WATER: (m/ft)

WELL DEPTH: 23.69 (m/ft)

pH (std)	TURBIDITY (ntu)	CONDUCTIVITY (µmhos/cm AT 25°C)	ORP (mV)	DO	SAMPLE TEMPERATURE (°C)

FIELD COMMENTS

SAMPLE APPEARANCE: Good ODOR: none COLOR: Clear TURBIDITY: Clear

WEATHER CONDITIONS: WIND SPEED: 0-5 DIRECTION: SW PRECIPITATION Y/N OUTLOOK: Sunny ~65

SPECIFIC COMMENTS:

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE PROTOCOLS

DATE	PRINT	SIGNATURE
5/1/13	Thomas Bohlen	Thomas Bohlen

ANY MODIFICATIONS MUST BE ACCOMPANIED BY A REVISION REQUEST FORM APPROVED BY THE PROJECT MANAGER

MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Data:

Project Name: Delphi Harrison

Ref. No.: 56546

Date: 5/16/13

Personnel: T. Bohlen

Monitoring Well Data:

Well No.: MW-11

Measurement Point: TOR

Constructed Well Depth (ft): 24.10

Measured Well Depth (ft): 25.14

Depth of Sediment (ft):

Screen Length (ft): 9-21.4 (15.1)

Depth to Pump Intake (ft)(1): 15'

Well Diameter, D (in): 2"

Well Screen Volume, V_s (mL)(2):

Initial Depth to Water (ft): 5.63

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level(3) (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V_p (mL)	No. of Well Screen Volumes Purged(4)
1140		5.97		7.43	11.0	1.81	86.7	0.83	1.19	0	0
1145		6.09		7.38	10.8	1.81	82.8	0.43	1.18	0.2	0
1150		6.20		7.37	10.9	1.79	79.1	0.29	1.18	0.3	0
1155		6.25		7.28	10.8	1.71	37.1	0.24	1.15	0.4	0
1200		6.27		7.73	10.8	1.65	33.0	0.21	1.12	0.6	0
1205		6.32		7.51	10.7	1.65	-67.8	0.22	1.10	0.7	0
1210		6.34		7.50	10.7	1.63	-71.7	0.23	1.10	0.8	0

Notes:

(1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.

(2) The well screen volume will be based on a 5-foot screen length. $V_s = p^*(D/2)^{2*}(5*12)*(2.54)^3$

(3) The drawdown from the initial water level should not exceed 0.3 ft.

(4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stablization criteria and appear to be stablizing). No. of Well Screen Volumes Purged= Vp/Vs.

OVM @ TOR = 0.0ppm

- collected H2O quality readings for ½ hr. while H2 equilibrated

MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Data:

Project Name: Delphi / GMCH
Ref. No.: 56546

Date: 5/2/13
Personnel: T. Bohler

Monitoring Well Data:

Well No.: MW-11
Measurement Point: TOR
Constructed Well Depth (ft): 24.10
Measured Well Depth (ft): 25.14
Depth of Sediment (ft):

Screen Length (ft): 9-21.4 (15.1')
Depth to Pump Intake (ft)[1]: 15'
Well Diameter, D (in): 2"
Well Screen Volume, V_s (mL)[2]: 1 well vol. = 3.2 gal.
Initial Depth to Water (ft): 5.58'

Time	*Pumping Rate* * *(mL/min)*	*Depth to Water (ft)*	*Drawdown from Initial Water Level*[3] *(ft)*	*pH*	*Temperature °C*	*Conductivity (mS/cm)*	*ORP (mV)*	*DO (mg/L)*	*Turbidity (NTU)*	*Volume Purged, V_p (mL)*	*No. of Well Screen Volumes Purged*[4]
948	120	5.91		7.60	10.7	1.76	112.4	4.25	2.23	0	0
953		6.06		7.48	10.5	1.67	105.5	3.65	2.12	0.1	0
958		6.11		7.48	10.3	1.62	99.7	2.48	2.10	0.2	0
1003		6.17		7.48	10.3	1.62	95.7	2.34	2.11	0.3	0
1013		6.28		7.45	10.1	1.62	3.6	1.72	2.01	1	0
1045		6.56		7.42	9.9	1.69	-79.4	0.95	2.00	1.9	0
1100		6.69		7.39	9.8	1.69	-94.5	0.81	1.53	2.3	0
1110		6.98		7.41	9.7	1.67	-101.1	0.73	1.29	3.0	0
1115		6.98		7.41	9.7	1.67	-102.2	0.71	1.25	3.2	1
1120		6.98		7.41	9.7	1.67	-101.9	0.71	1.21	3.4	1

Notes:

(1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.

(2) The well screen volume will be based on a 5-foot screen length. $V_s = p*(D/2)^2*(5*12)*(2.54)^3$

(3) The drawdown from the initial water level should not exceed 0.3 ft.

(4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stablization criteria and appear to be stablizing). No. of Well Screen Volumes Purged= Vp/Vs.

OVM TOR = 0.0 ppm

* calculated using 1L bottle & stopwatch

WELL PURGING FIELD INFORMATION FORM

JOB# 56546
SITE/PROJECT NAME: Delphi / GMC H
WELL # MW-11

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	WATER VOL. IN CASING (LITERS/GALLONS)	ACTUAL VOLUME PURGED (LITERS/GALLONS)
05 02 13	05 02 13	3.2	5.0

PURGING AND SAMPLING EQUIPMENT

PURGING EQUIPMENT DEDICATED (Y) N (CIRCLE ONE) — SAMPLING EQUIPMENT DEDICATED (Y) N (CIRCLE ONE)

	Code	Options			Other
PURGING DEVICE	B	A- SUBMERSIBLE PUMP / B- PERISTALTIC PUMP / C- BLADDER PUMP	D- GAS LIFT PUMP / E- PURGE PUMP / F- DIPPER BOTTLE	G- BAILER / H- WATERRA	X- ____ PURGING OTHER (SPECIFY)
SAMPLING DEVICE	B				X- ____ SAMPLING OTHER (SPECIFY)
PURGING DEVICE	E	A- TEFLON / B- STAINLESS STEEL / C- POLYPROPYLENE	D- PVC / E- POLYETHYLENE		X- ____ PURGING OTHER (SPECIFY)
SAMPLING DEVICE	E				X- ____ SAMPLING OTHER (SPECIFY)
PURGING DEVICE	E	A- TEFLON / B- TYGON / C- ROPE / X- ____ (SPECIFY)	D- POLYPROPYLENE / E- POLYETHYLENE	F- SILICONE / G- COMBINATION TEFLON/POLYPROPYLENE	X- ____ PURGING OTHER (SPECIFY)
SAMPLING DEVICE	E				X- ____ SAMPLING OTHER (SPECIFY)

FILTERING DEVICES 0.45 [ ] A- IN-LINE DISPOSABLE B- PRESSURE C- VACUUM

FIELD MEASUREMENTS

WELL ELEVATION: 590.10 (msl/ft) — GROUNDWATER ELEVATION: 584.52 (msl/ft)
DEPTH TO WATER: 5.58 (msl/ft) — WELL DEPTH: 24.10 (msl/ft)

pH (std)	TURBIDITY (ntu)	CONDUCTIVITY (µmhos/cm at 25°C)	ORP (mV)	DO (mg/L)	SAMPLE TEMPERATURE (°C)

FIELD COMMENTS

SAMPLE APPEARANCE: Good ODOR: none COLOR: Clear TURBIDITY: Clear
WEATHER CONDITIONS: WIND SPEED: 0-5 DIRECTION: SW PRECIPITATION Y/N OUTLOOK: ~80°F, Sunny
SPECIFIC COMMENTS:

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE PROTOCOLS

DATE	PRINT	SIGNATURE
5/2/13	Thomas Bohlen	Thomas Bohlen

EMG MODIFICATIONS MUST BE ACCOMPANIED BY A REVISION REQUEST FORM APPROVED BY THE PROJECT MANAGER

MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Data:

Project Name: Delphi Harrison
Ref. No.: 56546

Date: 5/3/12
Personnel: T. Bohlen

Monitoring Well Data:

Well No.: MW-12
Measurement Point: TOR
Constructed Well Depth (ft): 15.1
Measured Well Depth (ft): 16.40
Depth of Sediment (ft):

Screen Length (ft): 8-15.1 = 7.1'
Depth to Pump Intake (ft)[1]: 14
Well Diameter, D (in): 2
Well Screen Volume, V_s (mL)[2]: 1 well vol. = 1.7 gallons
Initial Depth to Water (ft): 5.98

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level[3] (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, Vp (mL)	No. of Well Screen Volumes Purged[4]
808	123	6.14		6.88	9.5	7.26	13.9	3.77	12.00	0	0
813	↓	6.22		6.81	9.3	7.20	0.8	2.26	12.10	0.2	0
818		6.22		6.81	9.4	7.21	-13.4	1.68	10.10	0.5	0
823		6.22		6.81	9.2	7.21	-24.6	1.52	18.2	0.7	0
828		6.22		6.82	9.3	7.24	-30.3	0.85	18.1	0.9	0
833		6.22		6.82	9.1	7.27	-37.0	0.82	13.9	1.1	0
838		6.22		6.82	9.1	7.27	-41.8	0.65	13.5	1.2	0
843		6.22		6.82	9.2	7.27	-43.8	0.50	12.1	1.4	0
848		6.22		6.82	9.0	7.30	-47.4	0.34	4.81	1.6	0
853		6.22		6.82	9.0	7.29	-48.1	0.30	4.83	1.7	1
858	↓	6.22		6.82	9.0	7.30	-48.3	0.31	4.81	1.9	1

Notes:

(1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.

(2) The well screen volume will be based on a 5-foot screen length. $V_s = p*(D/2)^2*(5*12)*(2.54)^3$

(3) The drawdown from the initial water level should not exceed 0.3 ft.

(4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stablization criteria and appear to be stablizing). No. of Well Screen Volumes Purged = Vp / Vs.

OVM = 0.8ppm @ TOR

* Calculated using 1L bottle & stop watch

WELL PURGING FIELD INFORMATION FORM

JOB# 56546 .

SITE/PROJECT NAME: Delphi Harrison

WELL# MW-12

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	WATER VOL. IN CASING (LITERS/GALLONS)	ACTUAL VOLUME PURGED (LITERS/GALLONS)
050313	050313	1.7	3.0

PURGING AND SAMPLING EQUIPMENT

PURGING EQUIPMENT DEDICATED Y (N) (CIRCLE ONE)

SAMPLING EQUIPMENT DEDICATED (Y) N (CIRCLE ONE)

PURGING DEVICE	B	X- PURGING OTHER (SPECIFY)
SAMPLING DEVICE	B	X- SAMPLING OTHER (SPECIFY)
PURGING DEVICE	E	X- PURGING OTHER (SPECIFY)
SAMPLING DEVICE	E	X- SAMPLING OTHER (SPECIFY)
PURGING DEVICE	E	A- TEFLON, D- POLYPROPYLENE, F- SILICONE, E- POLYETHYLENE, G- COMBINATION TEFLON/POLYPROPYLENE
SAMPLING DEVICE	E	X- SAMPLING OTHER (SPECIFY)

FILTERING DEVICES 0.45 [ ] A- IN-LINE DISPOSABLE B- PRESSURE C- VACUUM

FIELD MEASUREMENTS

WELL ELEVATION	590.71 (ft/msl)	GROUNDWATER ELEVATION	584.73 (ft/msl)
DEPTH TO WATER	5.98 (ft)	WELL DEPTH	15.1 (ft)

pH | TURBIDITY | CONDUCTIVITY | ORP | DO | SAMPLE TEMPERATURE

FIELD COMMENTS

SAMPLE APPEARANCE: Good ODOR: none COLOR: Clear TURBIDITY: Clear w/ brown flecks

WEATHER CONDITIONS: WIND SPEED: 5-10 DIRECTION: SW PRECIPITATION Y/(N) OUTLOOK: Sunny ~65°F

SPECIFIC COMMENTS:

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE PROTOCOLS

5/3/13 Thomas Bohlen [signature]

DATE NAME SIGNATURE

FORM MODIFICATIONS MUST BE ACCOMPANIED BY A REVISION REQUEST FORM APPROVED BY THE PROJECT MANAGER

MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Data:

Project Name: Delphi / GMCH
Ref. No.: 56546

Date: 5/2/13
Personnel: T. Bohlen

Monitoring Well Data:

Well No.: MW-13 (MS/MSD)
Measurement Point: TOR
Constructed Well Depth (ft): 15'
Measured Well Depth (ft): 14.06'
Depth of Sediment (ft):

Screen Length (ft): 8-15 = 7'
Depth to Pump Intake (ft)[1]: 12'
Well Diameter, D (in): 2
Well Screen Volume, V_s (mL)[2]: 1 well vol. = 1.53 gal
Initial Depth to Water (ft): 4.65

Time	Pumping Rate *(mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level[3] (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V_p (mL)	No. of Well Screen Volumes Purged[4]
1300	148	4.78		7.37	11.4	5.55	72.6	2.41	2.21	0	0
1305	↓	↓		7.29	10.9	5.56	62.0	1.79	2.12	0.1	0
1310				7.28	10.8	5.58	33.1	1.41	2.07	0.2	0
1315				7.29	10.6	5.56	2.4	0.60	1.91	0.3	0
1320				7.28	10.5	5.32	-57.4	1.70	1.90	0.6	0
1325				7.27	10.4	5.38	-64.2	1.47	1.83	0.9	0
1330				7.27	10.5	5.43	-69.5	1.32	1.[illegible]1	1.2	0
1335				7.27	10.5	5.42	-70.1	1.29	1.60	1.5	1
1340				7.25	10.5	5.41	-71.2	1.27	1.59	1.8	1

Notes:

(1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.

(2) The well screen volume will be based on a 5-foot screen length. $V_s = p*(D/2)^2*(5*12)*(2.54)^3$

(3) The drawdown from the initial water level should not exceed 0.3 ft.

(4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stablization criteria and appear to be stablizing). No. of Well Screen Volumes Purged= Vp/Vs.

OVM = 0.0 ppm

* - calculated w/ 1L bottle & stopwatch

FMG MODIFICATIONS MUST BE ACCOMPANIED BY A REVISION REQUEST FORM APPROVED BY THE PROJECT MANAGER

MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Data:

Project Name: Delphi Harrison
Ref. No.: 56546

Date: 5/16/13
Personnel: T. Bohlen

Monitoring Well Data:

Well No.: MW-13
Measurement Point: TOR
Constructed Well Depth (ft): 15'
Measured Well Depth (ft): 14.06'
Depth of Sediment (ft):

Screen Length (ft): 8-15 = 7'
Depth to Pump Intake (ft)[1]: 12'
Well Diameter, D (in): 2"
Well Screen Volume, V_s (mL)[2]:
Initial Depth to Water (ft): 4.66

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level[3] (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V_p (mL)	No. of Well Screen Volumes Purged[4]
1236		4.79		7.27	12.0	5.70	58.9	1.20	1.63	0	0
1241		4.79		7.27	11.8	5.71	59.6	0.49	1.61	0.2	0
1246		4.79		7.26	11.8	5.65	44.6	0.32	1.65	0.4	0
1251		4.79		7.33	11.7	5.66	5.7	0.26	1.65	0.6	0
1256		4.79		7.40	11.8	5.61	-24.3	0.29	1.56	0.8	0
1301		4.79		7.41	11.8	5.57	-23.2	0.35	1.41	1.0	0
1306		4.79		7.42	11.8	5.47	-27.8	0.61	1.53	1.2	0

Notes:

(1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.

(2) The well screen volume will be based on a 5-foot screen length. $V_s = p*(D/2)^2*(5*12)*(2.54)^3$

(3) The drawdown from the initial water level should not exceed 0.3 ft.

(4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stablization criteria and appear to be stablizing). No. of Well Screen Volumes Purged= V_p/V_s.

WELL PURGING FIELD INFORMATION FORM

JOB# 56546 -

SITE/PROJECT NAME: Delphi / GMCH

WELL # MW-13

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	WATER VOL. IN CASING	ACTUAL VOLUME PURGED
050213	050213		

PURGING AND SAMPLING EQUIPMENT

PURGING EQUIPMENT DEDICATED: N (CIRCLE ONE)

SAMPLING EQUIPMENT DEDICATED: Y (CIRCLE ONE)

PURGING DEVICE	B
SAMPLING DEVICE	B
PURGING DEVICE	E
SAMPLING DEVICE	E
PURGING DEVICE	E
SAMPLING DEVICE	E
FILTERING DEVICES 0.45	

FIELD MEASUREMENTS

WELL ELEVATION	589.02 (m/ft)	GROUNDWATER ELEVATION	584.37 (m/ft)
DEPTH TO WATER	4.65 (m/ft)	WELL DEPTH	15.00 (m/ft)

pH	TURBIDITY	CONDUCTIVITY	ORP	DO	SAMPLE TEMPERATURE

FIELD COMMENTS

SAMPLE APPEARANCE: Good ODOR: none COLOR: Clear TURBIDITY: Clear

WEATHER CONDITIONS: WIND SPEED: 0-5 DIRECTION: SW PRECIPITATION: N OUTLOOK: Sunny 80°F

SPECIFIC COMMENTS:

DATE: 5/2/13 PRINT: Thomas Bohlen SIGNATURE: Thomas Bohlen

MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Data:

Project Name: Delphi/GMCH
Ref. No.:

Date: 5/3/13
Personnel: T. Bohlen

Monitoring Well Data:

Well No.: MW-14
Measurement Point: TOR
Constructed Well Depth (ft): 19.1
Measured Well Depth (ft): 21.36
Depth of Sediment (ft):

Screen Length (ft): 9.1-19.1 = 10'
Depth to Pump Intake (ft)(1): 17'
Well Diameter, D (in): 2"
Well Screen Volume, V_s (mL)(2): 1 well vol. = 2.5 gal
Initial Depth to Water (ft): 5.80

Time	Pumping Rate (mL/min)*	Depth to Water (ft)	Drawdown from Initial Water Level(3) (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V_p ~~(mL)~~ gal	No. of Well Screen Volumes Purged(4)
1023	102	6.29		7.45	11.4	4.49	36.8	0.90	3.66	0	0
1033		7.27		7.31	11.1	4.23	16.3	0.30	2.21	0.2	0
1043		7.81		7.30	10.8	4.35	29.8	0.24	3.15	0.5	0
1053		8.16		7.30	10.3	4.53	26.7	0.25	3.01	1.0	0
1103		8.39		7.31	10.6	4.62	21.9	0.28	2.51	1.2	0
1113		8.61		7.31	10.1	4.67	15.6	0.22	2.01	1.5	0
1133		8.85		7.32	10.0	4.67	7.5	0.18	1.92	2.1	0
1138		8.90		7.33	9.9	4.68	1.4	0.18	1.91	2.2	0
1143		8.93		7.34	10.2	4.68	-0.8	0.17	1.90	2.3	0
1148		8.96		7.33	10.1	4.67	-1.7	0.18	1.90	2.4	0
1153		9.00		7.33	10.1	4.67	-1.9	0.18	1.91	2.5	1
1158		9.03		7.33	10.1	4.67	-1.8	0.17	1.85	2.6	1

Notes:

(1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.

(2) The well screen volume will be based on a 5-foot screen length. $V_s = p*(D/2)^2*(5*12)*(2.54)^3$

(3) The drawdown from the initial water level should not exceed 0.3 ft.

(4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stablization criteria and appear to be stablizing). No. of Well Screen Volumes Purged= Vp/Vs.

OVM = 0.0 ppm @ TOR

* Calculated using stopwatch & 1L bottle

WELL PURGING FIELD INFORMATION FORM

SITE/PROJECT NAME: Delphi / GMCH

JOB# 56546 -

WELL# MW-14

WELL PURGING INFORMATION

05/03/13	05/03/13	25	40
PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	WATER VOL. IN CASING	ACTUAL VOLUME PURGED

PURGING AND SAMPLING EQUIPMENT

PURGING EQUIPMENT DEDICATED Y (N) (CIRCLE ONE)

SAMPLING EQUIPMENT DEDICATED (Y) N (CIRCLE ONE)

PURGING DEVICE: B

SAMPLING DEVICE: B

PURGING DEVICE: E

SAMPLING DEVICE: E

PURGING DEVICE: E

SAMPLING DEVICE: E

FILTERING DEVICES 0.45

FIELD MEASUREMENTS

WELL ELEVATION: 592.77 (msl, ft)

DEPTH TO WATER: 5.80 (msl, ft)

GROUNDWATER ELEVATION: 586.97 (msl, ft)

WELL DEPTH: 21.36 (msl, ft)

pH	TURBIDITY	CONDUCTIVITY	ORP	DO	SAMPLE TEMPERATURE

FIELD COMMENTS

SAMPLE APPEARANCE: Good ODOR: none COLOR: Clear TURBIDITY: Clear

WEATHER CONDITIONS: WIND SPEED: 5-10 DIRECTION: SW PRECIPITATION: 0 OUTLOOK: Sunny ~70° F

SPECIFIC COMMENTS

DATE: 5/3/13 PRINT: Thomas Bohlen SIGNATURE: Thomas Bohlen

MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Data:

Project Name: Delphi Harrison
Ref. No.: 56546

Date: 5/16/13
Personnel: T. Bolton

Monitoring Well Data:

Well No.: MW15
Measurement Point: TOR
Constructed Well Depth (ft): 17.90
Measured Well Depth (ft): 16.91
Depth of Sediment (ft):

Screen Length (ft): 8-15= 7'
Depth to Pump Intake (ft)(1): 13'
Well Diameter, D (in): 2"
Well Screen Volume, V_s (mL)(2):
Initial Depth to Water (ft): 8.05

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level (3) (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V_p (mL)	No. of Well Screen Volumes Purged (4)
1047		8.35		6.99	11.1	2.92	83.9	1.38	1.96	0	0
1052		8.35		6.90	11.0	2.90	87.1	0.48	1.95	0.1	0
1057		8.35		6.90	11.1	2.90	86.6	0.34	1.87	0.2	0
1102		8.35		6.92	11.1	2.92	87.1	0.27	1.85	0.3	0
1107		8.35		6.93	11.1	2.93	87.1	0.24	1.82	0.4	0
1112		8.35		6.93	11.0	2.95	88.0	0.21	1.80	0.6	0
1117		8.35		6.93	11.0	2.95	88.3	0.19	1.79	0.7	0

Notes:

(1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.

(2) The well screen volume will be based on a 5-foot screen length. $V_s = p^*(D/2)^2 * (5*12)*(2.54)^3$

(3) The drawdown from the initial water level should not exceed 0.3 ft.

(4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stablization criteria and appear to be stablizing). No. of Well Screen Volumes Purged= Vp/Vs.

OVM = 0.0 ppm @ TOR

- collected H_2O quality readings for ½ hr. while H_2O sample equilibrated.

FMG MODIFICATIONS MUST BE ACCOMPANIED BY A REVISION REQUEST FORM APPROVED BY THE PROJECT MANAGER

MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Data:

Project Name: Delphi/GMCH
Ref. No.: 56546

Date: 5/1/13
Personnel: T. Bohlen

Monitoring Well Data:

Well No.: MW-15
Measurement Point: TOR
Constructed Well Depth (ft): 17.90
Measured Well Depth (ft): 16.91
Depth of Sediment (ft):

Screen Length (ft): 8-15 = 7'
Depth to Pump Intake (ft)(1): 13'
Well Diameter, D (in): 2"
Well Screen Volume, V_s (mL)(2): 1.5 gal = 1 well vol.
Initial Depth to Water (ft): 7.91

Time	Pumping Rate (mL/min)*	Depth to Water (ft)	Drawdown from Initial Water Level(3) (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V_p (mL)	No. of Well Screen Volumes Purged(4)
1518	118	8.15		7.20	12.5	2.85	84.4	3.28	2.32	0	0
1523		↓		7.06	12.0	2.78	89.7	2.26	2.12	0.1	0
1528				7.00	11.4	2.78	89.4	1.02	2.21	0.2	0
1533				6.99	11.4	2.78	89.0	0.76	2.20	0.4	0
1538				6.99	11.5	2.79	88.1	0.51	2.21	0.6	0
1543				6.99	11.3	2.83	87.5	0.41	2.20	0.9	0
1548				6.97	11.3	2.85	86.6	0.38	2.20	1.2	0
1553				6.97	11.3	2.85	86.0	0.33	2.20	1.3	0
1558		↓		6.97	11.3	2.85	86.1	0.35	2.23	1.5	1

Notes:

(1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.

(2) The well screen volume will be based on a 5-foot screen length. $V_s = p*(D/2)^2*(5*12)*(2.54)^3$

(3) The drawdown from the initial water level should not exceed 0.3 ft.

(4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stablization criteria and appear to be stablizing). No. of Well Screen Volumes Purged= Vp/Vs.

OVM= 0.0ppm TOR

* calculated w/ 1L bottle & stopwatch

WELL PURGING FIELD INFORMATION FORM

JOB# 56546

SITE/PROJECT NAME: Delphi / GMCH

WELL# MW-15

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	WATER VOL. IN CASING (LITERS/GALLONS)	ACTUAL VOLUME PURGED (LITERS/GALLONS)
050113	050113	1.5	2.5

PURGING AND SAMPLING EQUIPMENT

PURGING EQUIPMENT DEDICATED (Y) N (CIRCLE ONE)

SAMPLING EQUIPMENT DEDICATED (Y) N (CIRCLE ONE)

Device	Code	Options
PURGING DEVICE	B	A - SUBMERSIBLE PUMP; B - PERISTALTIC PUMP; C - BLADDER PUMP; D - GAS LIFT PUMP; E - PURGE PUMP; F - DIPPER BOTTLE; G - BAILER; H - WATERRA; X - PURGING OTHER (SPECIFY)
SAMPLING DEVICE	B	X - SAMPLING OTHER (SPECIFY)
PURGING DEVICE	E	A - TEFLON; B - STAINLESS STEEL; C - POLYPROPYLENE; D - PVC; E - POLYETHYLENE; X - PURGING OTHER (SPECIFY)
SAMPLING DEVICE	E	X - SAMPLING OTHER (SPECIFY)
PURGING DEVICE	E	A - TEFLON; B - TYGON; C - ROPE; D - POLYPROPYLENE; E - POLYETHYLENE; F - SILICONE; G - COMBINATION TEFLON/POLYPROPYLENE; X - (SPECIFY); X - PURGING OTHER (SPECIFY)
SAMPLING DEVICE	E	X - SAMPLING OTHER (SPECIFY)

FILTERING DEVICES 0.45 ____ A - IN-LINE DISPOSABLE B - PRESSURE C - VACUUM

FIELD MEASUREMENTS

WELL ELEVATION	594.04 (m/ft)	GROUNDWATER ELEVATION	586.13 (m/ft)
DEPTH TO WATER	7.91 (m/ft)	WELL DEPTH	17.90 (m/ft)

pH (std)	TURBIDITY (ntu)	CONDUCTIVITY (umhos/cm at 25°C)	ORP (mV)	DO	SAMPLE TEMPERATURE (°C)

FIELD COMMENTS

SAMPLE APPEARANCE: Good ODOR: none COLOR: Clear TURBIDITY: Clear

WEATHER CONDITIONS: WIND SPEED: 0-5 DIRECTION: SW PRECIPITATION/OUTLOOK: Sunny ~65

SPECIFIC COMMENTS:

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE PROTOCOLS

DATE	PRINT	SIGNATURE
5/1/13	Thomas Bohlen	Thomas Bohlen

FMG MODIFICATIONS MUST BE ACCOMPANIED BY A REVISION REQUEST FORM APPROVED BY THE PROJECT MANAGER

MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Data:

Project Name: Delphi/GMCH
Ref. No.: 56546

Date: 5/2/13
Personnel: T. Bohlen

Monitoring Well Data:

Well No.: G-1
Measurement Point: TOR
Constructed Well Depth (ft):
Measured Well Depth (ft): 17.93
Depth of Sediment (ft):

Screen Length (ft):
Depth to Pump Intake (ft)[1]: 15'
Well Diameter, D (in): 2"
Well Screen Volume, V_s (mL)[2]: 0.83 gal/well vol.
Initial Depth to Water (ft): 12.82'

Time	Pumping Rate *(mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level[3] (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, Vp (mL)	No. of Well Screen Volumes Purged[4]
800	90	12.95		7.17	10.5	11.77	157.6	8.77	2.2	0	0
805				6.89	10.0	11.70	163.0	8.01	2.1	0	0
810				6.90	10.2	11.73	162.8	7.81	2.0	0.1	0
815				6.89	10.2	11.81	159.0	7.65	2.0	0.2	0
820				6.88	10.3	11.86	152.1	6.69	1.9	0.4	0
825				6.88	10.2	11.88	150.8	6.55	1.81	0.6	0
830				6.88	10.2	11.92	147.9	6.48	1.81	0.8	1
835				6.88	10.2	11.91	146.9	6.57	1.70	1.0	1
840		↓		6.88	10.2	11.93	146.5	6.60	1.71	1.2	1

Notes:

(1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.

(2) The well screen volume will be based on a 5-foot screen length. $V_s = p*(D/2)^2*(5*12)*(2.54)^3$

(3) The drawdown from the initial water level should not exceed 0.3 ft.

(4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stablization criteria and appear to be stablizing). No. of Well Screen Volumes Purged= Vp/Vs.

OVM TOR = 0.0 ppm

* calculated using a 1L bottle & stopwatch

5/1/13 - 0.85 gal/well vol.
- purged ~6 gal - brown/turbid - productive well
- TOW = 12.72'
- BOW = 17.93

WELL PURGING FIELD INFORMATION FORM

JOB# 56546

SITE/PROJECT NAME: Delphi / GMCH

WELL # G-1

WELL PURGING INFORMATION

PURGE DATE (MM/DD/YY)	SAMPLE DATE (MM/DD/YY)	WATER VOL IN CASING (GALLONS/LITERS)	ACTUAL VOLUME PURGED (GALLONS/LITERS)
05/01/13	05/02/13	0.8	2.0

PURGING AND SAMPLING EQUIPMENT

PURGING EQUIPMENT	DEDICATED (Y/N)		SAMPLING EQUIPMENT	DEDICATED (Y/N)	
PURGING DEVICE	B				
SAMPLING DEVICE	B				
PURGING DEVICE	E				
SAMPLING DEVICE	E				
PURGING DEVICE	E				
SAMPLING DEVICE	E				
FILTERING DEVICE (Y/N)					

FIELD MEASUREMENTS

WELL ELEVATION (m/ft)	595.10	GROUNDWATER ELEVATION (m/ft)	582.08
DEPTH TO WATER (m/ft)	12.82	WELL DEPTH (m/ft)	17.93

pH	TURBIDITY	CONDUCTIVITY	ORP	DO	SAMPLE TEMPERATURE

FIELD COMMENTS

SAMPLE APPEARANCE: Good ODOR: none COLOR: Clear FOREIGN: Clear

WEATHER CONDITIONS: WIND SPEED: 0-5 WIND DIR: SW PRECIPITATION / TEMP: Sunny ~80°F

SPECIFIC COMMENTS:

5/2/13 Thomas Bohlen Thomas Bohlen

DATE PRINT SIGNATURE

SAMPLE MODIFICATIONS ABOVE ARE ACCOMPANIED BY A REVISED REQUEST FORM AND INITIALED BY THE TECHNICIAN

Form FMG 5.1-01

GROUNDWATER LEVEL MONITORING REPORT

WELL NUMBER

Page of

PROJECT GMCH / Delphi Harrison
LOCATION Lockport, NY
CLIENT GMCH
ELEVATION REFERENCED TO:

PROJECT MANAGER C. Biron
FIELD REP. T. Bihlen
DATE 5/1/13 -

Date	Time	Elapsed Time (days)	Depth of Water from (TOR) in ft	Elevation of Water	Remarks	Read By
5/1/13	940	-	14.78		MW-10	TB
"	1140	-	8.51		MW-4	"
"	1515	-	7.91		MW-15	"
5/2/13	740	-	12.82		G-1	"
	945	-	5.58		MW-11	"
	1022		8.39		MW-4	"
	1025		14.94		MW-10	"
	1029		7.97		MW-15	"
	1036	-	4.65		MW-13	"
	1040	-	5.98		MW-12	"
	1550	-	7.02		MW-7	"
5/3/13	757		5.98		MW-12	"
	1020		5.80		MW-14	"
	1406		7.15		MW-7	"

FMG MODIFICATIONS MUST BE ACCOMPANIED BY A REVISION REQUEST FORM APPROVED BY THE PROJECT MANAGER

Form EMG 5.1-01

GROUNDWATER LEVEL MONITORING REPORT

WELL NUMBER

Page of

PROJECT: Delphi Harrison Thermal Systems
LOCATION: Lockport, NY
CLIENT:
ELEVATION REFERENCED TO: TOR

PROJECT MANAGER: C. Baron
FIELD REP.: T. Bohlen
DATE: 5/16/13

Date	Time	Elapsed Time (days)	Depth of Water from (TOR) in ft	Elevation of Water	Remarks	Read By
5/16/13	840	-	14.22		MW-10	TB
	935	-	8.13		MW-4	"
	1028	-	6.75		MW-7	"
	1040	-	8.05		MW-15	"
	1128	-	5.63		MW-11	"
	1228	-	4.66		MW-13	"
	1304	-	6.28		MW-14	"
	1327	-	5.91		MW-12	"
	1331	-	10.13		G-1	"

EMG MODIFICATIONS MUST BE ACCOMPANIED BY A REVISION REQUEST FORM APPROVED BY THE PROJECT MANAGER

Form FMG 8.0-01

INSTRUMENT CALIBRATION RECORD

PROJECT: GMCH / Delphi
LOCATION: Lockport, NY
CLIENT: GMCH
PROJECT MANAGER: C. Brown
FIELD REP.: T. Bahlen
DATE: 5/1/13 -

Instrument	Date Calibrated	By	Standard Used	Decontamination, Maintenance, or Repair Performed	Remarks
YSI	5/1/13	TB	Cal. Solutions	Cal.	OK
OVM	"	TB	Iso. Gas	Cal Ck	OK
LaMotte	"	TB	Cal Sol.	Cal.	OK
YSI	5/3/13	TB	Cal Solutions	Cal	OK
OVM	"	"	Iso. Gas	Cal Ck	OK
LaMotte	"	"	Cal. Sol.	Cal	OK
YSI	5/3/13	TB	Cal Solutions	Cal.	OK
OVM	"	"	Iso. Gas	Cal.	OK
LaMotte	"	"	Cal Sol.	Cal	OK

Other Remarks:

Form FMG 8.0-01

INSTRUMENT CALIBRATION RECORD

PROJECT: Delphi Harrison Thermal Systems Site
LOCATION: Lockport, NY
CLIENT:
PROJECT MANAGER: C. Boron
FIELD REP.: T. Bohlen
DATE: 5/16/13

Instrument	Date Calibrated	By	Standard Used	Decontamination, Maintenance, or Repair Performed	Remarks
OVM	5/16/13	AB	Iso. Gas.	Cal.	OK
YSI	"	"	Cal. Sols	"	"
LaMotte	"	"	Cal. Sol.	"	"

Other Remarks:

FMG MODIFICATIONS MUST BE ACCOMPANIED BY A REVISION REQUEST FORM APPROVED BY THE PROJECT MANAGER

GASCO AFFILIATES, LLC.

320 Scarlet Blvd.
Oldsmar, FL 34677
(800) 910-0051
fax: (866) 755-8920
www.gascogas.com

CERTIFICATE OF ANALYSIS

Date: October 3, 2012
Order Number: PO00333
Lot Number: KAM-248-100-1

Customer: Eco-Rental Solutions

Use Before: 10/02/2016

Component	Specification (+/- 10%)	Analytical Result (+/- 2%)
Isobutylene	100 PPM	97.3 PPM
Air	Balance	Balance

Cylinder Size: 4.0 Cu. Ft.
Contents: 116 Liter (EcoSmart)

Valve: 5/8" -18UNF
Pressure: 1000 psig

The calibration gas prepared by Gasco is considered a certified standard. It is prepared by gravimetric, or partial pressure techniques. The calibration standard provided is certified against Gasco's G.M.I.S. (Gas Manufacturer's Intermediate Standard) which is either prepared by weights traceable to the National Institute of Standards and Technology (NIST) or by using NIST Standard Reference Materials where available.

Analyst:

Rebecca Ortega

Eco-Rental Solutions

Calibration Certificate

rev 8/9/11

Work Order No.: SE-004193
Date of Service: 04/18/13

Unit Under Test: Lamotte 2020WE Turbidity Meter
Asset No.: FA00413 Technician: TYLER HINTZ Initials: TH
Serial No: 2606-3812

TEST	Specification	Result
Standard Calibration	Pass/Fail	PASS

TEST STANDARDS USED:

DESCRIPTION	LOT No./EXPIRATION DATE	QUANTITY
Turbidity Free Water		1
10 NTU AMCO Turbidity Standard	Lot No. C149164 Exp. 03/31/13	1
1.0 NTU AMCO Turbidity Standard	Lot No. C149163 Exp. 03/31/13	1

TEST EQUIPMENT USED:

DESCRIPTION	ASSET NO.	SERIAL NO.	DATE OF LAST CAL	DATE CAL DUE

Test Equipment and standards are traceable to National standards.

GFS Chemicals, Inc.
Columbus, Ohio 43223

LOT ANALYSIS

ITEM: 8578 AMCO CLEAR TURBIDITY STANDARD, 10 NTU for LAMOTTE 2020we LOT#:C149164

Test	PASS/FAIL	NUMERICAL RESULT
Turbidity (LaMotte 2020we) 10 NTU	PASS	10 NTU
NIST Traceable (Average Particle Size)	PASS	SRM 1963
NIST Traceable (UV-Vis/concentration-distribution)	PASS	SRM 2031
Absorbance at 455nm (100mm pathlength)	PASS	0.1204
Traceable to fresh formazin dilution	PASS	Conforms
Expiration date (1 year from ship date)	PASS	See label

TRACEABLE TO N.I.S.T. (Y/N)? Y
Comment:
Reported by: Renita Smith
Quality Assured to Retest Point: 12 months from shipment
C/A Print Date: 07/23/2012

QC Supervisor: Joshua Crow

GFS Chemicals, Inc.
Columbus, Ohio 43223

LOT ANALYSIS

ITEM: 8577 AMCO CLEAR TURBIDITY STANDARD, 1 NTU for LAMOTTE 2020WE LOT#:C149163

Test	PASS/FAIL	NUMERICAL RESULT
Turbidity (LaMotte 2020we) 1.0 NTU	PASS	1.0 NTU
NIST Traceable (Average Particle Size)	PASS	SRM 1963
NIST Traceable (UV-Vis concentration-distribution)	PASS	SRM 2031
Absorbance at 455nm (100mm pathlength)	PASS	0.0121
Traceable to fresh formazin dilution	PASS	Conforms
Expiration date (1 year from ship date)	PASS	See label

TRACEABLE TO N.I.S.T. (Y/N)? Y
Comment:
Reported by: Renita Smith
Quality Assured to Retest Point: 12 months from shipment
C/A Print Date: 07/23/2012

QC Supervisor: Joshua Crow

Eco-Rental Solutions

Calibration Certificate

rev 8/9/11

Work Order No.: SE-004194
Date of Service: 04/18/13

Unit Under Test: YSI Pro Plus Quatro, 4m pH/ORP/Cond/Temp/DO
Asset No.: FA00002 Technician: TYLER HINTZ Initials: TH
Serial No: 11K100528

TEST	Specification	Result
Standard Calibration	Pass/Fail	PASS

TEST STANDARDS USED:

DESCRIPTION	LOT No./EXPIRATION DATE	QUANTITY
Air Saturated Water		1
Sodium Sulfite/ Zero DO Standard	N/A	1
7.00 mS Conductivity Standard Solution	Lot No. 3AA758 exp.01/14	1
pH 7.00 Standard Solution	Lot No. 2AG534 Exp. 07/31/14	1
pH 10.00 Standard Solution	Lot No. C254458 Exp. 07/19/14	1
pH 4.00 Standard Solution	Lot No. C255426 Exp. 08/28/14	1
ORP Standard Solution	Lot No. 11J100423 Exp. 09/30/13	1
EdgeTech DewMaster PPE-0001	sn 41891 cal due 10/23/13	1

TEST EQUIPMENT USED:

DESCRIPTION	ASSET NO.	SERIAL NO.	DATE OF LAST CAL	DATE CAL DUE

Test Equipment and standards are traceable to National standards.

AQUAPHOENIX SCIENTIFIC

Certificate Of Analysis

Product	Conductivity Standard, 7000 µS/cm
Code	CS7000
Lot Number	2AJ581
Specifications	7000 µS/cm +/- 1% @ 25C
Lot Analysis	7000 µS/cm
Expiration	10/13
NIST STD used	SRM 3193

We certify that the above referenced lot of reagent was manufactured per ASTM Standards or Standard Methods, 22nd edition. All glassware complies with Class A tolerance requirements. Balances are calibrated using NIST traceable mass standards. Chemicals used in the product are lot traceable. A quality control testing report is kept for each manufactured lot.

Luke Miller
Research Chemist
October 22, 2012

9 Barnhart Drive • Hanover, PA 17331 • 717 632 1291
Fax: 717 633 1285 • Email: sales@aquaphoenixsci.com

GFS Chemicals, Inc.
Columbus, Ohio 43223

LOT ANALYSIS

ITEM: 1634 BUFFER SOLUTION, pH 4.00, (COLOR CODED RED)

LOT#:C255426

Test	PASS/FAIL	NUMERICAL RESULT
pH (@ 25 C) 4.00 +/- 0.01	PASS	4.01
NIST Traceable	PASS	See Comments

TRACEABLE TO N.I.S.T. (Y/N)? Y
Comment: NIST SRM 185H, 186IG, 186IIG, 191-D-1 & 191-D-II
Reported by: Karen Hirsch
QC Supervisor: Robert Kramer
Quality Assured to Retest Point: 8/28/14
C/A Print Date: 10/01/2012

GFS Chemicals, Inc.
Columbus, Ohio 43223

LOT ANALYSIS

ITEM: 1645 BUFFER SOLUTION, pH 10.00, (COLOR CODED BLUE)

LOT#:C254458

Test	PASS/FAIL	NUMERICAL RESULT
pH (@ 25 C) 10.00 +/- 0.01	PASS	10.01
NIST Traceable	PASS	See Comments

TRACEABLE TO N.I.S.T. (Y/N)? Y
Comment: NIST SRM 186IG, 186IIG & 191C
Reported by: Karen Hirsch
Quality Assured to Retest Point: 7/19/14
C/A Print Date: 10/01/2012

QC Supervisor: Robert Kramer

AQUAPHOENIX SCIENTIFIC

Certificate Of Analysis

Product	Buffer 7.00
Code	BU5007
Lot Number	2AG534
Specifications	7.00 +/- 0.01 @ 25C
Lot Analysis	6.99
Expiration	7/14
NIST STD used	SRM 191c

We certify that the above referenced lot of reagent was manufactured per ASTM Standards or Standard Methods, 22nd edition. All glassware complies with Class A tolerance requirements. Balances are calibrated using NIST traceable mass standards. Chemicals used in the product are lot traceable. A quality control testing report is kept for each manufactured lot.

Luke Miller
Research Chemist
July 24, 2012

9 Barnhart Drive • Hanover, PA 17331 • 717 632 1291
Fax: 717 633 1285 • Email: sales@aquaphoenixsci.com

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

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Thomas Bohlen	Lab PM: Deyo, Melissa L	Carrier Tracking No(s):	COC No:
Client Contact: Mr. Christopher Boron	Phone: (716) 844-7050	E-Mail: melissa.deyo@testamericainc.com		Page: Page 1 of 1
Company: GZA GeoEnvironmental, Inc.				GZA Job #: 21.0056546.00 Task 24
Address: 535 Washington Street 11th Floor	Due Date Requested:			
City: Buffalo	TAT Requested (days): 3 Weeks			
State, Zip: NY, 14203				
Phone: (716) 685-2300	PO #: 4047065			
Email: christopher.boron@gza.com	WO #: 58507			
Project Name: 058507, GM-Lockport Groundwater Sampling	Project #: 48004014			
Site: Delphi Harrison Thermal Systems Site	SSOW#: 256015			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	RSK_175_CO2 - Carbon dioxide	VFA_IC - Volatile Fatty Acids	350.1 - Ammonia	6010B - Metals - Fe, Mn, Mg, K & Na	8260B - PCE, TCE, DCE (trans and cis), Vinyl Chl	9060 - Total Organic Carbon	RSK_175 - Methane, Ethane, Ethene	SM4500_S2_D - Sulfide	353.2, 353.2_Nitrite, Nitrate_Calc	2320B - Total Alkalinity	300.0_28D - Anions (Chloride & Sulfate)	AM20GAX		Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	S	D	A	A	A	CB	N	N	N				
MW-10-050113	5/1/13	1030	G	Water	N	N	X	X	X	X	X	X	X	X	X	X	X	X*			*-Microseeps
MW-4-050113	↓	1415	↓	Water	N	N	X	X	X	X	X	X	X	X	X	X	X	X*			Dissolved H_2
MW-15-050113	↓	1610	↓	↓	N	N	X	X	X	X	X	X	X	X	X	X	X	X*			
Trip Blank																					

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

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

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

Special Instructions/QC Requirements:

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Thomas Bohlen	5/1/13 1735	GZA	[signature]	5/1/13 1735	TA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: △ Yes △ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks:

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

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

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Client Contact: Mr. Christopher Boron	Phone: (716) 844-7050	E-Mail: melissa.deyo@testamericainc.com		Page: Page 1 of 1
Company: GZA GeoEnvironmental, Inc.				GZA Job #: 21.0056546.00 Task 24
Address: 535 Washington Street 11th Floor	Due Date Requested:			
City: Buffalo	TAT Requested (days): 3 Weeks			
State, Zip: NY, 14203				
Phone: (716) 685-2300	PO #: 4047065			
Email: christopher.boron@gza.com	WO #: 58507			
Project Name: 058507, GM-Lockport Groundwater Sampling	Project #: 48004014			
Site: Delphi Harrison Thermal Systems Site	SSOW#: 256015			

Analysis Requested

Preservation Codes:

A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2SO3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - ph 4-5
Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	RSK_175_CO2 - Carbon dioxide	VFA_IC - Volatile Fatty Acids	350.1 - Ammonia	6010B - Metals - Fe, Mn, Mg, K & Na	8260B - PCE, TCE, DCE (trans and cis), Vinyl Chl	9060 - Total Organic Carbon	RSK_175 - Methane, Ethane, Ethene	SM4500_S2_D - Sulfide	353.2, 353.2_Nitrite, Nitrate_Calc	2320B - Total Alkalinity	300.0_28D - Anions (Chloride & Sulfate)	AM20GAX		Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	S	D	A	A	A	CB	N	N	N				
G-1-050213	5/2/13	850	G	Water	N	N	X	X	X	X	X	X	X	X	X	X	X				
MW-11-050213		1130		Water	N	N	X	X	X	X	X	X	X	X	X	X	X	A			X - Microcosms
MW-13-050213 MS/MSD		1350			N	Y	X	X	X	X	X	X	X	X	X	X	X	X			Dissolved H2
Trip Blank																					

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

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

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

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:	
Relinquished by: Thomas Bohlen	Date/Time: 5/2/13 / 1730	Company: GZA	Received by:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: Company
Relinquished by:	Date/Time:	Company	Received by:	

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks:

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

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Thomas Bohlen	Lab PM: Deyo, Melissa L	Carrier Tracking No(s):	COC No:
Client Contact: Mr. Christopher Boron	Phone: (716) 844-7050	E-Mail: melissa.deyo@testamericainc.com		Page: Page 1 of 1
Company: GZA GeoEnvironmental, Inc.				GZA Job #: 21.0056546.00 Task 24
Address: 535 Washington Street 11th Floor	Due Date Requested:			
City: Buffalo	TAT Requested (days): 3 Weeks			
State, Zip: NY, 14203				
Phone: (716) 685-2300	PO #: 4047065			
Email: christopher.boron@gza.com	WO #: 58507			
Project Name: 058507, GM-Lockport Groundwater Sampling	Project #: 48004014			
Site: Delphi Harrison Thermal Systems Site	SSOW#: 256015			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	RSK_175_CO2 - Carbon dioxide	VFA_IC - Volatile Fatty Acids	350.1 - Ammonia	6010B - Metals - Fe, Mn, Mg, K & Na	8260B - PCE, TCE, DCE (trans and cis), Vinyl Chl	9060 - Total Organic Carbon	RSK_175 - Methane, Ethane, Ethene	SM4500_S2_D - Sulfide	353.2, 353.2_Nitrite, Nitrate_Calc	2320B - Total Alkalinity	300.0_28D - Anions (Chloride & Sulfate)	AM20GAX		Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	S	D	A	A	A	CB	N	N	N				
MW-12-050313	5/3/13	900	G	Water	N	N	X	X	X	X	X	X	X	X	X	X	X	X			X - Microseeps Dissolved H_2
MW-14-050313	↓	1200	↓	Water	N	N	X	X	X	X	X	X	X	X	X	X	X	X			
MW-7-050313	↓	1410	↓	↓	N	N	X	X	X	X	X	X	X	X	X	X	X	X			
Trip Blank											X										

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

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

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

Special Instructions/QC Requirements:

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Thomas Bohlen	5/3/13 / 1530			5/3/13 1530	TA BUFFALO
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: △ Yes △ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

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

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Client Information	Sampler: Thomas Bohlen	Lab PM: Deyo, Melissa L	Carrier Tracking No(s):	COC No:
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Company: GZA GeoEnvironmental, Inc.				GZA Job #: 21.0056546.00 Task 24
Address: 535 Washington Street 11th Floor	Due Date Requested:			
City: Buffalo	TAT Requested (days): 3 Weeks			
State, Zip: NY, 14203				
Phone: (716) 685-2300	PO #: 4047065			
Email: christopher.boron@gza.com	WO #: 58507			
Project Name: 058507, GM-Lockport Groundwater Sampling	Project #: 48004014			
Site: Delphi Harrison Thermal Systems Site	SSOW#: 256015			

Analysis Requested

Preservation Codes:

A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2SO3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - ph 4-5
Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	RSK_175_CO2 - Carbon dioxide	VFA_IC - Volatile Fatty Acids	350.1 - Ammonia	6010B - Metals - Fe, Mn, Mg, K & Na	8260B - PCE, TCE, DCE (trans and cis), Vinyl Chl	9060 - Total Organic Carbon	RSK_175 - Methane, Ethane, Ethene	SM4500_S2_D - Sulfide	353.2, 353.2_Nitrite, Nitrate_Calc	2320B - Total Alkalinity	300.0_28D - Anions (Chloride & Sulfate)	AM20GAX		Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	S	D	A	A	A	CB	N	N	N				
MW-10-051613	5/16/13	912		Water														*			* - Dissolved H2 for Microseeps
MW-4-051613		1008		Water														*			
MW-15-051613		1117																*			
MW-11-051613		1210																*			
MW-13-051613		1306																*			

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

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

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

Special Instructions/QC Requirements:

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	Thomas Bohlen	5/16/13 1615	GZA		5/16/13 1615	GZA
2		5/16/13 1645	GZA		5/16/13	TA
3						

Custody Seals Intact:	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:
Δ Yes Δ No		

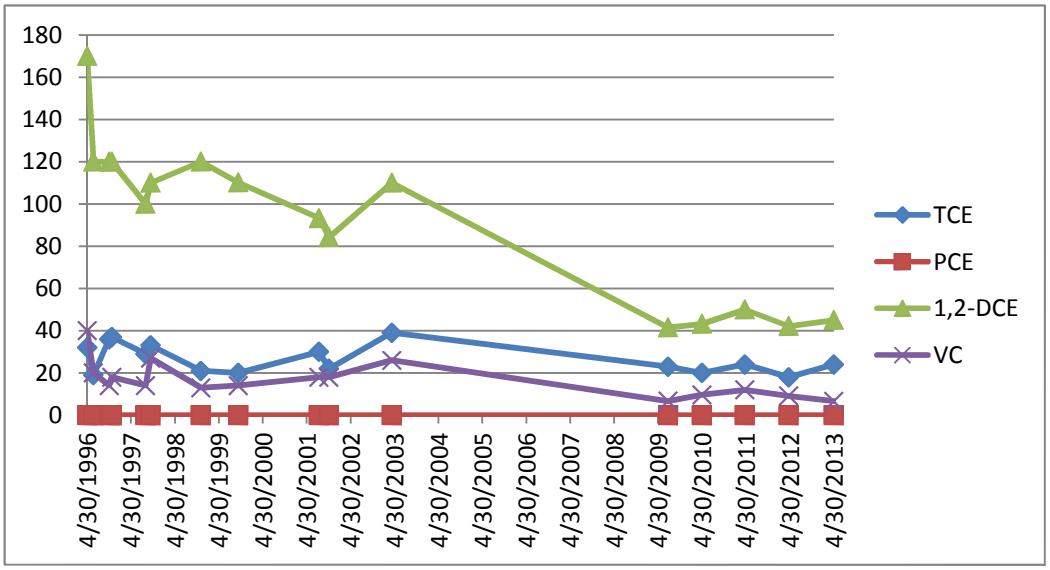
APPENDIX B

GRAPHS OF MONITORING WELL ANALYTICAL DATA FOR THE COCs

MW-4 Groundwater Data
Delphi Harrison Thermal Systems Site
GM Components Holdings, LLC
Lockport, New York

Date	TCE	PCE	1,2-DCE	VC
4/30/1996	32	<0.5	170	40
6/20/1996	19	<0.5	120	20
10/30/1996	36	<0.5	120	14
11/21/1996	37	<0.5	120	18
8/28/1997	29	<0.5	100	14
10/10/1997	33	<0.2	110	27
12/2/1998	21	<0.2	120	13
10/7/1999	20	<0.05	110.14	14
8/9/2001	30	0.003	93.28	18
10/31/2001	22	<0.002	84.25	18
4/7/2003	39	0.08	110	26
7/20/2009	23	<0.05	41.5	6.7
4/29/2010	20	0.0012	43.2	9.6
4/22/2011	24	0.0018	50	12
4/20/2012	18	0.0014	42.16	9.1
5/1/2013	24	<0.18	45	6.6

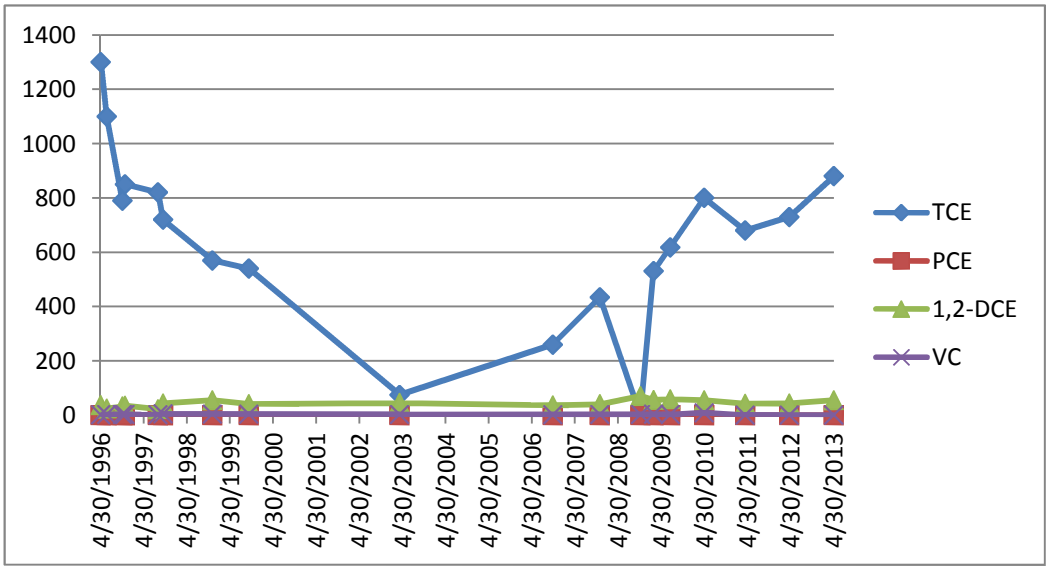
Notes:
Results are provided in parts per million (ppm)
Duplicate samples were collected from this location on 6/20/96, 10/30/96 and 12/2/98.
The higher of the two concentrations were recorded in this graph.



MW-7 Groundwater Data
Delphi Harrison Thermal Systems Site
GM Components Holdings, LLC
Lockport, New York

Date	TCE	PCE	1,2-DCE	VC
4/30/1996	1300	<0.5	37	1.8
6/20/1996	1100	<0.5	24	2.4
10/30/1996	790	<0.5	32	2.3
11/21/1996	850	<0.5	35	3.1
8/28/1997	820	<0.2	22	1.1
10/10/1997	720	<0.2	43	4.8
12/3/1998	570	<0.2	55	4.2
10/7/1999	540	<0.5	41	3.5
4/7/2003	75	<0.2	45	3
10/25/2006	260	0.077	36	1.7
11/29/2007	434	0.049	40	3.2
11/5/2008	1.1	<0.2	70	2.6
2/24/2009	530	0.071	56	3.6
7/15/2009	618	0.112	58.3	2.5
4/29/2010	800	0.14	55.2	9
4/11/2011	680	<1.8	42	<4.5
4/20/2012	730	<1.8	43	<4.5
5/3/2013	880	<3.6	55	<9

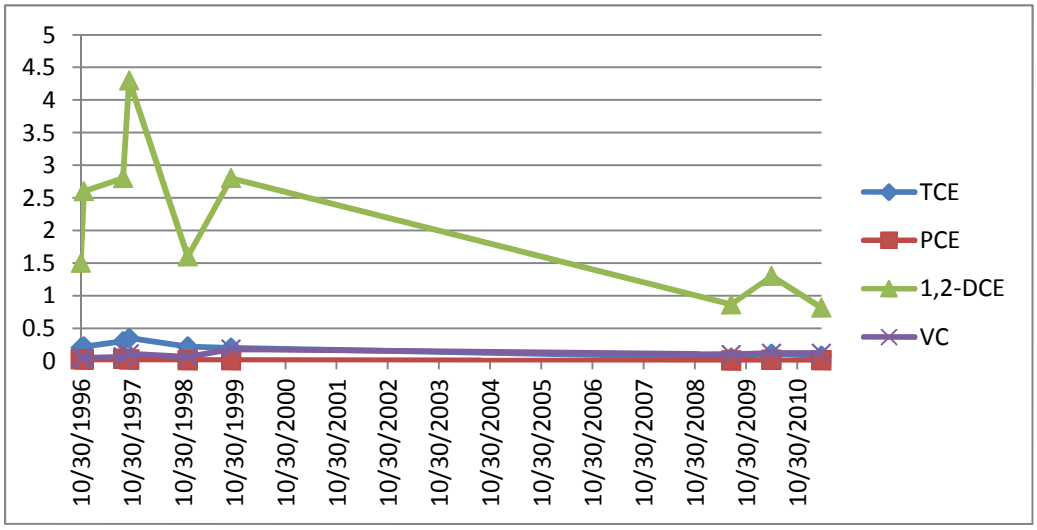
Notes:
Results are provided in parts per million (ppm)



MW-8 Groundwater Data
Delphi Harrison Thermal Systems Site
GM Components Holdings, LLC
Lockport, New York

Date	TCE	PCE	1,2-DCE	VC
10/30/1996	0.2	0.024	1.5	0.047
11/21/1996	0.22	0.022	2.6	0.049
8/28/1997	0.3	0.028	2.8	0.062
10/10/1997	0.35	0.018	4.3	0.11
12/2/1998	0.22	0.012	1.6	0.062
10/7/1999	0.2	0.011	2.802	0.18
7/15/2009	0.05	0.005	0.865	0.1
4/30/2010	0.11	0.013	1.3	0.12
4/22/2011	0.078	0.008	0.813	0.12

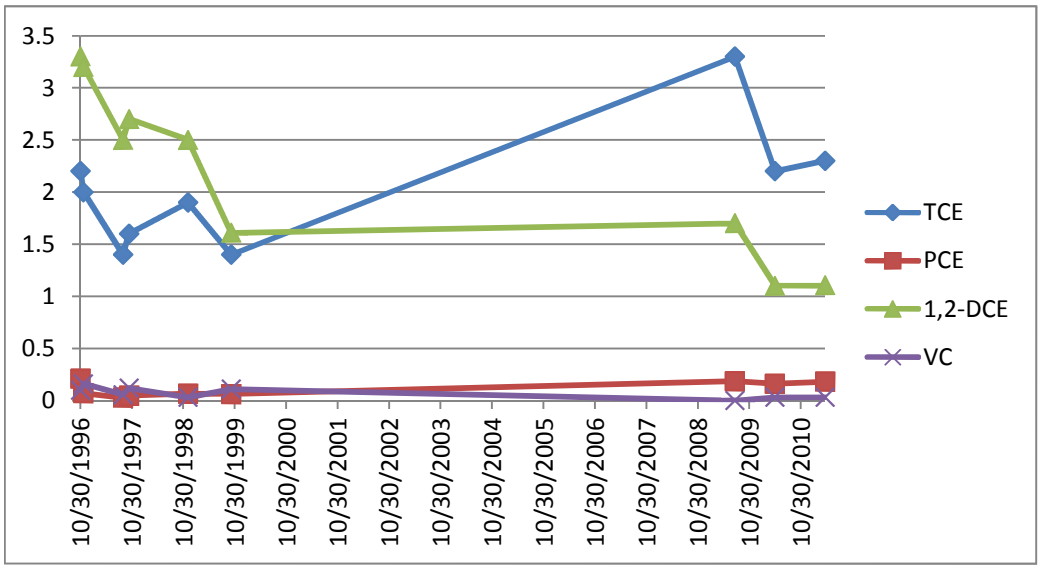
Notes:
Results are provided in parts per million (ppm)



MW-9 Groundwater Data
Delphi Harrison Thermal Systems Site
GM Components Holdings, LLC
Lockport, New York

Date	TCE	PCE	1,2-DCE	VC
10/30/1996	2.2	0.21	3.3	0.1
11/21/1996	2	0.07	3.2	0.16
8/28/1997	1.4	0.027	2.5	0.056
10/10/1997	1.6	0.047	2.7	0.12
12/2/1998	1.9	0.066	2.5	0.03
10/5/1999	1.4	0.062	1.608	0.11
7/20/2009	3.3	0.186	1.7	<0.05
4/30/2010	2.2	0.16	1.1	0.031
4/22/2011	2.3	0.18	1.105	0.032

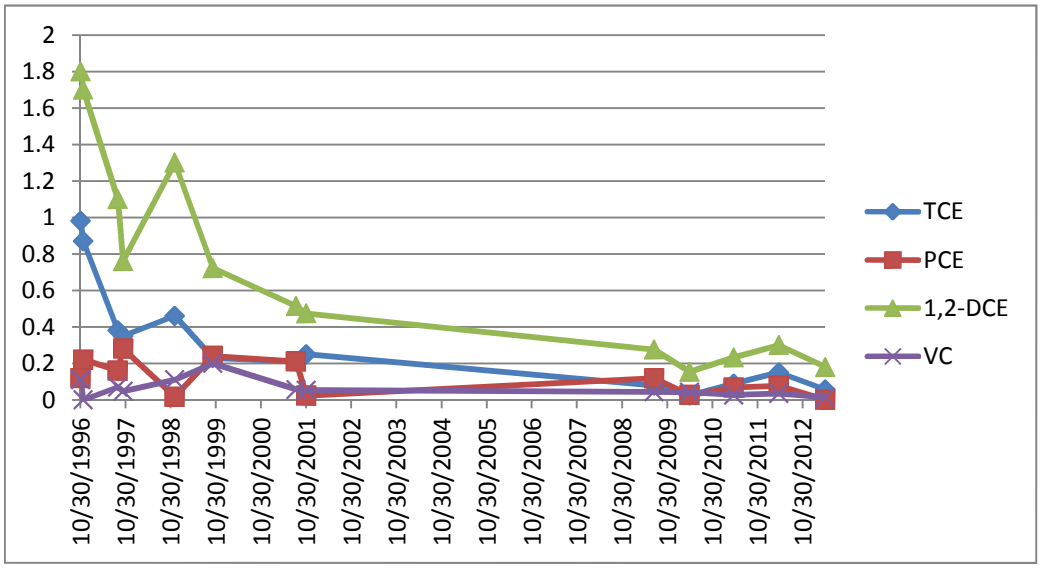
Notes:
Results are provided in parts per million (ppm)
Duplicate samples were collected from this location on 11/21/96 and 10/5/99. The higher of the two concentrations were recorded in this graph.



MW-10 Groundwater Data
Delphi Harrison Thermal Systems Site
GM Components Holdings, LLC
Lockport, New York

Date	TCE	PCE	1,2-DCE	VC
10/30/1996	0.98	0.12	1.8	0.11
11/21/1996	0.87	0.22	1.7	<0.1
8/28/1997	0.38	0.16	1.1	0.07
10/10/1997	0.35	0.28	0.76	0.047
12/1/1998	0.46	0.016	1.3	0.11
10/6/1999	0.23	0.24	0.722	0.2
8/9/2001	0.21	0.21	0.514	0.057
10/31/2001	0.25	0.023	0.473	0.053
7/15/2009	0.079	0.118	0.275	0.044
4/28/2010	0.024	0.026	0.153	0.042
4/21/2011	0.088	0.067	0.232	0.027
4/19/2012	0.15	0.077	0.3	0.035
5/1/2013	0.056	<0.0014	0.18	0.014

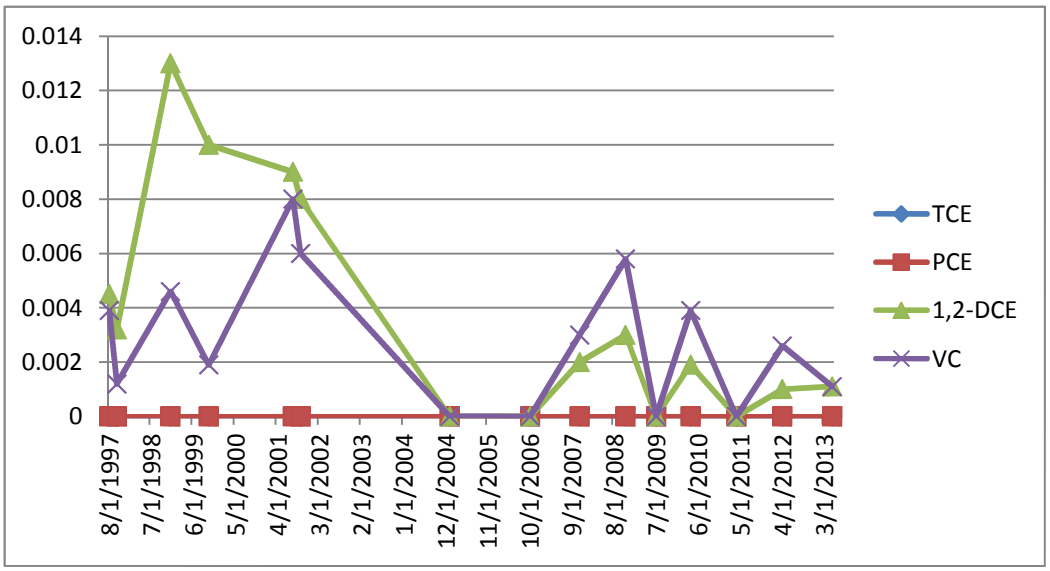
Notes:
Results are provided in parts per million (ppm)



MW-11 Groundwater Data
Delphi Harrison Thermal Systems Site
GM Components Holdings, LLC
Lockport, New York

Date	TCE	PCE	1,2-DCE	VC
8/28/1997	<0.0005	<0.0005	0.0045	0.0039
10/10/1997	<0.0005	<0.0005	0.0032	0.0012
12/1/1998	<0.0005	<0.0005	0.013	0.0046
10/5/1999	<0.0005	<0.0005	0.01	0.0019
8/8/2001	<0.002	<0.002	0.009	0.008
10/30/2001	<0.002	<0.002	0.008	0.006
1/12/2005	<0.002	<0.002	<0.002	<0.002
10/24/2006	<0.002	<0.002	<0.002	<0.002
11/28/2007	<0.002	<0.002	0.002	0.003
11/4/2008	<0.002	<0.002	0.003	0.0058
7/16/2009	<0.005	<0.005	<0.005	<0.005
4/28/2010	<0.0005	<0.0004	0.0019	0.0039
4/21/2011	<0.0005	<0.0004	<0.0008	<0.0009
4/19/2012	<0.0005	<0.0004	0.001	0.0026
5/2/2013	<0.00046	<0.00036	0.0011	0.0011

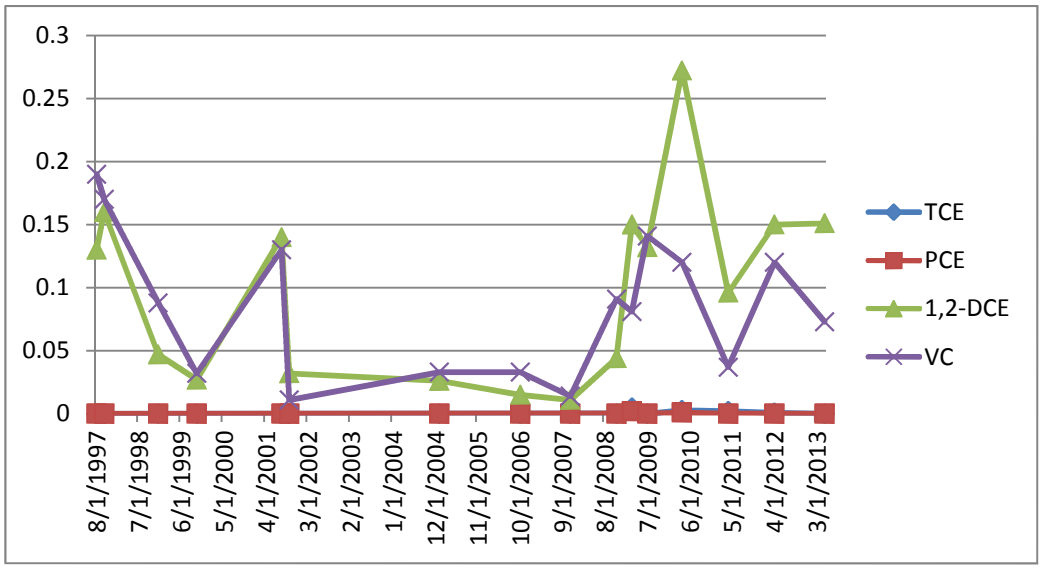
Notes:
Results are provided in parts per million (ppm)
Duplicate samples were collected from this location on 10/10/97. The higher of the two concentrations were recorded in this graph.



MW-12 Groundwater Data
Delphi Harrison Thermal Systems Site
GM Components Holdings, LLC
Lockport, New York

Date	TCE	PCE	1,2-DCE	VC
8/28/1997	<0.0005	<0.0005	0.13	0.19
10/10/1997	<0.0005	<0.0005	0.16	0.17
12/1/1998	<0.0005	<0.0005	0.047	0.088
10/6/1999	<0.0005	<0.0005	0.027	0.032
8/8/2001	<0.002	<0.002	0.14	0.13
10/30/2001	<0.002	<0.002	0.032	0.011
1/12/2005	<0.002	<0.002	0.026	0.033
10/25/2006	<0.002	<0.002	0.015	0.033
11/28/2007	<0.002	<0.002	0.011	0.014
11/14/2008	<0.002	<0.002	0.044	0.091
3/16/2009	0.005	0.002	0.15	0.081
7/16/2009	<0.005	<0.005	0.132	0.141
4/28/2010	0.0028	0.0011	0.272	0.12
4/20/2011	0.0021	<0.0004	0.096	0.037
4/18/2012	0.00083	<0.0004	0.15	0.12
5/3/2013	<0.002	<0.00036	0.151	0.073

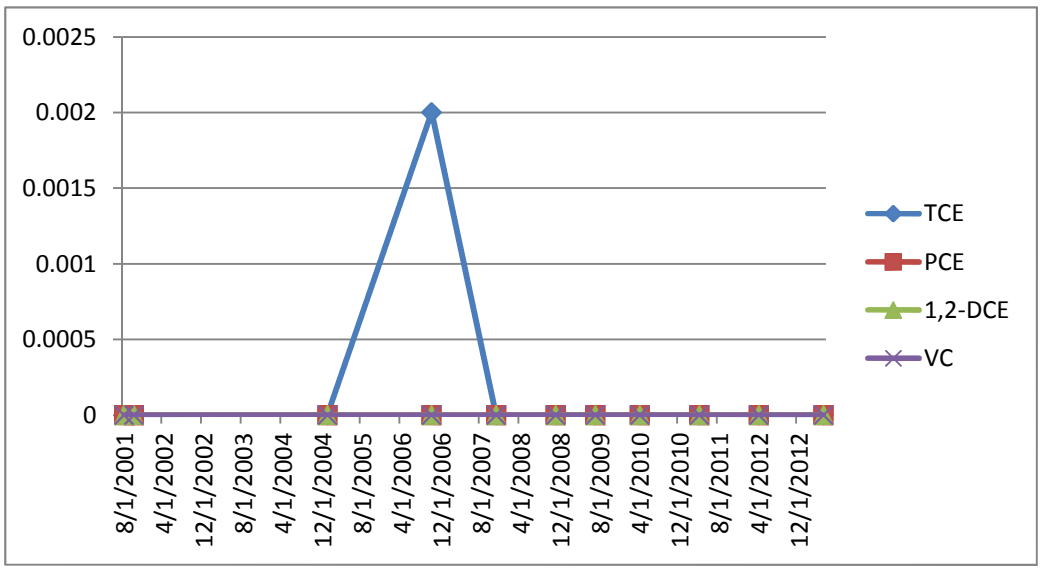
Notes:
Results are provided in parts per million (ppm)
Duplicate samples were collected from this location on 8/28/97 and 8/8/01. The higher of the two concentrations were recorded in this graph.



MW-13 Groundwater Data
Delphi Harrison Thermal Systems Site
GM Components Holdings, LLC
Lockport, New York

Date	TCE	PCE	1,2-DCE	VC
8/8/2001	<0.002	<0.002	<0.002	<0.002
10/29/2001	<0.002	<0.002	<0.002	<0.002
1/12/2005	<0.002	<0.002	<0.002	<0.002
10/24/2006	0.002	<0.002	<0.002	<0.002
11/28/2007	<0.002	<0.002	<0.002	<0.002
11/5/2008	<0.002	<0.002	<0.002	<0.002
7/16/2009	<0.005	<0.005	<0.005	<0.005
4/28/2010	<0.0005	<0.0004	<0.0008	<0.0009
4/21/2011	<0.0005	<0.0004	<0.0008	<0.0009
4/19/2012	<0.0005	<0.0004	<0.0008	<0.0009
5/2/2013	<0.00046	<0.00036	<0.00081	<0.0009

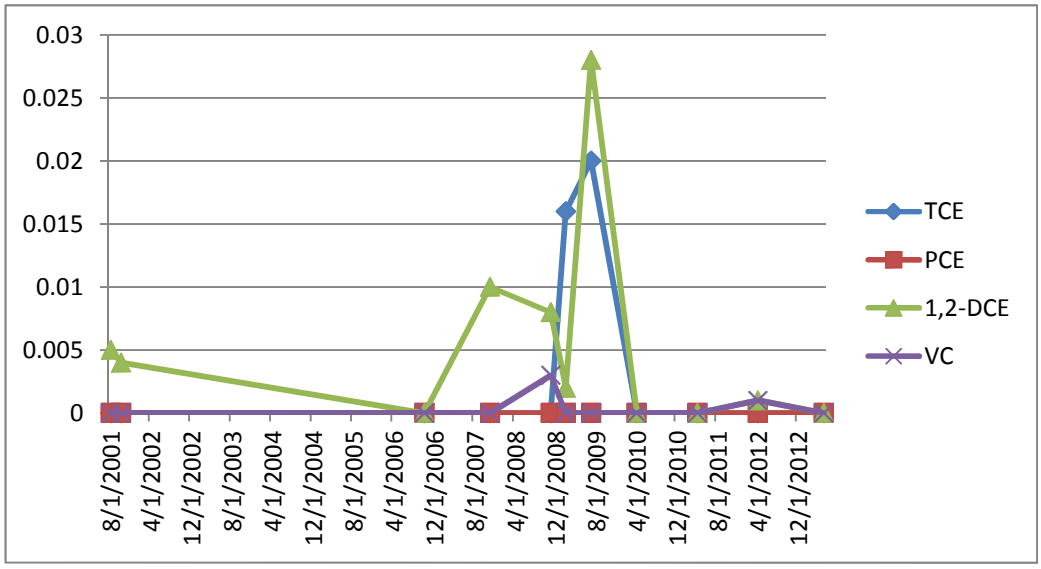
Notes:
Results are provided in parts per million (ppm)
A duplicate sample was collected from this location on 4/19/2012.
The higher of the two concentrations were recorded in this graph.



MW-14 Groundwater Data
Delphi Harrison Thermal Systems Site
GM Components Holdings, LLC
Lockport, New York

Date	TCE	PCE	1,2-DCE	VC
8/10/2001	<0.002	<0.002	0.005	<0.002
10/30/2001	<0.002	<0.002	0.004	<0.002
10/24/2006	<0.002	<0.002	<0.002	<0.002
11/29/2007	<0.002	<0.002	0.01	<0.002
11/4/2008	<0.002	<0.002	0.008	0.003
2/24/2009	0.016	<0.002	0.002	<0.002
7/19/2009	0.02	<0.005	0.028	<0.005
4/27/2010	<0.005	<0.0004	<0.0008	<0.0009
4/21/2011	<0.005	<0.0004	<0.0008	<0.0009
4/19/2012	<0.005	<0.0004	0.001	0.001
5/3/2013	<0.00046	<0.00036	<0.00081	<0.0009

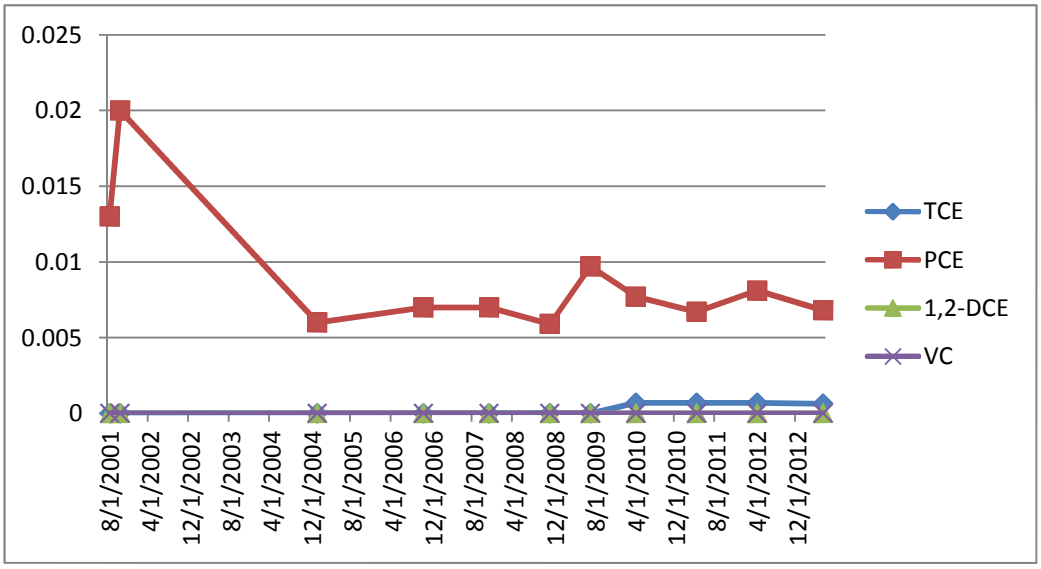
Notes:
Results are provided in parts per million (ppm)



MW-15 Groundwater Data
Delphi Harrison Thermal Systems Site
GM Components Holdings, LLC
Lockport, New York

Date	TCE	PCE	1,2-DCE	VC
8/8/2001	<0.002	0.013	<0.002	<0.002
10/30/2001	<0.002	0.02	<0.002	<0.002
1/12/2005	<0.002	0.006	<0.002	<0.002
10/24/2006	<0.002	0.007	<0.002	<0.002
11/28/2007	<0.002	0.007	<0.002	<0.002
11/4/2008	<0.002	0.0059	<0.002	<0.002
7/16/2009	<0.005	0.0097	<0.005	<0.005
4/28/2010	0.0007	0.0077	<0.0008	<0.0009
4/21/2011	0.0007	0.0067	<0.0008	<0.0009
4/18/2012	0.0007	0.0081	<0.0008	<0.0009
5/1/2013	0.00064	0.0068	<0.00081	<0.0009

Notes:
Results are provided in parts per million (ppm)
Duplicate samples were collected from this location on 10/30/01. The higher of the two concentrations were recorded in this graph.



APPENDIX C

TEST AMERICA ANALYTICAL LABORATORY REPORT

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

TestAmerica Job ID: 480-37417-1

Client Project/Site: 058507, GM-Lockport Groundwater Sampling

For:

Conestoga-Rovers & Associates, Inc.
2055 Niagara Falls Blvd., Suite 3
Niagara Falls, New York 14304

Attn: Kathleen Willy

Authorized for release by:
5/16/2013 9:51:49 AM
Rebecca Jones, Project Mgmt. Assistant
rebecca.jones@testamericainc.com

Designee for

Melissa Deyo, Project Manager I
melissa.deyo@testamericainc.com

Table of Contents

Definitions/Glossary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 058507, GM-Lockport Groundwater Sampling

TestAmerica Job ID: 480-37417-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 058507, GM-Lockport Groundwater Sampling

TestAmerica Job ID: 480-37417-1

Job ID: 480-37417-1

Laboratory: TestAmerica Buffalo

Narrative

Job Narrative
480-37417-1

Receipt
The samples were received on 5/1/2013 5:35 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.2º C.

GC/MS VOA
Method(s) 8260B: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-4-050113 (480-37417-2). Elevated reporting limits (RLs) are provided.

Method(s) 8260B: The following sample(s) was diluted to bring the concentration of target analytes within the calibration range: MW-10-050113 (480-37417-1). Elevated reporting limits (RLs) are provided.

No other analytical or quality issues were noted.

IC
Method(s) 300.0: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-15-050113 (480-37417-3). Elevated reporting limits (RLs) are provided.

Method(s) 300.0: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-10-050113 (480-37417-1), MW-15-050113 (480-37417-3), MW-4-050113 (480-37417-2). Elevated reporting limits (RLs) are provided.

No other analytical or quality issues were noted.

GC VOA
No analytical or quality issues were noted.

Metals
Method(s) 6010B: The Method Blank for batch 480-116383 contained total manganese above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples MW-10-050113 (480-37417-1), MW-15-050113 (480-37417-3), MW-4-050113 (480-37417-2) was not performed.

No other analytical or quality issues were noted.

General Chemistry
No analytical or quality issues were noted.

Detection Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 058507, GM-Lockport Groundwater Sampling

TestAmerica Job ID: 480-37417-1

Client Sample ID: MW-10-050113 — Lab Sample ID: 480-37417-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	180		4.0	3.2	ug/L	4		8260B	Total/NA
Trichloroethene	56		4.0	1.8	ug/L	4		8260B	Total/NA
Vinyl chloride	14		4.0	3.6	ug/L	4		8260B	Total/NA
Ethane	0.71	J	7.5	0.49	ug/L	1		RSK-175	Total/NA
Ethene	1.2	J	7.0	0.52	ug/L	1		RSK-175	Total/NA
Methane	58		4.0	0.22	ug/L	1		RSK-175	Total/NA
Iron	0.48		0.050	0.019	mg/L	1		6010B	Total/NA
Magnesium	31.8		0.20	0.043	mg/L	1		6010B	Total/NA
Manganese	1.5	B	0.0030	0.00040	mg/L	1		6010B	Total/NA
Potassium	3.4		0.50	0.10	mg/L	1		6010B	Total/NA
Sodium	845		1.0	0.32	mg/L	1		6010B	Total/NA
Chloride	1470		10.0	5.6	mg/L	20		300.0	Total/NA
Sulfate	153		40.0	7.0	mg/L	20		300.0	Total/NA
Ammonia	0.039		0.020	0.0090	mg/L	1		350.1	Total/NA
Nitrate	0.33		0.050	0.020	mg/L	1		353.2	Total/NA
Total Organic Carbon	3.3		1.0	0.43	mg/L	1		9060	Total/NA
Total Alkalinity	270		5.0	0.79	mg/L	1		SM 2320B	Total/NA

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Carbon dioxide	7400		1000	1000	ug/L	1		RSK-175	Total/NA

Client Sample ID: MW-4-050113 — Lab Sample ID: 480-37417-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	45000		500	410	ug/L	500		8260B	Total/NA
Trichloroethene	24000		500	230	ug/L	500		8260B	Total/NA
Vinyl chloride	6600		500	450	ug/L	500		8260B	Total/NA
Iron	3.9		0.050	0.019	mg/L	1		6010B	Total/NA
Magnesium	163		0.20	0.043	mg/L	1		6010B	Total/NA
Manganese	2.0	B	0.0030	0.00040	mg/L	1		6010B	Total/NA
Potassium	20.2		0.50	0.10	mg/L	1		6010B	Total/NA
Sodium	2080		1.0	0.32	mg/L	1		6010B	Total/NA
Chloride	4300		25.0	14.1	mg/L	50		300.0	Total/NA
Sulfate	268		100	17.5	mg/L	50		300.0	Total/NA
Ammonia	3.4		0.040	0.018	mg/L	2		350.1	Total/NA
Total Organic Carbon	2.8		1.0	0.43	mg/L	1		9060	Total/NA
Total Alkalinity	329		5.0	0.79	mg/L	1		SM 2320B	Total/NA

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Carbon dioxide	23000		1000	1000	ug/L	1		RSK-175	Total/NA

Client Sample ID: MW-15-050113 — Lab Sample ID: 480-37417-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	6.8		1.0	0.36	ug/L	1		8260B	Total/NA
Trichloroethene	0.64	J	1.0	0.46	ug/L	1		8260B	Total/NA
Magnesium	43.7		0.20	0.043	mg/L	1		6010B	Total/NA
Manganese	0.21	B	0.0030	0.00040	mg/L	1		6010B	Total/NA
Potassium	3.2		0.50	0.10	mg/L	1		6010B	Total/NA
Sodium	384		1.0	0.32	mg/L	1		6010B	Total/NA
Chloride	672		10.0	5.6	mg/L	20		300.0	Total/NA
Sulfate	74.7		10.0	1.7	mg/L	5		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 058507, GM-Lockport Groundwater Sampling

TestAmerica Job ID: 480-37417-1

Client Sample ID: MW-15-050113 (Continued)

Lab Sample ID: 480-37417-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Nitrate	1.4		0.050	0.020	mg/L	1		353.2	Total/NA
Total Organic Carbon	2.1		1.0	0.43	mg/L	1		9060	Total/NA
Total Alkalinity	415		5.0	0.79	mg/L	1		SM 2320B	Total/NA

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Carbon dioxide	15000		1000	1000	ug/L	1		RSK-175	Total/NA

Client Sample ID: TRIP BLANK

Lab Sample ID: 480-37417-4

No Detections.

This Detection Summary does not include radiochemical test results.

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 058507, GM-Lockport Groundwater Sampling

TestAmerica Job ID: 480-37417-1

Client Sample ID: MW-10-050113
Date Collected: 05/01/13 10:30
Date Received: 05/01/13 17:35

Lab Sample ID: 480-37417-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	180		4.0	3.2	ug/L			05/09/13 22:04	4
Tetrachloroethene	ND		4.0	1.4	ug/L			05/09/13 22:04	4
trans-1,2-Dichloroethene	ND		4.0	3.6	ug/L			05/09/13 22:04	4
Trichloroethene	56		4.0	1.8	ug/L			05/09/13 22:04	4
Vinyl chloride	14		4.0	3.6	ug/L			05/09/13 22:04	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*94*		*66 - 137*		*05/09/13 22:04*	*4*
4-Bromofluorobenzene (Surr)	*102*		*73 - 120*		*05/09/13 22:04*	*4*
Toluene-d8 (Surr)	*105*		*71 - 126*		*05/09/13 22:04*	*4*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	0.71	J	7.5	0.49	ug/L			05/03/13 08:31	1
Ethene	1.2	J	7.0	0.52	ug/L			05/03/13 08:31	1
Methane	58		4.0	0.22	ug/L			05/03/13 08:31	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	7400		1000	1000	ug/L			05/07/13 13:19	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.48		0.050	0.019	mg/L		05/02/13 10:50	05/03/13 01:08	1
Magnesium	31.8		0.20	0.043	mg/L		05/02/13 10:50	05/03/13 01:08	1
Manganese	1.5	B	0.0030	0.00040	mg/L		05/02/13 10:50	05/03/13 01:08	1
Potassium	3.4		0.50	0.10	mg/L		05/02/13 10:50	05/03/13 01:08	1
Sodium	845		1.0	0.32	mg/L		05/02/13 10:50	05/03/13 01:08	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1470		10.0	5.6	mg/L			05/04/13 01:46	20
Sulfate	153		40.0	7.0	mg/L			05/04/13 01:46	20
Ammonia	0.039		0.020	0.0090	mg/L			05/02/13 13:18	1
Nitrate	0.33		0.050	0.020	mg/L			05/02/13 08:12	1
Nitrite	ND		0.050	0.020	mg/L			05/02/13 08:12	1
Total Organic Carbon	3.3		1.0	0.43	mg/L			05/03/13 05:20	1
Total Alkalinity	270		5.0	0.79	mg/L			05/07/13 02:53	1
Sulfide	ND		0.10	0.052	mg/L			05/03/13 15:36	1
Acetic acid	ND		1.0	0.15	mg/L			05/07/13 12:45	1
Formic-acid	ND		1.0	0.11	mg/L			05/07/13 12:45	1
Lactic acid	ND		1.0	0.14	mg/L			05/07/13 12:45	1
n-Butyric Acid	ND		1.0	0.16	mg/L			05/07/13 12:45	1
Propionic acid	ND		1.0	0.17	mg/L			05/07/13 12:45	1
Pyruvic Acid	ND		1.0	0.080	mg/L			05/07/13 12:45	1

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 058507, GM-Lockport Groundwater Sampling

TestAmerica Job ID: 480-37417-1

Client Sample ID: MW-4-050113
Date Collected: 05/01/13 14:15
Date Received: 05/01/13 17:35

Lab Sample ID: 480-37417-2
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	45000		500	410	ug/L			05/09/13 12:37	500
Tetrachloroethene	ND		500	180	ug/L			05/09/13 12:37	500
trans-1,2-Dichloroethene	ND		500	450	ug/L			05/09/13 12:37	500
Trichloroethene	24000		500	230	ug/L			05/09/13 12:37	500
Vinyl chloride	6600		500	450	ug/L			05/09/13 12:37	500

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*66 - 137*		*05/09/13 12:37*	*500*
4-Bromofluorobenzene (Surr)	*100*		*73 - 120*		*05/09/13 12:37*	*500*
Toluene-d8 (Surr)	*104*		*71 - 126*		*05/09/13 12:37*	*500*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	ND		7.5	0.49	ug/L			05/03/13 11:29	1
Ethene	ND		7.0	0.52	ug/L			05/03/13 11:29	1
Methane	ND		4.0	0.22	ug/L			05/03/13 11:29	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	23000		1000	1000	ug/L			05/07/13 13:28	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	3.9		0.050	0.019	mg/L		05/02/13 10:50	05/03/13 01:10	1
Magnesium	163		0.20	0.043	mg/L		05/02/13 10:50	05/03/13 01:10	1
Manganese	2.0	B	0.0030	0.00040	mg/L		05/02/13 10:50	05/03/13 01:10	1
Potassium	20.2		0.50	0.10	mg/L		05/02/13 10:50	05/03/13 01:10	1
Sodium	2080		1.0	0.32	mg/L		05/02/13 10:50	05/03/13 01:10	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4300		25.0	14.1	mg/L			05/04/13 01:56	50
Sulfate	268		100	17.5	mg/L			05/04/13 01:56	50
Ammonia	3.4		0.040	0.018	mg/L			05/02/13 14:20	2
Nitrate	ND		0.050	0.020	mg/L			05/02/13 06:56	1
Nitrite	ND		0.050	0.020	mg/L			05/02/13 06:56	1
Total Organic Carbon	2.8		1.0	0.43	mg/L			05/03/13 05:48	1
Total Alkalinity	329		5.0	0.79	mg/L			05/07/13 02:59	1
Sulfide	ND		0.10	0.052	mg/L			05/03/13 15:36	1
Acetic acid	ND		1.0	0.15	mg/L			05/07/13 13:14	1
Formic-acid	ND		1.0	0.11	mg/L			05/07/13 13:14	1
Lactic acid	ND		1.0	0.14	mg/L			05/07/13 13:14	1
n-Butyric Acid	ND		1.0	0.16	mg/L			05/07/13 13:14	1
Propionic acid	ND		1.0	0.17	mg/L			05/07/13 13:14	1
Pyruvic Acid	ND		1.0	0.080	mg/L			05/07/13 13:14	1

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 058507, GM-Lockport Groundwater Sampling

TestAmerica Job ID: 480-37417-1

Client Sample ID: MW-15-050113
Date Collected: 05/01/13 16:10
Date Received: 05/01/13 17:35

Lab Sample ID: 480-37417-3
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			05/09/13 12:59	1
Tetrachloroethene	**6.8**		1.0	0.36	ug/L			05/09/13 12:59	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			05/09/13 12:59	1
Trichloroethene	**0.64**	**J**	1.0	0.46	ug/L			05/09/13 12:59	1
Vinyl chloride	ND		1.0	0.90	ug/L			05/09/13 12:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*66 - 137*		*05/09/13 12:59*	*1*
4-Bromofluorobenzene (Surr)	*100*		*73 - 120*		*05/09/13 12:59*	*1*
Toluene-d8 (Surr)	*104*		*71 - 126*		*05/09/13 12:59*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	ND		7.5	0.49	ug/L			05/03/13 09:05	1
Ethene	ND		7.0	0.52	ug/L			05/03/13 09:05	1
Methane	ND		4.0	0.22	ug/L			05/03/13 09:05	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	**15000**		1000	1000	ug/L			05/07/13 13:38	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.050	0.019	mg/L		05/02/13 10:50	05/03/13 01:13	1
Magnesium	**43.7**		0.20	0.043	mg/L		05/02/13 10:50	05/03/13 01:13	1
Manganese	**0.21**	**B**	0.0030	0.00040	mg/L		05/02/13 10:50	05/03/13 01:13	1
Potassium	**3.2**		0.50	0.10	mg/L		05/02/13 10:50	05/03/13 01:13	1
Sodium	**384**		1.0	0.32	mg/L		05/02/13 10:50	05/03/13 01:13	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**672**		10.0	5.6	mg/L			05/04/13 02:06	20
Sulfate	**74.7**		10.0	1.7	mg/L			05/03/13 01:28	5
Ammonia	ND		0.020	0.0090	mg/L			05/02/13 13:20	1
Nitrate	**1.4**		0.050	0.020	mg/L			05/02/13 08:13	1
Nitrite	ND		0.050	0.020	mg/L			05/02/13 08:13	1
Total Organic Carbon	**2.1**		1.0	0.43	mg/L			05/03/13 06:16	1
Total Alkalinity	**415**		5.0	0.79	mg/L			05/07/13 03:06	1
Sulfide	ND		0.10	0.052	mg/L			05/03/13 15:36	1
Acetic acid	ND		1.0	0.15	mg/L			05/07/13 13:43	1
Formic-acid	ND		1.0	0.11	mg/L			05/07/13 13:43	1
Lactic acid	ND		1.0	0.14	mg/L			05/07/13 13:43	1
n-Butyric Acid	ND		1.0	0.16	mg/L			05/07/13 13:43	1
Propionic acid	ND		1.0	0.17	mg/L			05/07/13 13:43	1
Pyruvic Acid	ND		1.0	0.080	mg/L			05/07/13 13:43	1

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 058507, GM-Lockport Groundwater Sampling

TestAmerica Job ID: 480-37417-1

Client Sample ID: TRIP BLANK
Date Collected: 05/01/13 00:00
Date Received: 05/01/13 17:35

Lab Sample ID: 480-37417-4
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			05/09/13 13:21	1
Tetrachloroethene	ND		1.0	0.36	ug/L			05/09/13 13:21	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			05/09/13 13:21	1
Trichloroethene	ND		1.0	0.46	ug/L			05/09/13 13:21	1
Vinyl chloride	ND		1.0	0.90	ug/L			05/09/13 13:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*66 - 137*		*05/09/13 13:21*	*1*
4-Bromofluorobenzene (Surr)	*100*		*73 - 120*		*05/09/13 13:21*	*1*
Toluene-d8 (Surr)	*105*		*71 - 126*		*05/09/13 13:21*	*1*

Surrogate Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 058507, GM-Lockport Groundwater Sampling

TestAmerica Job ID: 480-37417-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		12DCE	BFB	TOL
Lab Sample ID	Client Sample ID	(66-137)	(73-120)	(71-126)
480-37417-1	MW-10-050113	94	102	105
480-37417-2	MW-4-050113	98	100	104
480-37417-3	MW-15-050113	97	100	104
480-37417-4	TRIP BLANK	98	100	105
LCS 480-117584/4	Lab Control Sample	97	102	104
LCS 480-117784/4	Lab Control Sample	96	105	105
MB 480-117584/5	Method Blank	99	99	105
MB 480-117784/5	Method Blank	96	103	106

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 480-117584/5
Matrix: Water
Analysis Batch: 117584

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			05/09/13 09:50	1
Tetrachloroethene	ND		1.0	0.36	ug/L			05/09/13 09:50	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			05/09/13 09:50	1
Trichloroethene	ND		1.0	0.46	ug/L			05/09/13 09:50	1
Vinyl chloride	ND		1.0	0.90	ug/L			05/09/13 09:50	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*66 - 137*		*05/09/13 09:50*	*1*
4-Bromofluorobenzene (Surr)	*99*		*73 - 120*		*05/09/13 09:50*	*1*
Toluene-d8 (Surr)	*105*		*71 - 126*		*05/09/13 09:50*	*1*

Lab Sample ID: LCS 480-117584/4
Matrix: Water
Analysis Batch: 117584

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
cis-1,2-Dichloroethene	25.0	30.2		ug/L		121	74 - 124
Tetrachloroethene	25.0	28.1		ug/L		113	74 - 122
trans-1,2-Dichloroethene	25.0	28.5		ug/L		114	73 - 127
Trichloroethene	25.0	27.2		ug/L		109	74 - 123

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*97*		*66 - 137*
4-Bromofluorobenzene (Surr)	*102*		*73 - 120*
Toluene-d8 (Surr)	*104*		*71 - 126*

Lab Sample ID: MB 480-117784/5
Matrix: Water
Analysis Batch: 117784

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			05/09/13 20:53	1
Tetrachloroethene	ND		1.0	0.36	ug/L			05/09/13 20:53	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			05/09/13 20:53	1
Trichloroethene	ND		1.0	0.46	ug/L			05/09/13 20:53	1
Vinyl chloride	ND		1.0	0.90	ug/L			05/09/13 20:53	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*66 - 137*		*05/09/13 20:53*	*1*
4-Bromofluorobenzene (Surr)	*103*		*73 - 120*		*05/09/13 20:53*	*1*
Toluene-d8 (Surr)	*106*		*71 - 126*		*05/09/13 20:53*	*1*

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

Lab Sample ID: LCS 480-117784/4
Matrix: Water
Analysis Batch: 117784

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
cis-1,2-Dichloroethene	25.0	29.4		ug/L		118	74 - 124
Tetrachloroethene	25.0	26.8		ug/L		107	74 - 122
trans-1,2-Dichloroethene	25.0	25.3		ug/L		101	73 - 127
Trichloroethene	25.0	26.2		ug/L		105	74 - 123

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*96*		*66 - 137*
4-Bromofluorobenzene (Surr)	*105*		*73 - 120*
Toluene-d8 (Surr)	*105*		*71 - 126*

Method: RSK-175 - Dissolved Gases (GC)

Lab Sample ID: MB 480-116579/2
Matrix: Water
Analysis Batch: 116579

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	ND		7.5	0.49	ug/L			05/03/13 06:56	1
Ethene	ND		7.0	0.52	ug/L			05/03/13 06:56	1
Methane	ND		4.0	0.22	ug/L			05/03/13 06:56	1

Lab Sample ID: LCS 480-116579/3
Matrix: Water
Analysis Batch: 116579

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethane	14.4	13.4		ug/L		93	67 - 128
Ethene	13.5	13.6		ug/L		101	60 - 137
Methane	7.69	6.65		ug/L		86	48 - 174

Lab Sample ID: MB 200-55142/3
Matrix: Water
Analysis Batch: 55142

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	ND		1000	1000	ug/L			05/07/13 12:16	1

Lab Sample ID: LCS 200-55142/2
Matrix: Water
Analysis Batch: 55142

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon dioxide	5010	4790		ug/L		96	70 - 130

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 480-116383/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116598 — **Prep Batch: 116383**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.050	0.019	mg/L		05/02/13 10:50	05/03/13 00:15	1
Magnesium	ND		0.20	0.043	mg/L		05/02/13 10:50	05/03/13 00:15	1
Manganese	0.000740	J	0.0030	0.00040	mg/L		05/02/13 10:50	05/03/13 00:15	1
Potassium	ND		0.50	0.10	mg/L		05/02/13 10:50	05/03/13 00:15	1
Sodium	ND		1.0	0.32	mg/L		05/02/13 10:50	05/03/13 00:15	1

Lab Sample ID: LCS 480-116383/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116598 — **Prep Batch: 116383**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	10.0	10.44		mg/L		104	80 - 120
Magnesium	10.0	10.47		mg/L		105	80 - 120
Manganese	0.200	0.211		mg/L		105	80 - 120
Potassium	10.0	10.43		mg/L		104	80 - 120
Sodium	10.0	10.27		mg/L		103	80 - 120

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 480-116467/52 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116467

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50	0.28	mg/L			05/02/13 23:36	1
Sulfate	ND		2.0	0.35	mg/L			05/02/13 23:36	1

Lab Sample ID: LCS 480-116467/51 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116467

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	20.65		mg/L		103	90 - 110
Sulfate	20.0	20.56		mg/L		103	90 - 110

Lab Sample ID: MB 480-116748/52 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116748

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50	0.28	mg/L			05/04/13 01:36	1
Sulfate	ND		2.0	0.35	mg/L			05/04/13 01:36	1

Lab Sample ID: LCS 480-116748/51 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116748

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	20.43		mg/L		102	90 - 110

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 480-116748/51
Matrix: Water
Analysis Batch: 116748

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	20.38		mg/L		102	90 - 110

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 480-116492/123
Matrix: Water
Analysis Batch: 116492

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.020	0.0090	mg/L			05/02/13 13:16	1

Lab Sample ID: MB 480-116492/171
Matrix: Water
Analysis Batch: 116492

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.020	0.0090	mg/L			05/02/13 14:03	1

Lab Sample ID: MB 480-116492/51
Matrix: Water
Analysis Batch: 116492

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.020	0.0090	mg/L			05/02/13 12:05	1

Lab Sample ID: MB 480-116492/99
Matrix: Water
Analysis Batch: 116492

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.020	0.0090	mg/L			05/02/13 12:52	1

Lab Sample ID: LCS 480-116492/100
Matrix: Water
Analysis Batch: 116492

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	1.00	0.957		mg/L		96	90 - 110

Lab Sample ID: LCS 480-116492/124
Matrix: Water
Analysis Batch: 116492

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	1.00	0.942		mg/L		94	90 - 110

Method: 350.1 - Nitrogen, Ammonia (Continued)

Lab Sample ID: LCS 480-116492/172
Matrix: Water
Analysis Batch: 116492

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	1.00	0.941		mg/L		94	90 - 110

Lab Sample ID: LCS 480-116492/52
Matrix: Water
Analysis Batch: 116492

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	1.00	0.942		mg/L		94	90 - 110

Lab Sample ID: 480-37417-2 DU
Matrix: Water
Analysis Batch: 116492

Client Sample ID: MW-4-050113
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Ammonia	3.4		3.51		mg/L		3	20

Method: 353.2 - Nitrogen, Nitrite

Lab Sample ID: MB 480-116368/24
Matrix: Water
Analysis Batch: 116368

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite	ND		0.050	0.020	mg/L			05/02/13 08:33	1

Lab Sample ID: MB 480-116368/3
Matrix: Water
Analysis Batch: 116368

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite	ND		0.050	0.020	mg/L			05/02/13 08:10	1

Lab Sample ID: LCS 480-116368/25
Matrix: Water
Analysis Batch: 116368

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrite	1.50	1.44		mg/L		96	90 - 110

Lab Sample ID: LCS 480-116368/4
Matrix: Water
Analysis Batch: 116368

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrite	1.50	1.44		mg/L		96	90 - 110

Method: 9060 - Organic Carbon, Total (TOC)

Lab Sample ID: MB 480-116737/27
Matrix: Water
Analysis Batch: 116737

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		1.0	0.43	mg/L			05/03/13 03:55	1

Lab Sample ID: MB 480-116737/3
Matrix: Water
Analysis Batch: 116737

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		1.0	0.43	mg/L			05/02/13 16:36	1

Lab Sample ID: LCS 480-116737/28
Matrix: Water
Analysis Batch: 116737

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	60.0	59.24		mg/L		99	90 - 110

Lab Sample ID: LCS 480-116737/4
Matrix: Water
Analysis Batch: 116737

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	60.0	57.19		mg/L		95	90 - 110

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 480-117105/6
Matrix: Water
Analysis Batch: 117105

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	ND		5.0	0.79	mg/L			05/07/13 01:35	1

Lab Sample ID: LCS 480-117105/7
Matrix: Water
Analysis Batch: 117105

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity	100	95.82		mg/L		96	90 - 110

Method: SM 4500 S2 D - Sulfide, Total

Lab Sample ID: MB 480-116743/3
Matrix: Water
Analysis Batch: 116743

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		0.10	0.052	mg/L			05/03/13 15:36	1

Method: SM 4500 S2 D - Sulfide, Total (Continued)

Lab Sample ID: LCS 480-116743/4
Matrix: Water
Analysis Batch: 116743

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide	0.750	0.750		mg/L		100	90 - 110

Method: VFA-IC - Volatile Fatty Acids, Ion Chromatography

Lab Sample ID: MB 480-117043/28
Matrix: Water
Analysis Batch: 117043

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetic acid	ND		1.0	0.15	mg/L			05/07/13 05:27	1
Formic-acid	ND		1.0	0.11	mg/L			05/07/13 05:27	1
Lactic acid	ND		1.0	0.14	mg/L			05/07/13 05:27	1
n-Butyric Acid	ND		1.0	0.16	mg/L			05/07/13 05:27	1
Propionic acid	ND		1.0	0.17	mg/L			05/07/13 05:27	1
Pyruvic Acid	ND		1.0	0.080	mg/L			05/07/13 05:27	1

Lab Sample ID: LCS 480-117043/27
Matrix: Water
Analysis Batch: 117043

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetic acid	10.0	9.46		mg/L		95	80 - 120
Formic-acid	10.0	9.60		mg/L		96	80 - 120
Lactic acid	10.0	9.90		mg/L		99	80 - 120
n-Butyric Acid	10.0	9.54		mg/L		95	80 - 120
Propionic acid	10.0	9.94		mg/L		99	80 - 120
Pyruvic Acid	10.0	10.33		mg/L		103	80 - 120

GC/MS VOA

Analysis Batch: 117584

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37417-2	MW-4-050113	Total/NA	Water	8260B	
480-37417-3	MW-15-050113	Total/NA	Water	8260B	
480-37417-4	TRIP BLANK	Total/NA	Water	8260B	
LCS 480-117584/4	Lab Control Sample	Total/NA	Water	8260B	
MB 480-117584/5	Method Blank	Total/NA	Water	8260B	

Analysis Batch: 117784

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37417-1	MW-10-050113	Total/NA	Water	8260B	
LCS 480-117784/4	Lab Control Sample	Total/NA	Water	8260B	
MB 480-117784/5	Method Blank	Total/NA	Water	8260B	

GC VOA

Analysis Batch: 55142

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37417-1	MW-10-050113	Total/NA	Water	RSK-175	
480-37417-2	MW-4-050113	Total/NA	Water	RSK-175	
480-37417-3	MW-15-050113	Total/NA	Water	RSK-175	
LCS 200-55142/2	Lab Control Sample	Total/NA	Water	RSK-175	
MB 200-55142/3	Method Blank	Total/NA	Water	RSK-175	

Analysis Batch: 116579

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37417-1	MW-10-050113	Total/NA	Water	RSK-175	
480-37417-2	MW-4-050113	Total/NA	Water	RSK-175	
480-37417-3	MW-15-050113	Total/NA	Water	RSK-175	
LCS 480-116579/3	Lab Control Sample	Total/NA	Water	RSK-175	
MB 480-116579/2	Method Blank	Total/NA	Water	RSK-175	

Metals

Prep Batch: 116383

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37417-1	MW-10-050113	Total/NA	Water	3005A	
480-37417-2	MW-4-050113	Total/NA	Water	3005A	
480-37417-3	MW-15-050113	Total/NA	Water	3005A	
LCS 480-116383/2-A	Lab Control Sample	Total/NA	Water	3005A	
MB 480-116383/1-A	Method Blank	Total/NA	Water	3005A	

Analysis Batch: 116598

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37417-1	MW-10-050113	Total/NA	Water	6010B	116383
480-37417-2	MW-4-050113	Total/NA	Water	6010B	116383
480-37417-3	MW-15-050113	Total/NA	Water	6010B	116383
LCS 480-116383/2-A	Lab Control Sample	Total/NA	Water	6010B	116383
MB 480-116383/1-A	Method Blank	Total/NA	Water	6010B	116383

General Chemistry

Analysis Batch: 116368

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37417-1	MW-10-050113	Total/NA	Water	353.2	
480-37417-3	MW-15-050113	Total/NA	Water	353.2	
LCS 480-116368/25	Lab Control Sample	Total/NA	Water	353.2	
LCS 480-116368/4	Lab Control Sample	Total/NA	Water	353.2	
MB 480-116368/24	Method Blank	Total/NA	Water	353.2	
MB 480-116368/3	Method Blank	Total/NA	Water	353.2	

Analysis Batch: 116409

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37417-1	MW-10-050113	Total/NA	Water	353.2	
480-37417-2	MW-4-050113	Total/NA	Water	353.2	
480-37417-3	MW-15-050113	Total/NA	Water	353.2	

Analysis Batch: 116417

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37417-2	MW-4-050113	Total/NA	Water	353.2	

Analysis Batch: 116467

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37417-3	MW-15-050113	Total/NA	Water	300.0	
LCS 480-116467/51	Lab Control Sample	Total/NA	Water	300.0	
MB 480-116467/52	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 116492

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37417-1	MW-10-050113	Total/NA	Water	350.1	
480-37417-2	MW-4-050113	Total/NA	Water	350.1	
480-37417-2 DU	MW-4-050113	Total/NA	Water	350.1	
480-37417-3	MW-15-050113	Total/NA	Water	350.1	
LCS 480-116492/100	Lab Control Sample	Total/NA	Water	350.1	
LCS 480-116492/124	Lab Control Sample	Total/NA	Water	350.1	
LCS 480-116492/172	Lab Control Sample	Total/NA	Water	350.1	
LCS 480-116492/52	Lab Control Sample	Total/NA	Water	350.1	
MB 480-116492/123	Method Blank	Total/NA	Water	350.1	
MB 480-116492/171	Method Blank	Total/NA	Water	350.1	
MB 480-116492/51	Method Blank	Total/NA	Water	350.1	
MB 480-116492/99	Method Blank	Total/NA	Water	350.1	

Analysis Batch: 116737

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37417-1	MW-10-050113	Total/NA	Water	9060	
480-37417-2	MW-4-050113	Total/NA	Water	9060	
480-37417-3	MW-15-050113	Total/NA	Water	9060	
LCS 480-116737/28	Lab Control Sample	Total/NA	Water	9060	
LCS 480-116737/4	Lab Control Sample	Total/NA	Water	9060	
MB 480-116737/27	Method Blank	Total/NA	Water	9060	
MB 480-116737/3	Method Blank	Total/NA	Water	9060	

Analysis Batch: 116743

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37417-1	MW-10-050113	Total/NA	Water	SM 4500 S2 D	

General Chemistry (Continued)

Analysis Batch: 116743 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37417-2	MW-4-050113	Total/NA	Water	SM 4500 S2 D	
480-37417-3	MW-15-050113	Total/NA	Water	SM 4500 S2 D	
LCS 480-116743/4	Lab Control Sample	Total/NA	Water	SM 4500 S2 D	
MB 480-116743/3	Method Blank	Total/NA	Water	SM 4500 S2 D	

Analysis Batch: 116748

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37417-1	MW-10-050113	Total/NA	Water	300.0	
480-37417-2	MW-4-050113	Total/NA	Water	300.0	
480-37417-3	MW-15-050113	Total/NA	Water	300.0	
LCS 480-116748/51	Lab Control Sample	Total/NA	Water	300.0	
MB 480-116748/52	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 117043

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37417-1	MW-10-050113	Total/NA	Water	VFA-IC	
480-37417-2	MW-4-050113	Total/NA	Water	VFA-IC	
480-37417-3	MW-15-050113	Total/NA	Water	VFA-IC	
LCS 480-117043/27	Lab Control Sample	Total/NA	Water	VFA-IC	
MB 480-117043/28	Method Blank	Total/NA	Water	VFA-IC	

Analysis Batch: 117105

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37417-1	MW-10-050113	Total/NA	Water	SM 2320B	
480-37417-2	MW-4-050113	Total/NA	Water	SM 2320B	
480-37417-3	MW-15-050113	Total/NA	Water	SM 2320B	
LCS 480-117105/7	Lab Control Sample	Total/NA	Water	SM 2320B	
MB 480-117105/6	Method Blank	Total/NA	Water	SM 2320B	

Client Sample ID: MW-10-050113

Lab Sample ID: 480-37417-1

Date Collected: 05/01/13 10:30

Matrix: Water

Date Received: 05/01/13 17:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		4	117784	05/09/13 22:04	TRF	TAL BUF
Total/NA	Analysis	RSK-175		1	55142	05/07/13 13:19	NA	TAL BUR
Total/NA	Analysis	RSK-175		1	116579	05/03/13 08:31	JM	TAL BUF
Total/NA	Prep	3005A			116383	05/02/13 10:50	SS	TAL BUF
Total/NA	Analysis	6010B		1	116598	05/03/13 01:08	AH	TAL BUF
Total/NA	Analysis	353.2		1	116368	05/02/13 08:12	EGN	TAL BUF
Total/NA	Analysis	353.2		1	116409	05/02/13 08:12	EGN	TAL BUF
Total/NA	Analysis	350.1		1	116492	05/02/13 13:18	SB	TAL BUF
Total/NA	Analysis	9060		1	116737	05/03/13 05:20	KC	TAL BUF
Total/NA	Analysis	SM 4500 S2 D		1	116743	05/03/13 15:36	KS	TAL BUF
Total/NA	Analysis	300.0		20	116748	05/04/13 01:46	KC	TAL BUF
Total/NA	Analysis	VFA-IC		1	117043	05/07/13 12:45	KC	TAL BUF
Total/NA	Analysis	SM 2320B		1	117105	05/07/13 02:53	LK	TAL BUF

Client Sample ID: MW-4-050113

Lab Sample ID: 480-37417-2

Date Collected: 05/01/13 14:15

Matrix: Water

Date Received: 05/01/13 17:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		500	117584	05/09/13 12:37	RL	TAL BUF
Total/NA	Analysis	RSK-175		1	55142	05/07/13 13:28	NA	TAL BUR
Total/NA	Analysis	RSK-175		1	116579	05/03/13 11:29	JM	TAL BUF
Total/NA	Prep	3005A			116383	05/02/13 10:50	SS	TAL BUF
Total/NA	Analysis	6010B		1	116598	05/03/13 01:10	AH	TAL BUF
Total/NA	Analysis	353.2		1	116409	05/02/13 06:56	EGN	TAL BUF
Total/NA	Analysis	353.2		1	116417	05/02/13 06:56	EGN	TAL BUF
Total/NA	Analysis	350.1		2	116492	05/02/13 14:20	SB	TAL BUF
Total/NA	Analysis	9060		1	116737	05/03/13 05:48	KC	TAL BUF
Total/NA	Analysis	SM 4500 S2 D		1	116743	05/03/13 15:36	KS	TAL BUF
Total/NA	Analysis	300.0		50	116748	05/04/13 01:56	KC	TAL BUF
Total/NA	Analysis	VFA-IC		1	117043	05/07/13 13:14	KC	TAL BUF
Total/NA	Analysis	SM 2320B		1	117105	05/07/13 02:59	LK	TAL BUF

Client Sample ID: MW-15-050113

Lab Sample ID: 480-37417-3

Date Collected: 05/01/13 16:10

Matrix: Water

Date Received: 05/01/13 17:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	117584	05/09/13 12:59	RL	TAL BUF
Total/NA	Analysis	RSK-175		1	55142	05/07/13 13:38	NA	TAL BUR

Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 058507, GM-Lockport Groundwater Sampling

TestAmerica Job ID: 480-37417-1

Client Sample ID: MW-15-050113

Lab Sample ID: 480-37417-3

Date Collected: 05/01/13 16:10

Matrix: Water

Date Received: 05/01/13 17:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	RSK-175		1	116579	05/03/13 09:05	JM	TAL BUF
Total/NA	Prep	3005A			116383	05/02/13 10:50	SS	TAL BUF
Total/NA	Analysis	6010B		1	116598	05/03/13 01:13	AH	TAL BUF
Total/NA	Analysis	353.2		1	116368	05/02/13 08:13	EGN	TAL BUF
Total/NA	Analysis	353.2		1	116409	05/02/13 08:13	EGN	TAL BUF
Total/NA	Analysis	300.0		5	116467	05/03/13 01:28	KC	TAL BUF
Total/NA	Analysis	350.1		1	116492	05/02/13 13:20	SB	TAL BUF
Total/NA	Analysis	9060		1	116737	05/03/13 06:16	KC	TAL BUF
Total/NA	Analysis	SM 4500 S2 D		1	116743	05/03/13 15:36	KS	TAL BUF
Total/NA	Analysis	300.0		20	116748	05/04/13 02:06	KC	TAL BUF
Total/NA	Analysis	VFA-IC		1	117043	05/07/13 13:43	KC	TAL BUF
Total/NA	Analysis	SM 2320B		1	117105	05/07/13 03:06	LK	TAL BUF

Client Sample ID: TRIP BLANK

Lab Sample ID: 480-37417-4

Date Collected: 05/01/13 00:00

Matrix: Water

Date Received: 05/01/13 17:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	117584	05/09/13 13:21	RL	TAL BUF

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

TAL BUR = TestAmerica Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

Certification Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 058507, GM-Lockport Groundwater Sampling

TestAmerica Job ID: 480-37417-1

Laboratory: TestAmerica Buffalo

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Arkansas DEQ	State Program	6	88-0686	07-06-13
California	NELAP	9	1169CA	09-30-13
Connecticut	State Program	1	PH-0568	09-30-14
Florida	NELAP	4	E87672	06-30-13
Georgia	State Program	4	N/A	03-31-14
Georgia	State Program	4	956	06-30-13
Georgia	State Program	4	956	03-31-14
Illinois	NELAP	5	200003	09-30-13
Iowa	State Program	7	374	03-15-15
Kansas	NELAP	7	E-10187	01-31-14
Kentucky	State Program	4	90029	12-31-13
Kentucky (UST)	State Program	4	30	04-01-14
Louisiana	NELAP	6	02031	06-30-13
Maine	State Program	1	NY00044	12-04-13
Maryland	State Program	3	294	03-31-14
Massachusetts	State Program	1	M-NY044	06-30-13
Michigan	State Program	5	9937	04-01-13 *
Minnesota	NELAP	5	036-999-337	12-31-13
New Hampshire	NELAP	1	2973	09-11-13
New Hampshire	NELAP	1	2337	11-17-13
New Jersey	NELAP	2	NY455	06-30-13
New York	NELAP	2	10026	04-01-14
North Dakota	State Program	8	R-176	03-31-14
Oklahoma	State Program	6	9421	08-31-13
Oregon	NELAP	10	NY200003	06-09-13
Pennsylvania	NELAP	3	68-00281	07-31-13
Rhode Island	State Program	1	LAO00328	12-31-13
Tennessee	State Program	4	TN02970	04-01-14
Texas	NELAP	6	T104704412-11-2	07-31-13
USDA	Federal		P330-11-00386	11-22-14
Virginia	NELAP	3	460185	09-14-13
Washington	State Program	10	C784	02-10-14
West Virginia DEP	State Program	3	252	09-30-13
Wisconsin	State Program	5	998310390	08-31-13

Laboratory: TestAmerica Burlington

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Connecticut	State Program	1	PH-0751	09-30-13
DE Haz. Subst. Cleanup Act (HSCA)	State Program	3	NA	02-13-15
Florida	NELAP	4	E87467	06-30-13
L-A-B	DoD ELAP		L2336	10-26-13
Louisiana	NELAP	6	176292	06-30-13
Minnesota	NELAP	5	050-999-436	12-31-13
New Hampshire	NELAP	1	2006	12-18-13
New Jersey	NELAP	2	VT972	06-30-13
New York	NELAP	2	10391	04-01-14
Pennsylvania	NELAP	3	68-00489	04-30-14
USDA	Federal		P330-11-00093	02-17-14

* Expired certification is currently pending renewal and is considered valid.

Certification Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 058507, GM-Lockport Groundwater Sampling

TestAmerica Job ID: 480-37417-1

Laboratory: TestAmerica Burlington (Continued)

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Vermont	State Program	1	VT-4000	12-31-13
Virginia	NELAP	3	460209	12-14-13

Method Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 058507, GM-Lockport Groundwater Sampling

TestAmerica Job ID: 480-37417-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL BUF
RSK-175	Dissolved Gases (GC)	RSK	TAL BUR
RSK-175	Dissolved Gases (GC)	RSK	TAL BUF
6010B	Metals (ICP)	SW846	TAL BUF
300.0	Anions, Ion Chromatography	MCAWW	TAL BUF
350.1	Nitrogen, Ammonia	MCAWW	TAL BUF
353.2	Nitrogen, Nitrite	MCAWW	TAL BUF
353.2	Nitrate	EPA	TAL BUF
9060	Organic Carbon, Total (TOC)	SW846	TAL BUF
SM 2320B	Alkalinity	SM	TAL BUF
SM 4500 S2 D	Sulfide, Total	SM	TAL BUF
VFA-IC	Volatile Fatty Acids, Ion Chromatography	TestAmerica SOP	TAL BUF

Protocol References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique , RSKSOP-175, Rev. 0, 8/11/94, USEPA Research Lab

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TestAmerica SOP = TestAmerica, Inc., Standard Operating Procedure

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

TAL BUR = TestAmerica Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

Sample Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 058507, GM-Lockport Groundwater Sampling

TestAmerica Job ID: 480-37417-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-37417-1	MW-10-050113	Water	05/01/13 10:30	05/01/13 17:35
480-37417-2	MW-4-050113	Water	05/01/13 14:15	05/01/13 17:35
480-37417-3	MW-15-050113	Water	05/01/13 16:10	05/01/13 17:35
480-37417-4	TRIP BLANK	Water	05/01/13 00:00	05/01/13 17:35

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

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Thomas Bohlen	Lab PM: Deyo, Melissa L	Carrier Tracking No(s):	COC No:
Client Contact: Mr. Christopher Boron	Phone: (716) 844-7050	E-Mail: melissa.deyo@testamericainc.com		Page: Page 1 of 1
Company: GZA GeoEnvironmental, Inc.				GZA Job #: 21.0056546.00 Task 24

Address: 535 Washington Street 11th Floor	Due Date Requested:
City: Buffalo	TAT Requested (days): 3 Weeks
State, Zip: NY, 14203	
Phone: (716) 685-2300	PO #: 4047065
Email: christopher.boron@gza.com	WO #: 58507
Project Name: 058507, GM-Lockport Groundwater Sampling	Project #: 48004014
Site: Delphi Harrison Thermal Systems Site	SSOW#: 256015

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	RSK_175_CO2 - Carbon dioxide	VFA_IC - Volatile Fatty Acids	350.1 - Ammonia	6010B - Metals - Fe, Mn, Mg, K & Na	8260B - PCE, TCE, DCE (trans and cis), Vinyl Chl	9060 - Total Organic Carbon	RSK_175 - Methane, Ethane, Ethene	SM4500_S2_D - Sulfide	353.2, 353.2_Nitrite, Nitrate_Calc	2320B - Total Alkalinity	300.0_28D - Anions (Chloride & Sulfate)	AM20GAX	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	S	D	A	A	A	CB	N	N	N			
MW-10-050113	5/1/13	1030	G	Water	N	N	X	X	X	X	X	X	X	X	X	X	X			* - Microseeps Dissolved H_2
MW-4-050113	↓	1415	↓	Water	N	N	X	X	X	X	X	X	X	X	X	X	X			
MW-15-050113	↓	1610	↓	↓	N	N	X	X	X	X	X	X	X	X	X	X	X			
Trip Blank																				

480-37417 Chain of Custody

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

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

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

Special Instructions/QC Requirements:

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Thomas Bohlen	5/1/13 1735	GZA	Chris Kohler	5/1/13 1735	TA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 4.2 ICE #1

5/16/2013

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

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Deyo, Melissa L	Carrier Tracking No(s)	COC No: 480-9852.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: melissa.deyo@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.				Job #: 480-37417-1
Address: 30 Community Drive, Suite 11,	Due Date Requested: 5/13/2013			
City: South Burlington	TAT Requested (days):			
State, Zip: VT, 05403				
Phone: 802-660-1990(Tel)	PO #:			
Email:	WO #:			
Project Name: 058507, GM-Lockport Groundwater Sampling	Project #: 48004014			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	RSK_175_CO2	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-10-050113 (480-37417-1)	5/1/13	10:30 Eastern		Water			X	3	
MW-4-050113 (480-37417-2)	5/1/13	14:15 Eastern		Water			X	3	
MW-15-050113 (480-37417-3)	5/1/13	16:10 Eastern		Water			X	3	

480-37417 COC

Possible Hazard Identification
Unconfirmed

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

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

Special Instructions/QC Requirements:

Empty Kit Relinquished by:		Date:	Time:		Method of Shipment:	
Relinquished by: Kiljan [signature]	Date/Time: 5-2-13 1600	Company: TA Buffalo	Received by: [signature] Burke		Date/Time: 5/3/13 1035	Company: TABUR
Relinquished by:	Date/Time:	Company	Received by:		Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:		Date/Time:	Company
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:			

ORIGIN ID: DKKA (716) 691-2600
KEN KINECKI
TESTAMERICA
10 HAZELWOOD DR

AMHERST, NY 14228
UNITED STATES US

SHIP DATE: 02MAY13
ACTWGT: 56.0 LB MAN
CAD: 735603/CAFE2608
DIMS: 26x17x15 IN

BILL RECIPIENT

TO MARK PHILLIPS
TA BURLINGTON
30 COMMUNITY DRIVE
SUITE 11
SOUTH BURLINGTON VT 05403
(802) 660-1990 REF: BURLINGTON
DEPT: SAMPLE CONTROL

FedEx Express

2 of 2
MPS# 0263 4485 0264 3056
Mstr# 4485 0264 3045

FRI - 03 MAY 3:00P
STANDARD OVERNIGHT

0201

ZF BTVA

05403
VT-US BTV

Part # 151254-354 RIT2 02/13

ORIGIN ID: DKKA (716) 691-2600
KEN KINECKI
TESTAMERICA
10 HAZELWOOD DR

AMHERST, NY 14228
UNITED STATES US

SHIP DATE: 02MAY13
ACTWGT: 55.0 LB MAN
CAD: 735603/CAFE2608
DIMS: 26x17x15 IN

BILL RECIPIENT

TO MARK PHILLIPS
TA BURLINGTON
30 COMMUNITY DRIVE
SUITE 11
SOUTH BURLINGTON VT 05403
(802) 660-1990 REF: BURLINGTON
DEPT: SAMPLE CONTROL

FedEx Express

1 of 2
TRK# 0201 4485 0264 3045
MASTER

FRI - 03 MAY 3:00P
STANDARD OVERNIGHT

ZF BTVA

05403
VT-US BTV

Part # 151254-354 RIT2 02/13

Login Sample Receipt Checklist

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 480-37417-1

Login Number: 37417

List Source: TestAmerica Buffalo

List Number: 1

Creator: Kolb, Chris M

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	N/A	

Login Sample Receipt Checklist

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 480-37417-1

Login Number: 37417
List Number: 1
Creator: Poucher, Stephanie A

List Source: TestAmerica Burlington
List Creation: 05/03/13 12:23 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	709096, 097
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.4ºC, 4.6ºC IR GUN ID 181. CF 0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level as required.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

TestAmerica Job ID: 480-37534-1

Client Project/Site: 058507, GM-Lockport Groundwater Sampling

For:

Conestoga-Rovers & Associates, Inc.
2055 Niagara Falls Blvd., Suite 3
Niagara Falls, New York 14304

Attn: Kathleen Willy

Melissa Deyo

Authorized for release by:
5/15/2013 11:54:50 AM

Melissa Deyo, Project Manager I
melissa.deyo@testamericainc.com

Table of Contents

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F	MS or MSD exceeds the control limits

GC VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F	MS or MSD exceeds the control limits

Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
F	MS or MSD exceeds the control limits
F	RPD of the MS and MSD exceeds the control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client: Conestoga-Rovers & Associates, Inc. TestAmerica Job ID: 480-37534-1
Project/Site: 058507, GM-Lockport Groundwater Sampling

Job ID: 480-37534-1

Laboratory: TestAmerica Buffalo

Narrative

Job Narrative
480-37534-1

Receipt
The samples were received on 5/2/2013 5:30 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.0º C.

GC/MS VOA
Method 8260B: The following samples were diluted to bring the concentration of target analytes within the calibration range: G-1-050213 (480-37534-1 DL). Elevated reporting limits (RLs) are provided.

Method 8260B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch 118039 were outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria.

No other analytical or quality issues were noted.

IC
Method 300.0: The following samples were diluted to bring the concentration of target analytes within the calibration range: G-1-050213 (480-37534-1), MW-11-050213 (480-37534-2), MW-13-050213 (480-37534-3), MW-13-050213 (480-37534-3 MS) and MW-13-050213 (480-37534-3 MSD). Elevated reporting limits (RLs) are provided.

Method 300.0: The matrix spike (MS) recovery for batch 116998 was outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria.

Method VFA-IC: The following samples were diluted due to the nature of the sample matrix: G-1-050213 (480-37534-1), (480-37534-1 MS), (480-37534-1 MSD) and MW-13-050213 (480-37534-3). Elevated reporting limits (RLs) are provided.

Method VFA-IC: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch 117667 were outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria.

No other analytical or quality issues were noted.

GC VOA
Method RSK-175: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-13-050213 (480-37534-3), MW-13-050213 (480-37534-3 MS) and MW-13-050213 (480-37534-3 MSD). Elevated reporting limits (RLs) are provided.

Method RSK-175: The matrix spike (MS) recovery for batch 55461 was outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria.

No other analytical or quality issues were noted.

Metals
Method 6010B: The method blank for preparation batch 116635 contained Manganese above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

No other analytical or quality issues were noted.

General Chemistry
Method SM 4500 S2 D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch 116743 were outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria.

No other analytical or quality issues were noted.

Detection Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 058507, GM-Lockport Groundwater Sampling

TestAmerica Job ID: 480-37534-1

Client Sample ID: G-1-050213 — Lab Sample ID: 480-37534-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	14		1.0	0.81	ug/L	1		8260B	Total/NA
Trichloroethene	21		1.0	0.46	ug/L	1		8260B	Total/NA
Tetrachloroethene - DL	110		2.0	0.72	ug/L	2		8260B	Total/NA
Iron	0.057		0.050	0.019	mg/L	1		6010B	Total/NA
Magnesium	101		0.20	0.043	mg/L	1		6010B	Total/NA
Manganese	0.0071	B	0.0030	0.00040	mg/L	1		6010B	Total/NA
Potassium	11.1		0.50	0.10	mg/L	1		6010B	Total/NA
Sodium	2160		1.0	0.32	mg/L	1		6010B	Total/NA
Chloride	3810		50.0	28.2	mg/L	100		300.0	Total/NA
Sulfate	301		40.0	7.0	mg/L	20		300.0	Total/NA
Nitrate	1.3		0.050	0.020	mg/L	1		353.2	Total/NA
Total Organic Carbon	1.4		1.0	0.43	mg/L	1		9060	Total/NA
Total Alkalinity	300		5.0	0.79	mg/L	1		SM 2320B	Total/NA

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Carbon dioxide	11000		1000	1000	ug/L	1		RSK-175	Total/NA

Client Sample ID: MW-11-050213 — Lab Sample ID: 480-37534-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.1		1.0	0.81	ug/L	1		8260B	Total/NA
Vinyl chloride	1.1		1.0	0.90	ug/L	1		8260B	Total/NA
Ethane	1.0	J	7.5	0.49	ug/L	1		RSK-175	Total/NA
Ethene	1.3	J	7.0	0.52	ug/L	1		RSK-175	Total/NA
Methane	40		4.0	0.22	ug/L	1		RSK-175	Total/NA
Iron	0.70		0.050	0.019	mg/L	1		6010B	Total/NA
Magnesium	47.0		0.20	0.043	mg/L	1		6010B	Total/NA
Manganese	0.17	B	0.0030	0.00040	mg/L	1		6010B	Total/NA
Potassium	9.0		0.50	0.10	mg/L	1		6010B	Total/NA
Sodium	151		1.0	0.32	mg/L	1		6010B	Total/NA
Chloride	333		2.5	1.4	mg/L	5		300.0	Total/NA
Sulfate	84.6		2.0	0.35	mg/L	1		300.0	Total/NA
Ammonia	0.15		0.020	0.0090	mg/L	1		350.1	Total/NA
Nitrate	0.34		0.050	0.020	mg/L	1		353.2	Total/NA
Total Organic Carbon	1.6		1.0	0.43	mg/L	1		9060	Total/NA
Total Alkalinity	259		5.0	0.79	mg/L	1		SM 2320B	Total/NA

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Carbon dioxide	4200		1000	1000	ug/L	1		RSK-175	Total/NA

Client Sample ID: MW-13-050213 — Lab Sample ID: 480-37534-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methane	110		40	2.2	ug/L	10		RSK-175	Total/NA
Iron	4.7		0.050	0.019	mg/L	1		6010B	Total/NA
Magnesium	39.4		0.20	0.043	mg/L	1		6010B	Total/NA
Manganese	4.3	B	0.0030	0.00040	mg/L	1		6010B	Total/NA
Potassium	6.2		0.50	0.10	mg/L	1		6010B	Total/NA
Sodium	964		1.0	0.32	mg/L	1		6010B	Total/NA
Chloride	1590		25.0	14.1	mg/L	50		300.0	Total/NA
Sulfate	62.7		10.0	1.7	mg/L	5		300.0	Total/NA
Ammonia	0.60		0.020	0.0090	mg/L	1		350.1	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-13-050213 (Continued)

Lab Sample ID: 480-37534-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Nitrate	0.057		0.050	0.020	mg/L	1		353.2	Total/NA
Total Organic Carbon	3.8		1.0	0.43	mg/L	1		9060	Total/NA
Total Alkalinity	382		5.0	0.79	mg/L	1		SM 2320B	Total/NA

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Carbon dioxide	3700		1000	1000	ug/L	1		RSK-175	Total/NA

Client Sample ID: Trip Blank

Lab Sample ID: 480-37534-4

No Detections.

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 058507, GM-Lockport Groundwater Sampling

TestAmerica Job ID: 480-37534-1

Client Sample ID: G-1-050213
Date Collected: 05/02/13 08:50
Date Received: 05/02/13 17:30

Lab Sample ID: 480-37534-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	14		1.0	0.81	ug/L			05/10/13 23:45	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			05/10/13 23:45	1
Trichloroethene	21		1.0	0.46	ug/L			05/10/13 23:45	1
Vinyl chloride	ND		1.0	0.90	ug/L			05/10/13 23:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*66 - 137*		*05/10/13 23:45*	*1*
4-Bromofluorobenzene (Surr)	*101*		*73 - 120*		*05/10/13 23:45*	*1*
Toluene-d8 (Surr)	*103*		*71 - 126*		*05/10/13 23:45*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	110		2.0	0.72	ug/L			05/11/13 11:42	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*66 - 137*		*05/11/13 11:42*	*2*
4-Bromofluorobenzene (Surr)	*107*		*73 - 120*		*05/11/13 11:42*	*2*
Toluene-d8 (Surr)	*107*		*71 - 126*		*05/11/13 11:42*	*2*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	ND		7.5	0.49	ug/L			05/03/13 11:46	1
Ethene	ND		7.0	0.52	ug/L			05/03/13 11:46	1
Methane	ND		4.0	0.22	ug/L			05/03/13 11:46	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	11000		1000	1000	ug/L			05/07/13 14:12	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.057		0.050	0.019	mg/L		05/03/13 10:00	05/03/13 18:53	1
Magnesium	101		0.20	0.043	mg/L		05/03/13 10:00	05/03/13 18:53	1
Manganese	0.0071	B	0.0030	0.00040	mg/L		05/03/13 10:00	05/03/13 18:53	1
Potassium	11.1		0.50	0.10	mg/L		05/03/13 10:00	05/03/13 18:53	1
Sodium	2160		1.0	0.32	mg/L		05/03/13 10:00	05/03/13 18:53	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3810		50.0	28.2	mg/L			05/06/13 16:15	100
Sulfate	301		40.0	7.0	mg/L			05/04/13 13:59	20
Ammonia	ND		0.020	0.0090	mg/L			05/04/13 14:19	1
Nitrate	1.3		0.050	0.020	mg/L			05/02/13 23:57	1
Nitrite	ND		0.050	0.020	mg/L			05/02/13 23:57	1
Total Organic Carbon	1.4		1.0	0.43	mg/L			05/04/13 10:24	1
Total Alkalinity	300		5.0	0.79	mg/L			05/09/13 01:04	1
Sulfide	ND		0.10	0.052	mg/L			05/03/13 15:36	1
Acetic acid	ND		10.0	1.5	mg/L			05/07/13 14:12	10
Formic-acid	ND		10.0	1.1	mg/L			05/07/13 14:12	10
Lactic acid	ND		10.0	1.4	mg/L			05/07/13 14:12	10
n-Butyric Acid	ND		10.0	1.6	mg/L			05/07/13 14:12	10
Propionic acid	ND		10.0	1.7	mg/L			05/07/13 14:12	10

Client Sample ID: G-1-050213

Lab Sample ID: 480-37534-1

Date Collected: 05/02/13 08:50

Matrix: Water

Date Received: 05/02/13 17:30

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyruvic Acid	ND		10.0	0.80	mg/L			05/07/13 14:12	10

Client Sample ID: MW-11-050213

Lab Sample ID: 480-37534-2

Date Collected: 05/02/13 11:30

Matrix: Water

Date Received: 05/02/13 17:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	**1.1**		1.0	0.81	ug/L			05/11/13 00:07	1
Tetrachloroethene	ND		1.0	0.36	ug/L			05/11/13 00:07	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			05/11/13 00:07	1
Trichloroethene	ND		1.0	0.46	ug/L			05/11/13 00:07	1
Vinyl chloride	**1.1**		1.0	0.90	ug/L			05/11/13 00:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*66 - 137*		*05/11/13 00:07*	*1*
4-Bromofluorobenzene (Surr)	*102*		*73 - 120*		*05/11/13 00:07*	*1*
Toluene-d8 (Surr)	*105*		*71 - 126*		*05/11/13 00:07*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	**1.0**	**J**	7.5	0.49	ug/L			05/03/13 12:03	1
Ethene	**1.3**	**J**	7.0	0.52	ug/L			05/03/13 12:03	1
Methane	**40**		4.0	0.22	ug/L			05/03/13 12:03	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	**4200**		1000	1000	ug/L			05/07/13 14:21	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**0.70**		0.050	0.019	mg/L		05/03/13 10:00	05/03/13 18:56	1
Magnesium	**47.0**		0.20	0.043	mg/L		05/03/13 10:00	05/03/13 18:56	1
Manganese	**0.17**	**B**	0.0030	0.00040	mg/L		05/03/13 10:00	05/03/13 18:56	1
Potassium	**9.0**		0.50	0.10	mg/L		05/03/13 10:00	05/03/13 18:56	1
Sodium	**151**		1.0	0.32	mg/L		05/03/13 10:00	05/03/13 18:56	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**333**		2.5	1.4	mg/L			05/06/13 16:25	5
Sulfate	**84.6**		2.0	0.35	mg/L			05/04/13 14:09	1
Ammonia	**0.15**		0.020	0.0090	mg/L			05/04/13 14:20	1
Nitrate	**0.34**		0.050	0.020	mg/L			05/03/13 00:00	1
Nitrite	ND		0.050	0.020	mg/L			05/03/13 00:00	1
Total Organic Carbon	**1.6**		1.0	0.43	mg/L			05/04/13 11:25	1
Total Alkalinity	**259**		5.0	0.79	mg/L			05/09/13 01:11	1
Sulfide	ND		0.10	0.052	mg/L			05/03/13 15:36	1
Acetic acid	ND		1.0	0.15	mg/L			05/07/13 17:36	1
Formic-acid	ND		1.0	0.11	mg/L			05/07/13 17:36	1
Lactic acid	ND		1.0	0.14	mg/L			05/07/13 17:36	1
n-Butyric Acid	ND		1.0	0.16	mg/L			05/07/13 17:36	1
Propionic acid	ND		1.0	0.17	mg/L			05/07/13 17:36	1

Client Sample ID: MW-11-050213

Lab Sample ID: 480-37534-2

Date Collected: 05/02/13 11:30

Matrix: Water

Date Received: 05/02/13 17:30

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyruvic Acid	ND		1.0	0.080	mg/L			05/07/13 17:36	1

Client Sample ID: MW-13-050213

Lab Sample ID: 480-37534-3

Date Collected: 05/02/13 13:50

Matrix: Water

Date Received: 05/02/13 17:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			05/11/13 00:29	1
Tetrachloroethene	ND		1.0	0.36	ug/L			05/11/13 00:29	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			05/11/13 00:29	1
Trichloroethene	ND		1.0	0.46	ug/L			05/11/13 00:29	1
Vinyl chloride	ND		1.0	0.90	ug/L			05/11/13 00:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*66 - 137*		*05/11/13 00:29*	*1*
4-Bromofluorobenzene (Surr)	*102*		*73 - 120*		*05/11/13 00:29*	*1*
Toluene-d8 (Surr)	*106*		*71 - 126*		*05/11/13 00:29*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	ND		75	4.9	ug/L			05/03/13 13:39	10
Ethene	ND		70	5.2	ug/L			05/03/13 13:39	10
Methane	**110**		40	2.2	ug/L			05/03/13 13:39	10

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	**3700**		1000	1000	ug/L			05/13/13 14:08	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**4.7**		0.050	0.019	mg/L		05/03/13 10:00	05/03/13 18:58	1
Magnesium	**39.4**		0.20	0.043	mg/L		05/03/13 10:00	05/03/13 18:58	1
Manganese	**4.3**	**B**	0.0030	0.00040	mg/L		05/03/13 10:00	05/03/13 18:58	1
Potassium	**6.2**		0.50	0.10	mg/L		05/03/13 10:00	05/03/13 18:58	1
Sodium	**964**		1.0	0.32	mg/L		05/03/13 10:00	05/03/13 18:58	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1590**		25.0	14.1	mg/L			05/06/13 16:35	50
Sulfate	**62.7**		10.0	1.7	mg/L			05/04/13 14:19	5
Ammonia	**0.60**		0.020	0.0090	mg/L			05/04/13 14:23	1
Nitrate	**0.057**		0.050	0.020	mg/L			05/03/13 00:06	1
Nitrite	ND		0.050	0.020	mg/L			05/03/13 00:06	1
Total Organic Carbon	**3.8**		1.0	0.43	mg/L			05/04/13 14:00	1
Total Alkalinity	**382**		5.0	0.79	mg/L			05/09/13 01:18	1
Sulfide	ND		0.10	0.052	mg/L			05/03/13 15:36	1
Acetic acid	ND		1.0	0.15	mg/L			05/09/13 14:03	1
Formic-acid	ND		1.0	0.11	mg/L			05/09/13 14:03	1
Lactic acid	ND		1.0	0.14	mg/L			05/09/13 14:03	1
n-Butyric Acid	ND		1.0	0.16	mg/L			05/09/13 14:03	1
Propionic acid	ND		1.0	0.17	mg/L			05/09/13 14:03	1

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 058507, GM-Lockport Groundwater Sampling

TestAmerica Job ID: 480-37534-1

Client Sample ID: MW-13-050213

Lab Sample ID: 480-37534-3

Date Collected: 05/02/13 13:50

Matrix: Water

Date Received: 05/02/13 17:30

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyruvic Acid	ND		1.0	0.080	mg/L			05/09/13 14:03	1

Client Sample ID: Trip Blank

Lab Sample ID: 480-37534-4

Date Collected: 05/02/13 00:00

Matrix: Water

Date Received: 05/02/13 17:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			05/11/13 01:34	1
Tetrachloroethene	ND		1.0	0.36	ug/L			05/11/13 01:34	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			05/11/13 01:34	1
Trichloroethene	ND		1.0	0.46	ug/L			05/11/13 01:34	1
Vinyl chloride	ND		1.0	0.90	ug/L			05/11/13 01:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*66 - 137*		*05/11/13 01:34*	*1*
4-Bromofluorobenzene (Surr)	*101*		*73 - 120*		*05/11/13 01:34*	*1*
Toluene-d8 (Surr)	*105*		*71 - 126*		*05/11/13 01:34*	*1*

Surrogate Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 058507, GM-Lockport Groundwater Sampling

TestAmerica Job ID: 480-37534-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		12DCE	BFB	TOL
Lab Sample ID	Client Sample ID	(66-137)	(73-120)	(71-126)
480-37534-1	G-1-050213	99	101	103
480-37534-1 - DL	G-1-050213	93	107	107
480-37534-2	MW-11-050213	101	102	105
480-37534-3	MW-13-050213	102	102	106
480-37534-3 MS	MW-13-050213	95	98	100
480-37534-3 MSD	MW-13-050213	95	96	98
480-37534-4	Trip Blank	99	101	105
LCS 480-118039/5	Lab Control Sample	99	105	106
LCS 480-118065/4	Lab Control Sample	90	109	104
MB 480-118039/6	Method Blank	99	101	104
MB 480-118065/5	Method Blank	90	105	106

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

TOL = Toluene-d8 (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 480-118039/6
Matrix: Water
Analysis Batch: 118039

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			05/10/13 23:01	1
Tetrachloroethene	ND		1.0	0.36	ug/L			05/10/13 23:01	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			05/10/13 23:01	1
Trichloroethene	ND		1.0	0.46	ug/L			05/10/13 23:01	1
Vinyl chloride	ND		1.0	0.90	ug/L			05/10/13 23:01	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*66 - 137*		*05/10/13 23:01*	*1*
4-Bromofluorobenzene (Surr)	*101*		*73 - 120*		*05/10/13 23:01*	*1*
Toluene-d8 (Surr)	*104*		*71 - 126*		*05/10/13 23:01*	*1*

Lab Sample ID: LCS 480-118039/5
Matrix: Water
Analysis Batch: 118039

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
cis-1,2-Dichloroethene	25.0	29.5		ug/L		118	74 - 124
Tetrachloroethene	25.0	28.8		ug/L		115	74 - 122
trans-1,2-Dichloroethene	25.0	28.1		ug/L		112	73 - 127
Trichloroethene	25.0	27.1		ug/L		108	74 - 123

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*99*		*66 - 137*
4-Bromofluorobenzene (Surr)	*105*		*73 - 120*
Toluene-d8 (Surr)	*106*		*71 - 126*

Lab Sample ID: 480-37534-3 MS
Matrix: Water
Analysis Batch: 118039

Client Sample ID: MW-13-050213
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
cis-1,2-Dichloroethene	ND		25.0	33.1	F	ug/L		132	74 - 124
Tetrachloroethene	ND		25.0	32.8	F	ug/L		131	74 - 122
trans-1,2-Dichloroethene	ND		25.0	32.3	F	ug/L		129	73 - 127
Trichloroethene	ND		25.0	31.1	F	ug/L		124	74 - 123

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*66 - 137*
4-Bromofluorobenzene (Surr)	*98*		*73 - 120*
Toluene-d8 (Surr)	*100*		*71 - 126*

Lab Sample ID: 480-37534-3 MSD
Matrix: Water
Analysis Batch: 118039

Client Sample ID: MW-13-050213
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
cis-1,2-Dichloroethene	ND		25.0	32.7	F	ug/L		131	74 - 124	1	15

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

Lab Sample ID: 480-37534-3 MSD
Matrix: Water
Analysis Batch: 118039

Client Sample ID: MW-13-050213
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Tetrachloroethene	ND		25.0	32.6	F	ug/L		130	74 - 122	1	20
trans-1,2-Dichloroethene	ND		25.0	31.7		ug/L		127	73 - 127	2	20
Trichloroethene	ND		25.0	31.2	F	ug/L		125	74 - 123	0	16

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*66 - 137*
4-Bromofluorobenzene (Surr)	*96*		*73 - 120*
Toluene-d8 (Surr)	*98*		*71 - 126*

Lab Sample ID: MB 480-118065/5
Matrix: Water
Analysis Batch: 118065

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			05/11/13 10:34	1
Tetrachloroethene	ND		1.0	0.36	ug/L			05/11/13 10:34	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			05/11/13 10:34	1
Trichloroethene	ND		1.0	0.46	ug/L			05/11/13 10:34	1
Vinyl chloride	ND		1.0	0.90	ug/L			05/11/13 10:34	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*90*		*66 - 137*		*05/11/13 10:34*	*1*
4-Bromofluorobenzene (Surr)	*105*		*73 - 120*		*05/11/13 10:34*	*1*
Toluene-d8 (Surr)	*106*		*71 - 126*		*05/11/13 10:34*	*1*

Lab Sample ID: LCS 480-118065/4
Matrix: Water
Analysis Batch: 118065

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
cis-1,2-Dichloroethene	25.0	27.7		ug/L		111	74 - 124
Tetrachloroethene	25.0	25.7		ug/L		103	74 - 122
trans-1,2-Dichloroethene	25.0	23.9		ug/L		96	73 - 127
Trichloroethene	25.0	24.7		ug/L		99	74 - 123

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*90*		*66 - 137*
4-Bromofluorobenzene (Surr)	*109*		*73 - 120*
Toluene-d8 (Surr)	*104*		*71 - 126*

Method: RSK-175 - Dissolved Gases (GC)

Lab Sample ID: MB 480-116579/2
Matrix: Water
Analysis Batch: 116579

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	ND		7.5	0.49	ug/L			05/03/13 06:56	1
Ethene	ND		7.0	0.52	ug/L			05/03/13 06:56	1
Methane	ND		4.0	0.22	ug/L			05/03/13 06:56	1

Lab Sample ID: LCS 480-116579/3
Matrix: Water
Analysis Batch: 116579

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethane	14.4	13.4		ug/L		93	67 - 128
Ethene	13.5	13.6		ug/L		101	60 - 137
Methane	7.69	6.65		ug/L		86	48 - 174

Lab Sample ID: 480-37534-3 MS
Matrix: Water
Analysis Batch: 116579

Client Sample ID: MW-13-050213
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethane	ND		144	163		ug/L		113	23 - 176
Ethene	ND		135	156		ug/L		116	29 - 178
Methane	110		76.9	193		ug/L		108	48 - 174

Lab Sample ID: 480-37534-3 MSD
Matrix: Water
Analysis Batch: 116579

Client Sample ID: MW-13-050213
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ethane	ND		144	176		ug/L		122	23 - 176	8	50
Ethene	ND		135	165		ug/L		122	29 - 178	5	50
Methane	110		76.9	214		ug/L		135	48 - 174	10	50

Lab Sample ID: MB 200-55142/3
Matrix: Water
Analysis Batch: 55142

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	ND		1000	1000	ug/L			05/07/13 12:16	1

Lab Sample ID: LCS 200-55142/2
Matrix: Water
Analysis Batch: 55142

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon dioxide	5010	4790		ug/L		96	70 - 130

Method: RSK-175 - Dissolved Gases (GC) (Continued)

Lab Sample ID: MB 200-55461/3
Matrix: Water
Analysis Batch: 55461

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	ND		1000	1000	ug/L			05/13/13 13:43	1

Lab Sample ID: LCS 200-55461/2
Matrix: Water
Analysis Batch: 55461

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Carbon dioxide			5010	5660		ug/L		113	70 - 130		

Lab Sample ID: 480-37534-3 MS
Matrix: Water
Analysis Batch: 55461

Client Sample ID: MW-13-050213
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Carbon dioxide	3700		5010	6430	F	ug/L		54	70 - 130		

Lab Sample ID: 480-37534-3 MSD
Matrix: Water
Analysis Batch: 55461

Client Sample ID: MW-13-050213
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Carbon dioxide	3700		5010	7250		ug/L		71	70 - 130	12	30

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 480-116635/1-A
Matrix: Water
Analysis Batch: 116955

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 116635

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.050	0.019	mg/L		05/03/13 10:00	05/03/13 18:48	1
Magnesium	ND		0.20	0.043	mg/L		05/03/13 10:00	05/03/13 18:48	1
Manganese	0.000490	J	0.0030	0.00040	mg/L		05/03/13 10:00	05/03/13 18:48	1
Potassium	ND		0.50	0.10	mg/L		05/03/13 10:00	05/03/13 18:48	1
Sodium	ND		1.0	0.32	mg/L		05/03/13 10:00	05/03/13 18:48	1

Lab Sample ID: LCS 480-116635/2-A
Matrix: Water
Analysis Batch: 116955

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 116635

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Iron			10.0	10.11		mg/L		101	80 - 120		
Magnesium			10.0	10.26		mg/L		103	80 - 120		
Manganese			0.200	0.209		mg/L		104	80 - 120		
Potassium			10.0	10.05		mg/L		100	80 - 120		
Sodium			10.0	9.85		mg/L		98	80 - 120		

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 480-37534-3 MS — **Client Sample ID: MW-13-050213**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116955 — **Prep Batch: 116635**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	4.7		10.0	14.44		mg/L		97	75 - 125
Magnesium	39.4		10.0	48.14		mg/L		87	75 - 125
Manganese	4.3	B	0.200	4.36	4	mg/L		32	75 - 125
Potassium	6.2		10.0	16.78		mg/L		105	75 - 125
Sodium	964		10.0	947.0	4	mg/L		-172	75 - 125

Lab Sample ID: 480-37534-3 MSD — **Client Sample ID: MW-13-050213**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116955 — **Prep Batch: 116635**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	4.7		10.0	14.53		mg/L		98	75 - 125	1	20
Magnesium	39.4		10.0	48.50		mg/L		91	75 - 125	1	20
Manganese	4.3	B	0.200	4.38	4	mg/L		43	75 - 125	0	20
Potassium	6.2		10.0	16.84		mg/L		106	75 - 125	0	20
Sodium	964		10.0	950.3	4	mg/L		-139	75 - 125	0	20

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 480-116750/76 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116750

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50	0.28	mg/L			05/04/13 11:47	1
Sulfate	ND		2.0	0.35	mg/L			05/04/13 11:47	1

Lab Sample ID: LCS 480-116750/75 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116750

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	20.32		mg/L		102	90 - 110
Sulfate	20.0	20.35		mg/L		102	90 - 110

Lab Sample ID: 480-37534-3 MS — **Client Sample ID: MW-13-050213**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116750

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	62.7		125	188.7		mg/L		101	90 - 110

Lab Sample ID: 480-37534-3 MSD — **Client Sample ID: MW-13-050213**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116750

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	62.7		125	200.2		mg/L		110	90 - 110	6	20

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 480-116998/4
Matrix: Water
Analysis Batch: 116998

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50	0.28	mg/L			05/06/13 14:03	1
Sulfate	ND		2.0	0.35	mg/L			05/06/13 14:03	1

Lab Sample ID: LCS 480-116998/3
Matrix: Water
Analysis Batch: 116998

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	20.60		mg/L		103	90 - 110
Sulfate	20.0	20.82		mg/L		104	90 - 110

Lab Sample ID: 480-37534-3 MS
Matrix: Water
Analysis Batch: 116998

Client Sample ID: MW-13-050213
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	1590		1250	3018	F	mg/L		114	90 - 110

Lab Sample ID: 480-37534-3 MSD
Matrix: Water
Analysis Batch: 116998

Client Sample ID: MW-13-050213
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	1590		1250	2900		mg/L		105	90 - 110	4	20

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 480-116849/99
Matrix: Water
Analysis Batch: 116849

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.020	0.0090	mg/L			05/04/13 14:11	1

Lab Sample ID: LCS 480-116849/100
Matrix: Water
Analysis Batch: 116849

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	1.00	0.971		mg/L		97	90 - 110

Lab Sample ID: 480-37534-3 MS
Matrix: Water
Analysis Batch: 116849

Client Sample ID: MW-13-050213
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	0.60		0.200	0.797		mg/L		96	54 - 150

Method: 350.1 - Nitrogen, Ammonia (Continued)

Lab Sample ID: 480-37534-3 MSD
Matrix: Water
Analysis Batch: 116849

Client Sample ID: MW-13-050213
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia	0.60		0.200	0.823		mg/L		110	54 - 150	3	20

Method: 353.2 - Nitrogen, Nitrite

Lab Sample ID: MB 480-116551/27
Matrix: Water
Analysis Batch: 116551

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite	ND		0.050	0.020	mg/L			05/03/13 00:04	1

Lab Sample ID: MB 480-116551/3
Matrix: Water
Analysis Batch: 116551

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite	ND		0.050	0.020	mg/L			05/02/13 23:37	1

Lab Sample ID: LCS 480-116551/28
Matrix: Water
Analysis Batch: 116551

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrite	1.50	1.52		mg/L		101	90 - 110

Lab Sample ID: LCS 480-116551/4
Matrix: Water
Analysis Batch: 116551

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrite	1.50	1.53		mg/L		102	90 - 110

Lab Sample ID: 480-37534-1 MS
Matrix: Water
Analysis Batch: 116551

Client Sample ID: G-1-050213
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrite	ND		1.00	0.998		mg/L		100	90 - 110

Lab Sample ID: 480-37534-3 MS
Matrix: Water
Analysis Batch: 116551

Client Sample ID: MW-13-050213
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrite	ND		1.00	1.01		mg/L		101	90 - 110

Method: 353.2 - Nitrogen, Nitrite (Continued)

Lab Sample ID: 480-37534-3 MSD
Matrix: Water
Analysis Batch: 116551

Client Sample ID: MW-13-050213
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrite	ND		1.00	1.02		mg/L		102	90 - 110	1	20

Lab Sample ID: 480-37534-1 DU
Matrix: Water
Analysis Batch: 116551

Client Sample ID: G-1-050213
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Nitrite	ND		ND		mg/L		NC	20

Method: 9060 - Organic Carbon, Total (TOC)

Lab Sample ID: MB 480-116925/4
Matrix: Water
Analysis Batch: 116925

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		1.0	0.43	mg/L			05/04/13 07:51	1

Lab Sample ID: LCS 480-116925/5
Matrix: Water
Analysis Batch: 116925

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	60.0	59.31		mg/L		99	90 - 110

Lab Sample ID: 480-37534-2 MS
Matrix: Water
Analysis Batch: 116925

Client Sample ID: MW-11-050213
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	1.6		20.3	17.10		mg/L		77	54 - 131

Lab Sample ID: 480-37534-3 MS
Matrix: Water
Analysis Batch: 116925

Client Sample ID: MW-13-050213
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	3.8		20.3	20.39		mg/L		82	54 - 131

Lab Sample ID: 480-37534-3 MSD
Matrix: Water
Analysis Batch: 116925

Client Sample ID: MW-13-050213
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	3.8		20.3	20.33		mg/L		81	54 - 131	0	20

Method: 9060 - Organic Carbon, Total (TOC) (Continued)

Lab Sample ID: 480-37534-1 DU
Matrix: Water
Analysis Batch: 116925

Client Sample ID: G-1-050213
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Organic Carbon	1.4		1.51		mg/L		6	20

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 480-117560/6
Matrix: Water
Analysis Batch: 117560

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	ND		5.0	0.79	mg/L			05/09/13 00:52	1

Lab Sample ID: LCS 480-117560/7
Matrix: Water
Analysis Batch: 117560

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity	100	95.51		mg/L		96	90 - 110

Lab Sample ID: 480-37534-3 MS
Matrix: Water
Analysis Batch: 117560

Client Sample ID: MW-13-050213
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity	382		100	433.6		mg/L		52	42 - 116

Lab Sample ID: 480-37534-3 MSD
Matrix: Water
Analysis Batch: 117560

Client Sample ID: MW-13-050213
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Alkalinity	382		100	450.0		mg/L		68	42 - 116	4	20

Method: SM 4500 S2 D - Sulfide, Total

Lab Sample ID: MB 480-116743/3
Matrix: Water
Analysis Batch: 116743

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		0.10	0.052	mg/L			05/03/13 15:36	1

Lab Sample ID: LCS 480-116743/4
Matrix: Water
Analysis Batch: 116743

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide	0.750	0.750		mg/L		100	90 - 110

Method: SM 4500 S2 D - Sulfide, Total (Continued)

Lab Sample ID: 480-37534-3 MS
Matrix: Water
Analysis Batch: 116743

Client Sample ID: MW-13-050213
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide	ND		0.500	0.438	F	mg/L		88	90 - 110

Lab Sample ID: 480-37534-3 MSD
Matrix: Water
Analysis Batch: 116743

Client Sample ID: MW-13-050213
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfide	ND		0.500	0.441	F	mg/L		88	90 - 110	1	20

Method: VFA-IC - Volatile Fatty Acids, Ion Chromatography

Lab Sample ID: MB 480-117043/28
Matrix: Water
Analysis Batch: 117043

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetic acid	ND		1.0	0.15	mg/L			05/07/13 05:27	1
Formic-acid	ND		1.0	0.11	mg/L			05/07/13 05:27	1
Lactic acid	ND		1.0	0.14	mg/L			05/07/13 05:27	1
n-Butyric Acid	ND		1.0	0.16	mg/L			05/07/13 05:27	1
Propionic acid	ND		1.0	0.17	mg/L			05/07/13 05:27	1
Pyruvic Acid	ND		1.0	0.080	mg/L			05/07/13 05:27	1

Lab Sample ID: LCS 480-117043/27
Matrix: Water
Analysis Batch: 117043

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetic acid	10.0	9.46		mg/L		95	80 - 120
Formic-acid	10.0	9.60		mg/L		96	80 - 120
Lactic acid	10.0	9.90		mg/L		99	80 - 120
n-Butyric Acid	10.0	9.54		mg/L		95	80 - 120
Propionic acid	10.0	9.94		mg/L		99	80 - 120
Pyruvic Acid	10.0	10.33		mg/L		103	80 - 120

Lab Sample ID: 480-37534-1 MS
Matrix: Water
Analysis Batch: 117043

Client Sample ID: G-1-050213
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetic acid	ND		100	100.9		mg/L		101	80 - 120
Formic-acid	ND		100	97.12		mg/L		97	80 - 120
Lactic acid	ND		100	97.84		mg/L		98	80 - 120
n-Butyric Acid	ND		100	98.81		mg/L		99	80 - 120
Propionic acid	ND		100	104.5		mg/L		104	80 - 120
Pyruvic Acid	ND		100	91.66		mg/L		92	80 - 120

Method: VFA-IC - Volatile Fatty Acids, Ion Chromatography (Continued)

Lab Sample ID: 480-37534-1 MSD
Matrix: Water
Analysis Batch: 117043

Client Sample ID: G-1-050213
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetic acid	ND		100	99.15		mg/L		99	80 - 120	2	20
Formic-acid	ND		100	99.48		mg/L		99	80 - 120	2	20
Lactic acid	ND		100	99.45		mg/L		99	80 - 120	2	20
n-Butyric Acid	ND		100	101.3		mg/L		101	80 - 120	2	20
Propionic acid	ND		100	104.7		mg/L		105	80 - 120	0	20
Pyruvic Acid	ND		100	91.88		mg/L		92	80 - 120	0	20

Lab Sample ID: MB 480-117044/52
Matrix: Water
Analysis Batch: 117044

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetic acid	ND		1.0	0.15	mg/L			05/07/13 17:07	1
Formic-acid	ND		1.0	0.11	mg/L			05/07/13 17:07	1
Lactic acid	ND		1.0	0.14	mg/L			05/07/13 17:07	1
n-Butyric Acid	ND		1.0	0.16	mg/L			05/07/13 17:07	1
Propionic acid	ND		1.0	0.17	mg/L			05/07/13 17:07	1
Pyruvic Acid	ND		1.0	0.080	mg/L			05/07/13 17:07	1

Lab Sample ID: LCS 480-117044/51
Matrix: Water
Analysis Batch: 117044

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetic acid	10.0	9.84		mg/L		98	80 - 120
Formic-acid	10.0	9.85		mg/L		98	80 - 120
Lactic acid	10.0	10.25		mg/L		103	80 - 120
n-Butyric Acid	10.0	9.67		mg/L		97	80 - 120
Propionic acid	10.0	10.31		mg/L		103	80 - 120
Pyruvic Acid	10.0	10.39		mg/L		104	80 - 120

Lab Sample ID: MB 480-117667/4
Matrix: Water
Analysis Batch: 117667

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetic acid	ND		1.0	0.15	mg/L			05/09/13 12:07	1
Formic-acid	ND		1.0	0.11	mg/L			05/09/13 12:07	1
Lactic acid	ND		1.0	0.14	mg/L			05/09/13 12:07	1
n-Butyric Acid	ND		1.0	0.16	mg/L			05/09/13 12:07	1
Propionic acid	ND		1.0	0.17	mg/L			05/09/13 12:07	1
Pyruvic Acid	ND		1.0	0.080	mg/L			05/09/13 12:07	1

Lab Sample ID: LCS 480-117667/3
Matrix: Water
Analysis Batch: 117667

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetic acid	10.0	9.68		mg/L		97	80 - 120

Method: VFA-IC - Volatile Fatty Acids, Ion Chromatography (Continued)

Lab Sample ID: LCS 480-117667/3
Matrix: Water
Analysis Batch: 117667

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Formic-acid	10.0	9.77		mg/L		98	80 - 120
Lactic acid	10.0	10.47		mg/L		105	80 - 120
n-Butyric Acid	10.0	9.42		mg/L		94	80 - 120
Propionic acid	10.0	10.75		mg/L		108	80 - 120
Pyruvic Acid	10.0	10.49		mg/L		105	80 - 120

Lab Sample ID: 480-37534-3 MS
Matrix: Water
Analysis Batch: 117667

Client Sample ID: MW-13-050213
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetic acid	ND		10.0	10.72		mg/L		107	80 - 120
Formic-acid	ND		10.0	10.76		mg/L		108	80 - 120
Lactic acid	ND		10.0	10.61		mg/L		106	80 - 120
n-Butyric Acid	ND		10.0	8.88		mg/L		89	80 - 120
Propionic acid	ND		10.0	9.33		mg/L		93	80 - 120
Pyruvic Acid	ND		10.0	7.72	F	mg/L		77	80 - 120

Lab Sample ID: 480-37534-3 MSD
Matrix: Water
Analysis Batch: 117667

Client Sample ID: MW-13-050213
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetic acid	ND		10.0	15.04	F	mg/L		150	80 - 120	34	20
Formic-acid	ND		10.0	11.58		mg/L		116	80 - 120	7	20
Lactic acid	ND		10.0	10.85		mg/L		108	80 - 120	2	20
n-Butyric Acid	ND		10.0	8.89		mg/L		89	80 - 120	0	20
Propionic acid	ND		10.0	10.72		mg/L		107	80 - 120	14	20
Pyruvic Acid	ND		10.0	7.78	F	mg/L		78	80 - 120	1	20

GC/MS VOA

Analysis Batch: 118039

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37534-1	G-1-050213	Total/NA	Water	8260B	
480-37534-2	MW-11-050213	Total/NA	Water	8260B	
480-37534-3	MW-13-050213	Total/NA	Water	8260B	
480-37534-3 MS	MW-13-050213	Total/NA	Water	8260B	
480-37534-3 MSD	MW-13-050213	Total/NA	Water	8260B	
480-37534-4	Trip Blank	Total/NA	Water	8260B	
LCS 480-118039/5	Lab Control Sample	Total/NA	Water	8260B	
MB 480-118039/6	Method Blank	Total/NA	Water	8260B	

Analysis Batch: 118065

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37534-1 - DL	G-1-050213	Total/NA	Water	8260B	
LCS 480-118065/4	Lab Control Sample	Total/NA	Water	8260B	
MB 480-118065/5	Method Blank	Total/NA	Water	8260B	

GC VOA

Analysis Batch: 55142

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37534-1	G-1-050213	Total/NA	Water	RSK-175	
480-37534-2	MW-11-050213	Total/NA	Water	RSK-175	
LCS 200-55142/2	Lab Control Sample	Total/NA	Water	RSK-175	
MB 200-55142/3	Method Blank	Total/NA	Water	RSK-175	

Analysis Batch: 55461

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37534-3	MW-13-050213	Total/NA	Water	RSK-175	
480-37534-3 MS	MW-13-050213	Total/NA	Water	RSK-175	
480-37534-3 MSD	MW-13-050213	Total/NA	Water	RSK-175	
LCS 200-55461/2	Lab Control Sample	Total/NA	Water	RSK-175	
MB 200-55461/3	Method Blank	Total/NA	Water	RSK-175	

Analysis Batch: 116579

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37534-1	G-1-050213	Total/NA	Water	RSK-175	
480-37534-2	MW-11-050213	Total/NA	Water	RSK-175	
480-37534-3	MW-13-050213	Total/NA	Water	RSK-175	
480-37534-3 MS	MW-13-050213	Total/NA	Water	RSK-175	
480-37534-3 MSD	MW-13-050213	Total/NA	Water	RSK-175	
LCS 480-116579/3	Lab Control Sample	Total/NA	Water	RSK-175	
MB 480-116579/2	Method Blank	Total/NA	Water	RSK-175	

Metals

Prep Batch: 116635

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37534-1	G-1-050213	Total/NA	Water	3005A	
480-37534-2	MW-11-050213	Total/NA	Water	3005A	
480-37534-3	MW-13-050213	Total/NA	Water	3005A	
480-37534-3 MS	MW-13-050213	Total/NA	Water	3005A	

Metals (Continued)

Prep Batch: 116635 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37534-3 MSD	MW-13-050213	Total/NA	Water	3005A	
LCS 480-116635/2-A	Lab Control Sample	Total/NA	Water	3005A	
MB 480-116635/1-A	Method Blank	Total/NA	Water	3005A	

Analysis Batch: 116955

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37534-1	G-1-050213	Total/NA	Water	6010B	116635
480-37534-2	MW-11-050213	Total/NA	Water	6010B	116635
480-37534-3	MW-13-050213	Total/NA	Water	6010B	116635
480-37534-3 MS	MW-13-050213	Total/NA	Water	6010B	116635
480-37534-3 MSD	MW-13-050213	Total/NA	Water	6010B	116635
LCS 480-116635/2-A	Lab Control Sample	Total/NA	Water	6010B	116635
MB 480-116635/1-A	Method Blank	Total/NA	Water	6010B	116635

General Chemistry

Analysis Batch: 116551

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37534-1	G-1-050213	Total/NA	Water	353.2	
480-37534-1 DU	G-1-050213	Total/NA	Water	353.2	
480-37534-1 MS	G-1-050213	Total/NA	Water	353.2	
480-37534-2	MW-11-050213	Total/NA	Water	353.2	
480-37534-3	MW-13-050213	Total/NA	Water	353.2	
480-37534-3 MS	MW-13-050213	Total/NA	Water	353.2	
480-37534-3 MSD	MW-13-050213	Total/NA	Water	353.2	
LCS 480-116551/28	Lab Control Sample	Total/NA	Water	353.2	
LCS 480-116551/4	Lab Control Sample	Total/NA	Water	353.2	
MB 480-116551/27	Method Blank	Total/NA	Water	353.2	
MB 480-116551/3	Method Blank	Total/NA	Water	353.2	

Analysis Batch: 116552

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37534-1	G-1-050213	Total/NA	Water	353.2	
480-37534-2	MW-11-050213	Total/NA	Water	353.2	
480-37534-3	MW-13-050213	Total/NA	Water	353.2	

Analysis Batch: 116743

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37534-1	G-1-050213	Total/NA	Water	SM 4500 S2 D	
480-37534-2	MW-11-050213	Total/NA	Water	SM 4500 S2 D	
480-37534-3	MW-13-050213	Total/NA	Water	SM 4500 S2 D	
480-37534-3 MS	MW-13-050213	Total/NA	Water	SM 4500 S2 D	
480-37534-3 MSD	MW-13-050213	Total/NA	Water	SM 4500 S2 D	
LCS 480-116743/4	Lab Control Sample	Total/NA	Water	SM 4500 S2 D	
MB 480-116743/3	Method Blank	Total/NA	Water	SM 4500 S2 D	

Analysis Batch: 116750

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37534-1	G-1-050213	Total/NA	Water	300.0	
480-37534-2	MW-11-050213	Total/NA	Water	300.0	

General Chemistry (Continued)

Analysis Batch: 116750 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37534-3	MW-13-050213	Total/NA	Water	300.0	
480-37534-3 MS	MW-13-050213	Total/NA	Water	300.0	
480-37534-3 MSD	MW-13-050213	Total/NA	Water	300.0	
LCS 480-116750/75	Lab Control Sample	Total/NA	Water	300.0	
MB 480-116750/76	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 116849

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37534-1	G-1-050213	Total/NA	Water	350.1	
480-37534-2	MW-11-050213	Total/NA	Water	350.1	
480-37534-3	MW-13-050213	Total/NA	Water	350.1	
480-37534-3 MS	MW-13-050213	Total/NA	Water	350.1	
480-37534-3 MSD	MW-13-050213	Total/NA	Water	350.1	
LCS 480-116849/100	Lab Control Sample	Total/NA	Water	350.1	
MB 480-116849/99	Method Blank	Total/NA	Water	350.1	

Analysis Batch: 116925

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37534-1	G-1-050213	Total/NA	Water	9060	
480-37534-1 DU	G-1-050213	Total/NA	Water	9060	
480-37534-2	MW-11-050213	Total/NA	Water	9060	
480-37534-2 MS	MW-11-050213	Total/NA	Water	9060	
480-37534-3	MW-13-050213	Total/NA	Water	9060	
480-37534-3 MS	MW-13-050213	Total/NA	Water	9060	
480-37534-3 MSD	MW-13-050213	Total/NA	Water	9060	
LCS 480-116925/5	Lab Control Sample	Total/NA	Water	9060	
MB 480-116925/4	Method Blank	Total/NA	Water	9060	

Analysis Batch: 116998

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37534-1	G-1-050213	Total/NA	Water	300.0	
480-37534-2	MW-11-050213	Total/NA	Water	300.0	
480-37534-3	MW-13-050213	Total/NA	Water	300.0	
480-37534-3 MS	MW-13-050213	Total/NA	Water	300.0	
480-37534-3 MSD	MW-13-050213	Total/NA	Water	300.0	
LCS 480-116998/3	Lab Control Sample	Total/NA	Water	300.0	
MB 480-116998/4	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 117043

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37534-1	G-1-050213	Total/NA	Water	VFA-IC	
480-37534-1 MS	G-1-050213	Total/NA	Water	VFA-IC	
480-37534-1 MSD	G-1-050213	Total/NA	Water	VFA-IC	
LCS 480-117043/27	Lab Control Sample	Total/NA	Water	VFA-IC	
MB 480-117043/28	Method Blank	Total/NA	Water	VFA-IC	

Analysis Batch: 117044

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37534-2	MW-11-050213	Total/NA	Water	VFA-IC	
LCS 480-117044/51	Lab Control Sample	Total/NA	Water	VFA-IC	
MB 480-117044/52	Method Blank	Total/NA	Water	VFA-IC	

General Chemistry (Continued)

Analysis Batch: 117560

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37534-1	G-1-050213	Total/NA	Water	SM 2320B	
480-37534-2	MW-11-050213	Total/NA	Water	SM 2320B	
480-37534-3	MW-13-050213	Total/NA	Water	SM 2320B	
480-37534-3 MS	MW-13-050213	Total/NA	Water	SM 2320B	
480-37534-3 MSD	MW-13-050213	Total/NA	Water	SM 2320B	
LCS 480-117560/7	Lab Control Sample	Total/NA	Water	SM 2320B	
MB 480-117560/6	Method Blank	Total/NA	Water	SM 2320B	

Analysis Batch: 117667

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37534-3	MW-13-050213	Total/NA	Water	VFA-IC	
480-37534-3 MS	MW-13-050213	Total/NA	Water	VFA-IC	
480-37534-3 MSD	MW-13-050213	Total/NA	Water	VFA-IC	
LCS 480-117667/3	Lab Control Sample	Total/NA	Water	VFA-IC	
MB 480-117667/4	Method Blank	Total/NA	Water	VFA-IC	

Client Sample ID: G-1-050213

Lab Sample ID: 480-37534-1

Date Collected: 05/02/13 08:50

Matrix: Water

Date Received: 05/02/13 17:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	118039	05/10/13 23:45	TRF	TAL BUF
Total/NA	Analysis	8260B	DL	2	118065	05/11/13 11:42	RL	TAL BUF
Total/NA	Analysis	RSK-175		1	55142	05/07/13 14:12	NA	TAL BUR
Total/NA	Analysis	RSK-175		1	116579	05/03/13 11:46	JM	TAL BUF
Total/NA	Prep	3005A			116635	05/03/13 10:00	JM	TAL BUF
Total/NA	Analysis	6010B		1	116955	05/03/13 18:53	LH	TAL BUF
Total/NA	Analysis	353.2		1	116551	05/02/13 23:57	KS	TAL BUF
Total/NA	Analysis	353.2		1	116552	05/02/13 23:57	KS	TAL BUF
Total/NA	Analysis	SM 4500 S2 D		1	116743	05/03/13 15:36	KS	TAL BUF
Total/NA	Analysis	300.0		20	116750	05/04/13 13:59	KC	TAL BUF
Total/NA	Analysis	350.1		1	116849	05/04/13 14:19	KS	TAL BUF
Total/NA	Analysis	9060		1	116925	05/04/13 10:24	KC	TAL BUF
Total/NA	Analysis	300.0		100	116998	05/06/13 16:15	KC	TAL BUF
Total/NA	Analysis	VFA-IC		10	117043	05/07/13 14:12	KC	TAL BUF
Total/NA	Analysis	SM 2320B		1	117560	05/09/13 01:04	LK	TAL BUF

Client Sample ID: MW-11-050213

Lab Sample ID: 480-37534-2

Date Collected: 05/02/13 11:30

Matrix: Water

Date Received: 05/02/13 17:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	118039	05/11/13 00:07	TRF	TAL BUF
Total/NA	Analysis	RSK-175		1	55142	05/07/13 14:21	NA	TAL BUR
Total/NA	Analysis	RSK-175		1	116579	05/03/13 12:03	JM	TAL BUF
Total/NA	Prep	3005A			116635	05/03/13 10:00	JM	TAL BUF
Total/NA	Analysis	6010B		1	116955	05/03/13 18:56	LH	TAL BUF
Total/NA	Analysis	353.2		1	116551	05/03/13 00:00	KS	TAL BUF
Total/NA	Analysis	353.2		1	116552	05/03/13 00:00	KS	TAL BUF
Total/NA	Analysis	SM 4500 S2 D		1	116743	05/03/13 15:36	KS	TAL BUF
Total/NA	Analysis	300.0		1	116750	05/04/13 14:09	KC	TAL BUF
Total/NA	Analysis	350.1		1	116849	05/04/13 14:20	KS	TAL BUF
Total/NA	Analysis	9060		1	116925	05/04/13 11:25	KC	TAL BUF
Total/NA	Analysis	300.0		5	116998	05/06/13 16:25	KC	TAL BUF
Total/NA	Analysis	VFA-IC		1	117044	05/07/13 17:36	KC	TAL BUF
Total/NA	Analysis	SM 2320B		1	117560	05/09/13 01:11	LK	TAL BUF

Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 058507, GM-Lockport Groundwater Sampling

TestAmerica Job ID: 480-37534-1

Client Sample ID: MW-13-050213

Lab Sample ID: 480-37534-3

Date Collected: 05/02/13 13:50

Matrix: Water

Date Received: 05/02/13 17:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	118039	05/11/13 00:29	TRF	TAL BUF
Total/NA	Analysis	RSK-175		1	55461	05/13/13 14:08	NA	TAL BUR
Total/NA	Analysis	RSK-175		10	116579	05/03/13 13:39	JM	TAL BUF
Total/NA	Prep	3005A			116635	05/03/13 10:00	JM	TAL BUF
Total/NA	Analysis	6010B		1	116955	05/03/13 18:58	LH	TAL BUF
Total/NA	Analysis	353.2		1	116551	05/03/13 00:06	KS	TAL BUF
Total/NA	Analysis	353.2		1	116552	05/03/13 00:06	KS	TAL BUF
Total/NA	Analysis	SM 4500 S2 D		1	116743	05/03/13 15:36	KS	TAL BUF
Total/NA	Analysis	300.0		5	116750	05/04/13 14:19	KC	TAL BUF
Total/NA	Analysis	350.1		1	116849	05/04/13 14:23	KS	TAL BUF
Total/NA	Analysis	9060		1	116925	05/04/13 14:00	KC	TAL BUF
Total/NA	Analysis	300.0		50	116998	05/06/13 16:35	KC	TAL BUF
Total/NA	Analysis	SM 2320B		1	117560	05/09/13 01:18	LK	TAL BUF
Total/NA	Analysis	VFA-IC		1	117667	05/09/13 14:03	KC	TAL BUF

Client Sample ID: Trip Blank

Lab Sample ID: 480-37534-4

Date Collected: 05/02/13 00:00

Matrix: Water

Date Received: 05/02/13 17:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	118039	05/11/13 01:34	TRF	TAL BUF

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

TAL BUR = TestAmerica Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

Certification Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 058507, GM-Lockport Groundwater Sampling

TestAmerica Job ID: 480-37534-1

Laboratory: TestAmerica Buffalo

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Arkansas DEQ	State Program	6	88-0686	07-06-13
California	NELAP	9	1169CA	09-30-13
Connecticut	State Program	1	PH-0568	09-30-14
Florida	NELAP	4	E87672	06-30-13
Georgia	State Program	4	N/A	03-31-14
Georgia	State Program	4	956	06-30-13
Georgia	State Program	4	956	03-31-14
Illinois	NELAP	5	200003	09-30-13
Iowa	State Program	7	374	03-15-15
Kansas	NELAP	7	E-10187	01-31-14
Kentucky	State Program	4	90029	12-31-13
Kentucky (UST)	State Program	4	30	04-01-14
Louisiana	NELAP	6	02031	06-30-13
Maine	State Program	1	NY00044	12-04-13
Maryland	State Program	3	294	03-31-14
Massachusetts	State Program	1	M-NY044	06-30-13
Michigan	State Program	5	9937	04-01-13 *
Minnesota	NELAP	5	036-999-337	12-31-13
New Hampshire	NELAP	1	2973	09-11-13
New Hampshire	NELAP	1	2337	11-17-13
New Jersey	NELAP	2	NY455	06-30-13
New York	NELAP	2	10026	04-01-14
North Dakota	State Program	8	R-176	03-31-14
Oklahoma	State Program	6	9421	08-31-13
Oregon	NELAP	10	NY200003	06-09-13
Pennsylvania	NELAP	3	68-00281	07-31-13
Rhode Island	State Program	1	LAO00328	12-31-13
Tennessee	State Program	4	TN02970	04-01-14
Texas	NELAP	6	T104704412-11-2	07-31-13
USDA	Federal		P330-11-00386	11-22-14
Virginia	NELAP	3	460185	09-14-13
Washington	State Program	10	C784	02-10-14
West Virginia DEP	State Program	3	252	09-30-13
Wisconsin	State Program	5	998310390	08-31-13

Laboratory: TestAmerica Burlington

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Connecticut	State Program	1	PH-0751	09-30-13
DE Haz. Subst. Cleanup Act (HSCA)	State Program	3	NA	02-13-15
Florida	NELAP	4	E87467	06-30-13
L-A-B	DoD ELAP		L2336	10-26-13
Louisiana	NELAP	6	176292	06-30-13
Minnesota	NELAP	5	050-999-436	12-31-13
New Hampshire	NELAP	1	2006	12-18-13
New Jersey	NELAP	2	VT972	06-30-13
New York	NELAP	2	10391	04-01-14
Pennsylvania	NELAP	3	68-00489	04-30-14
USDA	Federal		P330-11-00093	02-17-14

* Expired certification is currently pending renewal and is considered valid.

Certification Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 058507, GM-Lockport Groundwater Sampling

TestAmerica Job ID: 480-37534-1

Laboratory: TestAmerica Burlington (Continued)

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Vermont	State Program	1	VT-4000	12-31-13
Virginia	NELAP	3	460209	12-14-13

Method Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 058507, GM-Lockport Groundwater Sampling

TestAmerica Job ID: 480-37534-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL BUF
RSK-175	Dissolved Gases (GC)	RSK	TAL BUR
RSK-175	Dissolved Gases (GC)	RSK	TAL BUF
6010B	Metals (ICP)	SW846	TAL BUF
300.0	Anions, Ion Chromatography	MCAWW	TAL BUF
350.1	Nitrogen, Ammonia	MCAWW	TAL BUF
353.2	Nitrogen, Nitrite	MCAWW	TAL BUF
353.2	Nitrate	EPA	TAL BUF
9060	Organic Carbon, Total (TOC)	SW846	TAL BUF
SM 2320B	Alkalinity	SM	TAL BUF
SM 4500 S2 D	Sulfide, Total	SM	TAL BUF
VFA-IC	Volatile Fatty Acids, Ion Chromatography	TestAmerica SOP	TAL BUF

Protocol References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique , RSKSOP-175, Rev. 0, 8/11/94, USEPA Research Lab

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TestAmerica SOP = TestAmerica, Inc., Standard Operating Procedure

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

TAL BUR = TestAmerica Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

Sample Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 058507, GM-Lockport Groundwater Sampling

TestAmerica Job ID: 480-37534-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-37534-1	G-1-050213	Water	05/02/13 08:50	05/02/13 17:30
480-37534-2	MW-11-050213	Water	05/02/13 11:30	05/02/13 17:30
480-37534-3	MW-13-050213	Water	05/02/13 13:50	05/02/13 17:30
480-37534-4	Trip Blank	Water	05/02/13 00:00	05/02/13 17:30

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

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Thomas Bohlen	Lab PM: Deyo, Melissa L	Carrier Tracking No(s):	COC No:
Client Contact: Mr. Christopher Boron	Phone: (716) 844-7050	E-Mail: melissa.deyo@testamericainc.com		Page: Page 1 of 1
Company: GZA GeoEnvironmental, Inc.				GZA Job #: 21.0056546.00 Task 24

Address: 535 Washington Street 11th Floor	Due Date Requested:	Analysis Requested
City: Buffalo	TAT Requested (days): 3 Weeks	
State, Zip: NY, 14203		
Phone: (716) 685-2300	PO #: 4047065	
Email: christopher.boron@gza.com	WO #: 58507	
Project Name: 058507, GM-Lockport Groundwater Sampling	Project #: 48004014	
Site: Delphi Harrison Thermal Systems Site	SSOW#: 256015	

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	RSK_175_CO2 - Carbon dioxide	VFA_IC - Volatile Fatty Acids	350.1 - Ammonia	6010B - Metals - Fe, Mn, Mg, K & Na	8260B - PCE, TCE, DCE (trans and cis), Vinyl Chl	9060 - Total Organic Carbon	RSK_175 - Methane, Ethane, Ethene	SM4500_S2_D - Sulfide	353.2; 353.2_Nitrite, Nitrate_Calc	2320B - Total Alkalinity	300.0_28D - Anions (Chloride & Sulfate)	AM20GAX	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	S	D	A	A	A	CB	N	N	N			
G-1-050213	5/2/13	850	G	Water	N	N	X	X	X	X	X	X	X	X	X	X	X			
MW-11-050213	"	1130	"	Water	N	N	X	X	X	X	X	X	X	X	X	X	X			X - Microseeps
MW-13-050213 MS/MSD	↓	1350	↓	↓	N	Y	X	X	X	X	X	X	X	X	X	X	X			Dissolved H2
Trip Blank																				

480-37534 Chain of Custody

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological	☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify)	Special Instructions/QC Requirements:

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Thomas Bohlen	5/2/13 / 1730	GZA		5/2/13 1730	TA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 4.0 ICE H

5/15/2013

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

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Deyo, Melissa L	Carrier Tracking No(s):	COC No: 480-9891.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: melissa.deyo@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.				Job #: 480-37534-1
Address: 30 Community Drive, Suite 11,	Due Date Requested: 5/14/2013			
City: South Burlington	TAT Requested (days):			
State, Zip: VT, 05403				
Phone: 802-660-1990(Tel)	PO #:			
Email:	WO #:			
Project Name: 058507, GM-Lockport Groundwater Sampling	Project #: 48004014			
Site:	SSOW#:			

480-37534 Chain of Custody

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	RSK_175_CO2/ Carbon dioxide	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
G-1-050213 (480-37534-1)	5/2/13	08:50 Eastern		Water			X	3	
MW-11-050213 (480-37534-2)	5/2/13	11:30 Eastern		Water			X	3	
MW-13-050213 (480-37534-3)	5/2/13	13:50 Eastern		Water			X	3	
MW-13-050213 (480-37534-3MS)	5/2/13	13:50 Eastern	MS	Water			X	3	
MW-13-050213 (480-37534-3MSD)	5/2/13	13:50 Eastern	MSD	Water			X	3	

Possible Hazard Identification
Unconfirmed

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

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

Special Instructions/QC Requirements:

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

	Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company
1		5-3-13 1600			5/6/13 935	
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks.

5/15/2013

ORIGIN ID: DKKA (716) 691-2600
KEN KINECKI
TESTAMERICA
10 HAZELWOOD DR

AMHERST, NY 14228
UNITED STATES US

SHIP DATE: 03MAY13
ACTWGT: 27.0 LB MAN
CAD: 735603/CAFE2608
DIMS: 26x15x14 IN

BILL RECIPIENT

TO MARK PHILLIPS
TA BURLINGTON
30 COMMUNITY DRIVE
SUITE 11
SOUTH BURLINGTON VT 05403
(802) 660-1990 REF: BURLINGTON
DEPT: SAMPLE CONTROL

FedEx Express

MON - 06 MAY 3:00P
STANDARD OVERNIGHT

TRK# 0201 4485 0264 3181

KS BTVA

05403
VT-US BTV

Part # 154254-354 RIT2 02/13

Login Sample Receipt Checklist

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 480-37534-1

Login Number: 37534

List Source: TestAmerica Buffalo

List Number: 1

Creator: Kolb, Chris M

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	N/A	

Login Sample Receipt Checklist

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 480-37534-1

Login Number: 37534
List Number: 1
Creator: Poucher, Stephanie A

List Source: TestAmerica Burlington
List Creation: 05/06/13 10:24 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	709086
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.0ºC IR GUN ID 181. CF 0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level as required.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

TestAmerica Job ID: 480-37628-1

Client Project/Site: 058507, GM-Lockport Groundwater Sampling

For:

Conestoga-Rovers & Associates, Inc.
2055 Niagara Falls Blvd., Suite 3
Niagara Falls, New York 14304

Attn: Kathleen Willy

Melissa Deyo

Authorized for release by:
5/16/2013 3:41:46 PM

Melissa Deyo, Project Manager I
melissa.deyo@testamericainc.com

Table of Contents

Qualifiers

GC VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC exceeds the control limits.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
F	MS or MSD exceeds the control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job ID: 480-37628-1

Laboratory: TestAmerica Buffalo

Narrative

Job Narrative
480-37628-1

Receipt
The samples were received on 5/3/2013 3:30 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.8º C.

GC/MS VOA
Method 8260B: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-12-050313 (480-37628-1 DL) and MW-7-050313 (480-37628-3) and Trip Blank (480-37628-4 DL). Elevated reporting limits (RLs) are provided.

Method 8260B: The following volatile samples were analyzed with headspace in the sample vial due to multiple injections and/or limited volume: Trip Blank (480-37628-4) and Trip Blank (480-37628-4 DL).

No other analytical or quality issues were noted.

IC
Method 300.0: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-12-050313 (480-37628-1), MW-14-050313 (480-37628-2), MW-7-050313 (480-37628-3) and (480-37628-3 MS). Elevated reporting limits (RLs) are provided.

No other analytical or quality issues were noted.

GC VOA
Method RSK-175: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-12-050313 (480-37628-1 DL). Elevated reporting limits (RLs) are provided.

No other analytical or quality issues were noted.

Metals
Method 6010B: The method blank for preparation batch 116862 contained Manganese above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

No other analytical or quality issues were noted.

General Chemistry
Method 350.1: The method blank for batch 116849 contained Ammonia above the reporting limit (RL). The associated samples contained detects for this analyte at concentrations greater than 10 times the value found in the method blank; therefore, re-extraction and/or re-analysis of samples was not performed

Method SM 4500 S2 D: The matrix spike (MS) recovery for batch 117205 was outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria.

No other analytical or quality issues were noted.

Detection Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 058507, GM-Lockport Groundwater Sampling

TestAmerica Job ID: 480-37628-1

Client Sample ID: MW-12-050313 — Lab Sample ID: 480-37628-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Hydrogen	1.1		0.60	0.074	nm	1		AM20GAX	Total/NA

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
trans-1,2-Dichloroethene	1.0		1.0	0.90	ug/L	1		8260B	Total/NA
Trichloroethene	2.0		1.0	0.46	ug/L	1		8260B	Total/NA
Vinyl chloride	73		1.0	0.90	ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene - DL	150		2.0	1.6	ug/L	2		8260B	Total/NA
Ethane	3.1	J	7.5	0.49	ug/L	1		RSK-175	Total/NA
Ethene	4.2	J	7.0	0.52	ug/L	1		RSK-175	Total/NA
Methane - DL	200		40	2.2	ug/L	10		RSK-175	Total/NA
Iron	8.1	^	0.050	0.019	mg/L	1		6010B	Total/NA
Magnesium	76.4		0.20	0.043	mg/L	1		6010B	Total/NA
Manganese	7.4	B	0.0030	0.00040	mg/L	1		6010B	Total/NA
Potassium	3.9		0.50	0.10	mg/L	1		6010B	Total/NA
Sodium	1260		1.0	0.32	mg/L	1		6010B	Total/NA
Chloride	3090		25.0	14.1	mg/L	50		300.0	Total/NA
Sulfate	120		10.0	1.7	mg/L	5		300.0	Total/NA
Ammonia	1.2	B	0.020	0.0090	mg/L	1		350.1	Total/NA
Total Organic Carbon	3.6		1.0	0.43	mg/L	1		9060	Total/NA
Total Alkalinity	323		5.0	0.79	mg/L	1		SM 2320B	Total/NA

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Carbon dioxide	14000		1000	1000	ug/L	1		RSK-175	Total/NA

Client Sample ID: MW-14-050313 — Lab Sample ID: 480-37628-2

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Hydrogen	16		0.60	0.074	nm	1		AM20GAX	Total/NA

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methane	50		4.0	0.22	ug/L	1		RSK-175	Total/NA
Iron	0.038	J	0.050	0.019	mg/L	1		6010B	Total/NA
Magnesium	59.4		0.20	0.043	mg/L	1		6010B	Total/NA
Manganese	0.20	B	0.0030	0.00040	mg/L	1		6010B	Total/NA
Potassium	5.1		0.50	0.10	mg/L	1		6010B	Total/NA
Sodium	850		1.0	0.32	mg/L	1		6010B	Total/NA
Chloride	1340		10.0	5.6	mg/L	20		300.0	Total/NA
Sulfate	60.0		10.0	1.7	mg/L	5		300.0	Total/NA
Ammonia	0.15		0.020	0.0090	mg/L	1		350.1	Total/NA
Nitrate	0.061		0.050	0.020	mg/L	1		353.2	Total/NA
Total Organic Carbon	1.7		1.0	0.43	mg/L	1		9060	Total/NA
Total Alkalinity	361		5.0	0.79	mg/L	1		SM 2320B	Total/NA

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Carbon dioxide	6200		1000	1000	ug/L	1		RSK-175	Total/NA

Client Sample ID: MW-7-050313 — Lab Sample ID: 480-37628-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	55000		10000	8100	ug/L	10000		8260B	Total/NA
Trichloroethene	880000		10000	4600	ug/L	10000		8260B	Total/NA
Ethane	32		7.5	0.49	ug/L	1		RSK-175	Total/NA
Ethene	250		7.0	0.52	ug/L	1		RSK-175	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Buffalo

Client Sample ID: MW-7-050313 (Continued)

Lab Sample ID: 480-37628-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methane	120		4.0	0.22	ug/L	1		RSK-175	Total/NA
Iron	0.021	J	0.050	0.019	mg/L	1		6010B	Total/NA
Magnesium	76.0		0.20	0.043	mg/L	1		6010B	Total/NA
Manganese	0.019	B	0.0030	0.00040	mg/L	1		6010B	Total/NA
Potassium	14.3		0.50	0.10	mg/L	1		6010B	Total/NA
Sodium	254		1.0	0.32	mg/L	1		6010B	Total/NA
Chloride	569		5.0	2.8	mg/L	10		300.0	Total/NA
Sulfate	253		10.0	1.7	mg/L	5		300.0	Total/NA
Ammonia	0.75	B	0.020	0.0090	mg/L	1		350.1	Total/NA
Total Organic Carbon	7.6		1.0	0.43	mg/L	1		9060	Total/NA
Total Alkalinity	242		5.0	0.79	mg/L	1		SM 2320B	Total/NA
Acetic acid	7.0		1.0	0.15	mg/L	1		VFA-IC	Total/NA

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Carbon dioxide	4400		1000	1000	ug/L	1		RSK-175	Total/NA

Client Sample ID: Trip Blank

Lab Sample ID: 480-37628-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	4.7		1.0	0.81	ug/L	1		8260B	Total/NA
Trichloroethene - DL	62		2.0	0.92	ug/L	2		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-12-050313

Date Collected: 05/03/13 09:00
Date Received: 05/03/13 15:30

Lab Sample ID: 480-37628-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	ND		1.0	0.36	ug/L			05/11/13 18:30	1
trans-1,2-Dichloroethene	**1.0**		1.0	0.90	ug/L			05/11/13 18:30	1
Trichloroethene	**2.0**		1.0	0.46	ug/L			05/11/13 18:30	1
Vinyl chloride	**73**		1.0	0.90	ug/L			05/11/13 18:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*66 - 137*		*05/11/13 18:30*	*1*
4-Bromofluorobenzene (Surr)	*107*		*73 - 120*		*05/11/13 18:30*	*1*
Toluene-d8 (Surr)	*103*		*71 - 126*		*05/11/13 18:30*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	**150**		2.0	1.6	ug/L			05/13/13 12:56	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*66 - 137*		*05/13/13 12:56*	*2*
4-Bromofluorobenzene (Surr)	*97*		*73 - 120*		*05/13/13 12:56*	*2*
Toluene-d8 (Surr)	*94*		*71 - 126*		*05/13/13 12:56*	*2*

Method: AM20GAX - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hydrogen	**1.1**		0.60	0.074	nm			05/09/13 13:00	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	**3.1**	**J**	7.5	0.49	ug/L			05/06/13 08:23	1
Ethene	**4.2**	**J**	7.0	0.52	ug/L			05/06/13 08:23	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	**14000**		1000	1000	ug/L			05/07/13 13:46	1

Method: RSK-175 - Dissolved Gases (GC) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	**200**		40	2.2	ug/L			05/06/13 09:25	10

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**8.1**	**^**	0.050	0.019	mg/L		05/06/13 07:40	05/06/13 21:59	1
Magnesium	**76.4**		0.20	0.043	mg/L		05/06/13 07:40	05/06/13 21:59	1
Manganese	**7.4**	**B**	0.0030	0.00040	mg/L		05/06/13 07:40	05/06/13 21:59	1
Potassium	**3.9**		0.50	0.10	mg/L		05/06/13 07:40	05/06/13 21:59	1
Sodium	**1260**		1.0	0.32	mg/L		05/06/13 07:40	05/06/13 21:59	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3090**		25.0	14.1	mg/L			05/07/13 21:05	50
Sulfate	**120**		10.0	1.7	mg/L			05/07/13 03:03	5
Ammonia	**1.2**	**B**	0.020	0.0090	mg/L			05/04/13 15:15	1
Nitrate	ND		0.050	0.020	mg/L			05/03/13 19:32	1
Nitrite	ND		0.050	0.020	mg/L			05/03/13 19:32	1
Total Organic Carbon	**3.6**		1.0	0.43	mg/L			05/07/13 17:23	1
Total Alkalinity	**323**		5.0	0.79	mg/L			05/09/13 02:20	1

Client Sample ID: MW-12-050313 — Lab Sample ID: 480-37628-1

Date Collected: 05/03/13 09:00 — **Matrix: Water**
Date Received: 05/03/13 15:30

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		0.10	0.052	mg/L			05/07/13 12:09	1
Acetic acid	ND		1.0	0.15	mg/L			05/07/13 19:33	1
Formic-acid	ND		1.0	0.11	mg/L			05/07/13 19:33	1
Lactic acid	ND		1.0	0.14	mg/L			05/07/13 19:33	1
n-Butyric Acid	ND		1.0	0.16	mg/L			05/07/13 19:33	1
Propionic acid	ND		1.0	0.17	mg/L			05/07/13 19:33	1
Pyruvic Acid	ND		1.0	0.080	mg/L			05/07/13 19:33	1

Client Sample ID: MW-14-050313 — Lab Sample ID: 480-37628-2

Date Collected: 05/03/13 12:00 — **Matrix: Water**
Date Received: 05/03/13 15:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			05/11/13 18:57	1
Tetrachloroethene	ND		1.0	0.36	ug/L			05/11/13 18:57	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			05/11/13 18:57	1
Trichloroethene	ND		1.0	0.46	ug/L			05/11/13 18:57	1
Vinyl chloride	ND		1.0	0.90	ug/L			05/11/13 18:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*66 - 137*		*05/11/13 18:57*	*1*
4-Bromofluorobenzene (Surr)	*106*		*73 - 120*		*05/11/13 18:57*	*1*
Toluene-d8 (Surr)	*100*		*71 - 126*		*05/11/13 18:57*	*1*

Method: AM20GAX - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hydrogen	**16**		0.60	0.074	nm			05/09/13 13:00	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	ND		7.5	0.49	ug/L			05/06/13 08:40	1
Ethene	ND		7.0	0.52	ug/L			05/06/13 08:40	1
Methane	**50**		4.0	0.22	ug/L			05/06/13 08:40	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	**6200**		1000	1000	ug/L			05/07/13 13:55	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**0.038**	**J**	0.050	0.019	mg/L		05/06/13 07:40	05/07/13 19:57	1
Magnesium	**59.4**		0.20	0.043	mg/L		05/06/13 07:40	05/06/13 22:02	1
Manganese	**0.20**	**B**	0.0030	0.00040	mg/L		05/06/13 07:40	05/06/13 22:02	1
Potassium	**5.1**		0.50	0.10	mg/L		05/06/13 07:40	05/06/13 22:02	1
Sodium	**850**		1.0	0.32	mg/L		05/06/13 07:40	05/06/13 22:02	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1340**		10.0	5.6	mg/L			05/07/13 21:15	20
Sulfate	**60.0**		10.0	1.7	mg/L			05/07/13 03:13	5
Ammonia	**0.15**		0.020	0.0090	mg/L			05/08/13 11:29	1
Nitrate	**0.061**		0.050	0.020	mg/L			05/03/13 21:12	1

Client Sample ID: MW-14-050313 — Lab Sample ID: 480-37628-2

Date Collected: 05/03/13 12:00 — **Matrix: Water**
Date Received: 05/03/13 15:30

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite	ND		0.050	0.020	mg/L			05/03/13 21:12	1
Total Organic Carbon	**1.7**		1.0	0.43	mg/L			05/07/13 17:54	1
Total Alkalinity	**361**		5.0	0.79	mg/L			05/09/13 02:28	1
Sulfide	ND		0.10	0.052	mg/L			05/07/13 12:12	1
Acetic acid	ND		1.0	0.15	mg/L			05/07/13 20:02	1
Formic-acid	ND		1.0	0.11	mg/L			05/07/13 20:02	1
Lactic acid	ND		1.0	0.14	mg/L			05/07/13 20:02	1
n-Butyric Acid	ND		1.0	0.16	mg/L			05/07/13 20:02	1
Propionic acid	ND		1.0	0.17	mg/L			05/07/13 20:02	1
Pyruvic Acid	ND		1.0	0.080	mg/L			05/07/13 20:02	1

Client Sample ID: MW-7-050313 — Lab Sample ID: 480-37628-3

Date Collected: 05/03/13 14:10 — **Matrix: Water**
Date Received: 05/03/13 15:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	**55000**		10000	8100	ug/L			05/13/13 13:19	10000
Tetrachloroethene	ND		10000	3600	ug/L			05/13/13 13:19	10000
trans-1,2-Dichloroethene	ND		10000	9000	ug/L			05/13/13 13:19	10000
Trichloroethene	**880000**		10000	4600	ug/L			05/13/13 13:19	10000
Vinyl chloride	ND		10000	9000	ug/L			05/13/13 13:19	10000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*66 - 137*		*05/13/13 13:19*	*10000*
4-Bromofluorobenzene (Surr)	*103*		*73 - 120*		*05/13/13 13:19*	*10000*
Toluene-d8 (Surr)	*100*		*71 - 126*		*05/13/13 13:19*	*10000*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	**32**		7.5	0.49	ug/L			05/06/13 08:57	1
Ethene	**250**		7.0	0.52	ug/L			05/06/13 08:57	1
Methane	**120**		4.0	0.22	ug/L			05/06/13 08:57	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	**4400**		1000	1000	ug/L			05/07/13 14:02	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**0.021**	**J**	0.050	0.019	mg/L		05/06/13 07:40	05/07/13 19:59	1
Magnesium	**76.0**		0.20	0.043	mg/L		05/06/13 07:40	05/06/13 22:05	1
Manganese	**0.019**	**B**	0.0030	0.00040	mg/L		05/06/13 07:40	05/06/13 22:05	1
Potassium	**14.3**		0.50	0.10	mg/L		05/06/13 07:40	05/06/13 22:05	1
Sodium	**254**		1.0	0.32	mg/L		05/06/13 07:40	05/06/13 22:05	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**569**		5.0	2.8	mg/L			05/07/13 21:25	10
Sulfate	**253**		10.0	1.7	mg/L			05/07/13 03:24	5
Ammonia	**0.75**	**B**	0.020	0.0090	mg/L			05/04/13 15:17	1
Nitrate	ND		0.050	0.020	mg/L			05/03/13 19:34	1

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 058507, GM-Lockport Groundwater Sampling

TestAmerica Job ID: 480-37628-1

Client Sample ID: MW-7-050313

Lab Sample ID: 480-37628-3

Date Collected: 05/03/13 14:10
Matrix: Water
Date Received: 05/03/13 15:30

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite	ND		0.050	0.020	mg/L			05/03/13 19:34	1
Total Organic Carbon	**7.6**		1.0	0.43	mg/L			05/07/13 18:25	1
Total Alkalinity	**242**		5.0	0.79	mg/L			05/09/13 02:34	1
Sulfide	ND		0.10	0.052	mg/L			05/07/13 12:17	1
Acetic acid	**7.0**		1.0	0.15	mg/L			05/07/13 20:31	1
Formic-acid	ND		1.0	0.11	mg/L			05/07/13 20:31	1
Lactic acid	ND		1.0	0.14	mg/L			05/07/13 20:31	1
n-Butyric Acid	ND		1.0	0.16	mg/L			05/07/13 20:31	1
Propionic acid	ND		1.0	0.17	mg/L			05/07/13 20:31	1
Pyruvic Acid	ND		1.0	0.080	mg/L			05/07/13 20:31	1

Client Sample ID: Trip Blank

Lab Sample ID: 480-37628-4

Date Collected: 05/03/13 00:00
Matrix: Water
Date Received: 05/03/13 15:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	**4.7**		1.0	0.81	ug/L			05/13/13 13:42	1
Tetrachloroethene	ND		1.0	0.36	ug/L			05/13/13 13:42	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			05/13/13 13:42	1
Vinyl chloride	ND		1.0	0.90	ug/L			05/13/13 13:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*66 - 137*		*05/13/13 13:42*	*1*
4-Bromofluorobenzene (Surr)	*109*		*73 - 120*		*05/13/13 13:42*	*1*
Toluene-d8 (Surr)	*104*		*71 - 126*		*05/13/13 13:42*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	**62**		2.0	0.92	ug/L			05/14/13 02:28	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*66 - 137*		*05/14/13 02:28*	*2*
4-Bromofluorobenzene (Surr)	*106*		*73 - 120*		*05/14/13 02:28*	*2*
Toluene-d8 (Surr)	*102*		*71 - 126*		*05/14/13 02:28*	*2*

Surrogate Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 058507, GM-Lockport Groundwater Sampling

TestAmerica Job ID: 480-37628-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		12DCE	BFB	TOL
Lab Sample ID	Client Sample ID	(66-137)	(73-120)	(71-126)
480-37628-1	MW-12-050313	101	107	103
480-37628-1 - DL	MW-12-050313	93	97	94
480-37628-2	MW-14-050313	102	106	100
480-37628-3	MW-7-050313	103	103	100
480-37628-4	Trip Blank	102	109	104
480-37628-4 - DL	Trip Blank	105	106	102
LCS 480-118132/3	Lab Control Sample	105	108	103
LCS 480-118211/4	Lab Control Sample	98	106	102
LCS 480-118351/4	Lab Control Sample	101	111	106
MB 480-118132/4	Method Blank	105	109	100
MB 480-118211/5	Method Blank	99	103	98
MB 480-118351/5	Method Blank	106	110	105

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

TOL = Toluene-d8 (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 480-118132/4
Matrix: Water
Analysis Batch: 118132

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			05/11/13 16:26	1
Tetrachloroethene	ND		1.0	0.36	ug/L			05/11/13 16:26	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			05/11/13 16:26	1
Trichloroethene	ND		1.0	0.46	ug/L			05/11/13 16:26	1
Vinyl chloride	ND		1.0	0.90	ug/L			05/11/13 16:26	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*66 - 137*		*05/11/13 16:26*	*1*
4-Bromofluorobenzene (Surr)	*109*		*73 - 120*		*05/11/13 16:26*	*1*
Toluene-d8 (Surr)	*100*		*71 - 126*		*05/11/13 16:26*	*1*

Lab Sample ID: LCS 480-118132/3
Matrix: Water
Analysis Batch: 118132

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
cis-1,2-Dichloroethene	25.0	25.3		ug/L		101	74 - 124
Tetrachloroethene	25.0	27.8		ug/L		111	74 - 122
trans-1,2-Dichloroethene	25.0	26.4		ug/L		106	73 - 127
Trichloroethene	25.0	25.6		ug/L		102	74 - 123

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*105*		*66 - 137*
4-Bromofluorobenzene (Surr)	*108*		*73 - 120*
Toluene-d8 (Surr)	*103*		*71 - 126*

Lab Sample ID: MB 480-118211/5
Matrix: Water
Analysis Batch: 118211

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			05/13/13 10:49	1
Tetrachloroethene	ND		1.0	0.36	ug/L			05/13/13 10:49	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			05/13/13 10:49	1
Trichloroethene	ND		1.0	0.46	ug/L			05/13/13 10:49	1
Vinyl chloride	ND		1.0	0.90	ug/L			05/13/13 10:49	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*66 - 137*		*05/13/13 10:49*	*1*
4-Bromofluorobenzene (Surr)	*103*		*73 - 120*		*05/13/13 10:49*	*1*
Toluene-d8 (Surr)	*98*		*71 - 126*		*05/13/13 10:49*	*1*

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

Lab Sample ID: LCS 480-118211/4
Matrix: Water
Analysis Batch: 118211

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
cis-1,2-Dichloroethene	25.0	24.5		ug/L		98	74 - 124
Tetrachloroethene	25.0	26.8		ug/L		107	74 - 122
trans-1,2-Dichloroethene	25.0	25.5		ug/L		102	73 - 127
Trichloroethene	25.0	24.1		ug/L		96	74 - 123

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*98*		*66 - 137*
4-Bromofluorobenzene (Surr)	*106*		*73 - 120*
Toluene-d8 (Surr)	*102*		*71 - 126*

Lab Sample ID: MB 480-118351/5
Matrix: Water
Analysis Batch: 118351

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			05/13/13 21:57	1
Tetrachloroethene	ND		1.0	0.36	ug/L			05/13/13 21:57	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			05/13/13 21:57	1
Trichloroethene	ND		1.0	0.46	ug/L			05/13/13 21:57	1
Vinyl chloride	ND		1.0	0.90	ug/L			05/13/13 21:57	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*66 - 137*		*05/13/13 21:57*	*1*
4-Bromofluorobenzene (Surr)	*110*		*73 - 120*		*05/13/13 21:57*	*1*
Toluene-d8 (Surr)	*105*		*71 - 126*		*05/13/13 21:57*	*1*

Lab Sample ID: LCS 480-118351/4
Matrix: Water
Analysis Batch: 118351

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
cis-1,2-Dichloroethene	25.0	27.7		ug/L		111	74 - 124
Tetrachloroethene	25.0	30.1		ug/L		120	74 - 122
trans-1,2-Dichloroethene	25.0	26.2		ug/L		105	73 - 127
Trichloroethene	25.0	28.4		ug/L		114	74 - 123

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*101*		*66 - 137*
4-Bromofluorobenzene (Surr)	*111*		*73 - 120*
Toluene-d8 (Surr)	*106*		*71 - 126*

Method: RSK-175 - Dissolved Gases (GC)

Lab Sample ID: MB 480-116879/2
Matrix: Water
Analysis Batch: 116879

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	ND		7.5	0.49	ug/L			05/06/13 07:17	1
Ethene	ND		7.0	0.52	ug/L			05/06/13 07:17	1
Methane	ND		4.0	0.22	ug/L			05/06/13 07:17	1

Lab Sample ID: LCS 480-116879/4
Matrix: Water
Analysis Batch: 116879

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethane	14.4	17.3		ug/L		120	67 - 128
Ethene	13.5	16.2		ug/L		120	60 - 137
Methane	7.69	8.73		ug/L		113	48 - 174

Lab Sample ID: LCSD 480-116879/5
Matrix: Water
Analysis Batch: 116879

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ethane	14.4	17.1		ug/L		119	67 - 128	1	50
Ethene	13.5	16.2		ug/L		120	60 - 137	0	50
Methane	7.69	8.74		ug/L		114	48 - 174	0	50

Lab Sample ID: MB 200-55142/3
Matrix: Water
Analysis Batch: 55142

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	ND		1000	1000	ug/L			05/07/13 12:16	1

Lab Sample ID: LCS 200-55142/2
Matrix: Water
Analysis Batch: 55142

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon dioxide	5010	4790		ug/L		96	70 - 130

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 480-116862/1-A
Matrix: Water
Analysis Batch: 117145

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 116862

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.050	0.019	mg/L		05/06/13 07:40	05/06/13 21:22	1
Magnesium	ND		0.20	0.043	mg/L		05/06/13 07:40	05/06/13 21:22	1
Manganese	0.000570	J	0.0030	0.00040	mg/L		05/06/13 07:40	05/06/13 21:22	1
Potassium	ND		0.50	0.10	mg/L		05/06/13 07:40	05/06/13 21:22	1
Sodium	ND		1.0	0.32	mg/L		05/06/13 07:40	05/06/13 21:22	1

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 480-116862/2-A
Matrix: Water
Analysis Batch: 117145

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 116862

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	10.0	10.66		mg/L		107	80 - 120
Magnesium	10.0	10.42		mg/L		104	80 - 120
Manganese	0.200	0.210		mg/L		105	80 - 120
Potassium	10.0	10.89		mg/L		109	80 - 120
Sodium	10.0	10.74		mg/L		107	80 - 120

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 480-117004/76
Matrix: Water
Analysis Batch: 117004

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50	0.28	mg/L			05/07/13 02:13	1
Sulfate	ND		2.0	0.35	mg/L			05/07/13 02:13	1

Lab Sample ID: LCS 480-117004/75
Matrix: Water
Analysis Batch: 117004

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	20.67		mg/L		103	90 - 110
Sulfate	20.0	20.76		mg/L		104	90 - 110

Lab Sample ID: 480-37628-3 MS
Matrix: Water
Analysis Batch: 117004

Client Sample ID: MW-7-050313
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	253		125	376.3		mg/L		99	90 - 110

Lab Sample ID: MB 480-117251/28
Matrix: Water
Analysis Batch: 117251

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50	0.28	mg/L			05/07/13 20:24	1
Sulfate	ND		2.0	0.35	mg/L			05/07/13 20:24	1

Lab Sample ID: LCS 480-117251/27
Matrix: Water
Analysis Batch: 117251

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	20.52		mg/L		103	90 - 110
Sulfate	20.0	20.68		mg/L		103	90 - 110

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 480-116849/147
Matrix: Water
Analysis Batch: 116849

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.0246		0.020	0.0090	mg/L			05/04/13 14:58	1

Lab Sample ID: LCS 480-116849/148
Matrix: Water
Analysis Batch: 116849

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	1.00	0.975		mg/L		98	90 - 110

Lab Sample ID: MB 480-117465/27
Matrix: Water
Analysis Batch: 117465

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.020	0.0090	mg/L			05/08/13 11:17	1

Lab Sample ID: MB 480-117465/3
Matrix: Water
Analysis Batch: 117465

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.020	0.0090	mg/L			05/08/13 10:54	1

Lab Sample ID: LCS 480-117465/28
Matrix: Water
Analysis Batch: 117465

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	1.00	1.01		mg/L		101	90 - 110

Lab Sample ID: LCS 480-117465/4
Matrix: Water
Analysis Batch: 117465

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	1.00	1.01		mg/L		101	90 - 110

Method: 353.2 - Nitrogen, Nitrite

Lab Sample ID: MB 480-116782/27
Matrix: Water
Analysis Batch: 116782

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite	ND		0.050	0.020	mg/L			05/03/13 20:58	1

Method: 353.2 - Nitrogen, Nitrite (Continued)

Lab Sample ID: MB 480-116782/3
Matrix: Water
Analysis Batch: 116782

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite	ND		0.050	0.020	mg/L			05/03/13 20:32	1

Lab Sample ID: LCS 480-116782/28
Matrix: Water
Analysis Batch: 116782

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrite	1.50	1.50		mg/L		100	90 - 110

Lab Sample ID: LCS 480-116782/4
Matrix: Water
Analysis Batch: 116782

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrite	1.50	1.51		mg/L		101	90 - 110

Method: 9060 - Organic Carbon, Total (TOC)

Lab Sample ID: MB 480-117408/3
Matrix: Water
Analysis Batch: 117408

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		1.0	0.43	mg/L			05/07/13 16:22	1

Lab Sample ID: LCS 480-117408/4
Matrix: Water
Analysis Batch: 117408

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	60.0	60.25		mg/L		100	90 - 110

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 480-117560/6
Matrix: Water
Analysis Batch: 117560

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	ND		5.0	0.79	mg/L			05/09/13 00:52	1

Lab Sample ID: LCS 480-117560/7
Matrix: Water
Analysis Batch: 117560

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity	100	95.51		mg/L		96	90 - 110

Method: SM 4500 S2 D - Sulfide, Total

Lab Sample ID: MB 480-117205/3
Matrix: Water
Analysis Batch: 117205

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		0.10	0.052	mg/L			05/07/13 12:02	1

Lab Sample ID: LCS 480-117205/4
Matrix: Water
Analysis Batch: 117205

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide	0.750	0.714		mg/L		95	90 - 110

Lab Sample ID: 480-37628-3 MS
Matrix: Water
Analysis Batch: 117205

Client Sample ID: MW-7-050313
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide	ND		0.500	0.382	F	mg/L		76	90 - 110

Lab Sample ID: 480-37628-2 DU
Matrix: Water
Analysis Batch: 117205

Client Sample ID: MW-14-050313
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Sulfide	ND		ND		mg/L		NC	20

Method: VFA-IC - Volatile Fatty Acids, Ion Chromatography

Lab Sample ID: MB 480-117044/52
Matrix: Water
Analysis Batch: 117044

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetic acid	ND		1.0	0.15	mg/L			05/07/13 17:07	1
Formic-acid	ND		1.0	0.11	mg/L			05/07/13 17:07	1
Lactic acid	ND		1.0	0.14	mg/L			05/07/13 17:07	1
n-Butyric Acid	ND		1.0	0.16	mg/L			05/07/13 17:07	1
Propionic acid	ND		1.0	0.17	mg/L			05/07/13 17:07	1
Pyruvic Acid	ND		1.0	0.080	mg/L			05/07/13 17:07	1

Lab Sample ID: LCS 480-117044/51
Matrix: Water
Analysis Batch: 117044

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetic acid	10.0	9.84		mg/L		98	80 - 120
Formic-acid	10.0	9.85		mg/L		98	80 - 120
Lactic acid	10.0	10.25		mg/L		103	80 - 120
n-Butyric Acid	10.0	9.67		mg/L		97	80 - 120
Propionic acid	10.0	10.31		mg/L		103	80 - 120
Pyruvic Acid	10.0	10.39		mg/L		104	80 - 120

GC/MS VOA

Analysis Batch: 118132

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37628-1	MW-12-050313	Total/NA	Water	8260B	
480-37628-2	MW-14-050313	Total/NA	Water	8260B	
LCS 480-118132/3	Lab Control Sample	Total/NA	Water	8260B	
MB 480-118132/4	Method Blank	Total/NA	Water	8260B	

Analysis Batch: 118211

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37628-1 - DL	MW-12-050313	Total/NA	Water	8260B	
480-37628-3	MW-7-050313	Total/NA	Water	8260B	
480-37628-4	Trip Blank	Total/NA	Water	8260B	
LCS 480-118211/4	Lab Control Sample	Total/NA	Water	8260B	
MB 480-118211/5	Method Blank	Total/NA	Water	8260B	

Analysis Batch: 118351

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37628-4 - DL	Trip Blank	Total/NA	Water	8260B	
LCS 480-118351/4	Lab Control Sample	Total/NA	Water	8260B	
MB 480-118351/5	Method Blank	Total/NA	Water	8260B	

GC VOA

Analysis Batch: 55142

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37628-1	MW-12-050313	Total/NA	Water	RSK-175	
480-37628-2	MW-14-050313	Total/NA	Water	RSK-175	
480-37628-3	MW-7-050313	Total/NA	Water	RSK-175	
LCS 200-55142/2	Lab Control Sample	Total/NA	Water	RSK-175	
MB 200-55142/3	Method Blank	Total/NA	Water	RSK-175	

Analysis Batch: 116879

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37628-1	MW-12-050313	Total/NA	Water	RSK-175	
480-37628-1 - DL	MW-12-050313	Total/NA	Water	RSK-175	
480-37628-2	MW-14-050313	Total/NA	Water	RSK-175	
480-37628-3	MW-7-050313	Total/NA	Water	RSK-175	
LCS 480-116879/4	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 480-116879/5	Lab Control Sample Dup	Total/NA	Water	RSK-175	
MB 480-116879/2	Method Blank	Total/NA	Water	RSK-175	

Analysis Batch: 119010

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37628-1	MW-12-050313	Total/NA	Water	AM20GAX	
480-37628-2	MW-14-050313	Total/NA	Water	AM20GAX	

Metals

Prep Batch: 116862

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37628-1	MW-12-050313	Total/NA	Water	3005A	
480-37628-2	MW-14-050313	Total/NA	Water	3005A	

Metals (Continued)

Prep Batch: 116862 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37628-3	MW-7-050313	Total/NA	Water	3005A	
LCS 480-116862/2-A	Lab Control Sample	Total/NA	Water	3005A	
MB 480-116862/1-A	Method Blank	Total/NA	Water	3005A	

Analysis Batch: 117145

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37628-1	MW-12-050313	Total/NA	Water	6010B	116862
480-37628-2	MW-14-050313	Total/NA	Water	6010B	116862
480-37628-3	MW-7-050313	Total/NA	Water	6010B	116862
LCS 480-116862/2-A	Lab Control Sample	Total/NA	Water	6010B	116862
MB 480-116862/1-A	Method Blank	Total/NA	Water	6010B	116862

Analysis Batch: 117369

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37628-2	MW-14-050313	Total/NA	Water	6010B	116862
480-37628-3	MW-7-050313	Total/NA	Water	6010B	116862

General Chemistry

Analysis Batch: 116782

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37628-2	MW-14-050313	Total/NA	Water	353.2	
LCS 480-116782/28	Lab Control Sample	Total/NA	Water	353.2	
LCS 480-116782/4	Lab Control Sample	Total/NA	Water	353.2	
MB 480-116782/27	Method Blank	Total/NA	Water	353.2	
MB 480-116782/3	Method Blank	Total/NA	Water	353.2	

Analysis Batch: 116786

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37628-1	MW-12-050313	Total/NA	Water	353.2	
480-37628-2	MW-14-050313	Total/NA	Water	353.2	
480-37628-3	MW-7-050313	Total/NA	Water	353.2	

Analysis Batch: 116787

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37628-1	MW-12-050313	Total/NA	Water	353.2	
480-37628-3	MW-7-050313	Total/NA	Water	353.2	

Analysis Batch: 116849

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37628-1	MW-12-050313	Total/NA	Water	350.1	
480-37628-3	MW-7-050313	Total/NA	Water	350.1	
LCS 480-116849/148	Lab Control Sample	Total/NA	Water	350.1	
MB 480-116849/147	Method Blank	Total/NA	Water	350.1	

Analysis Batch: 117004

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37628-1	MW-12-050313	Total/NA	Water	300.0	
480-37628-2	MW-14-050313	Total/NA	Water	300.0	
480-37628-3	MW-7-050313	Total/NA	Water	300.0	

General Chemistry (Continued)

Analysis Batch: 117004 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37628-3 MS	MW-7-050313	Total/NA	Water	300.0	
LCS 480-117004/75	Lab Control Sample	Total/NA	Water	300.0	
MB 480-117004/76	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 117044

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37628-1	MW-12-050313	Total/NA	Water	VFA-IC	
480-37628-2	MW-14-050313	Total/NA	Water	VFA-IC	
480-37628-3	MW-7-050313	Total/NA	Water	VFA-IC	
LCS 480-117044/51	Lab Control Sample	Total/NA	Water	VFA-IC	
MB 480-117044/52	Method Blank	Total/NA	Water	VFA-IC	

Analysis Batch: 117205

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37628-1	MW-12-050313	Total/NA	Water	SM 4500 S2 D	
480-37628-2	MW-14-050313	Total/NA	Water	SM 4500 S2 D	
480-37628-2 DU	MW-14-050313	Total/NA	Water	SM 4500 S2 D	
480-37628-3	MW-7-050313	Total/NA	Water	SM 4500 S2 D	
480-37628-3 MS	MW-7-050313	Total/NA	Water	SM 4500 S2 D	
LCS 480-117205/4	Lab Control Sample	Total/NA	Water	SM 4500 S2 D	
MB 480-117205/3	Method Blank	Total/NA	Water	SM 4500 S2 D	

Analysis Batch: 117251

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37628-1	MW-12-050313	Total/NA	Water	300.0	
480-37628-2	MW-14-050313	Total/NA	Water	300.0	
480-37628-3	MW-7-050313	Total/NA	Water	300.0	
LCS 480-117251/27	Lab Control Sample	Total/NA	Water	300.0	
MB 480-117251/28	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 117408

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37628-1	MW-12-050313	Total/NA	Water	9060	
480-37628-2	MW-14-050313	Total/NA	Water	9060	
480-37628-3	MW-7-050313	Total/NA	Water	9060	
LCS 480-117408/4	Lab Control Sample	Total/NA	Water	9060	
MB 480-117408/3	Method Blank	Total/NA	Water	9060	

Analysis Batch: 117465

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37628-2	MW-14-050313	Total/NA	Water	350.1	
LCS 480-117465/28	Lab Control Sample	Total/NA	Water	350.1	
LCS 480-117465/4	Lab Control Sample	Total/NA	Water	350.1	
MB 480-117465/27	Method Blank	Total/NA	Water	350.1	
MB 480-117465/3	Method Blank	Total/NA	Water	350.1	

Analysis Batch: 117560

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37628-1	MW-12-050313	Total/NA	Water	SM 2320B	
480-37628-2	MW-14-050313	Total/NA	Water	SM 2320B	
480-37628-3	MW-7-050313	Total/NA	Water	SM 2320B	

General Chemistry (Continued)

Analysis Batch: 117560 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 480-117560/7	Lab Control Sample	Total/NA	Water	SM 2320B	
MB 480-117560/6	Method Blank	Total/NA	Water	SM 2320B	

Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 058507, GM-Lockport Groundwater Sampling

TestAmerica Job ID: 480-37628-1

Client Sample ID: MW-12-050313

Lab Sample ID: 480-37628-1

Date Collected: 05/03/13 09:00

Matrix: Water

Date Received: 05/03/13 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	118132	05/11/13 18:30	CDC	TAL BUF
Total/NA	Analysis	8260B	DL	2	118211	05/13/13 12:56	RL	TAL BUF
Total/NA	Analysis	RSK-175		1	55142	05/07/13 13:46	NA	TAL BUR
Total/NA	Analysis	RSK-175		1	116879	05/06/13 08:23	JM	TAL BUF
Total/NA	Analysis	RSK-175	DL	10	116879	05/06/13 09:25	JM	TAL BUF
Total/NA	Analysis	AM20GAX		1	119010	05/09/13 13:00	CTB	SC0015
Total/NA	Prep	3005A			116862	05/06/13 07:40	SS	TAL BUF
Total/NA	Analysis	6010B		1	117145	05/06/13 21:59	LH	TAL BUF
Total/NA	Analysis	353.2		1	116786	05/03/13 19:32	NH	TAL BUF
Total/NA	Analysis	353.2		1	116787	05/03/13 19:32	NH	TAL BUF
Total/NA	Analysis	350.1		1	116849	05/04/13 15:15	KS	TAL BUF
Total/NA	Analysis	300.0		5	117004	05/07/13 03:03	KC	TAL BUF
Total/NA	Analysis	VFA-IC		1	117044	05/07/13 19:33	KC	TAL BUF
Total/NA	Analysis	SM 4500 S2 D		1	117205	05/07/13 12:09	KJ	TAL BUF
Total/NA	Analysis	300.0		50	117251	05/07/13 21:05	KAC	TAL BUF
Total/NA	Analysis	9060		1	117408	05/07/13 17:23	KC	TAL BUF
Total/NA	Analysis	SM 2320B		1	117560	05/09/13 02:20	LK	TAL BUF

Client Sample ID: MW-14-050313

Lab Sample ID: 480-37628-2

Date Collected: 05/03/13 12:00

Matrix: Water

Date Received: 05/03/13 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	118132	05/11/13 18:57	CDC	TAL BUF
Total/NA	Analysis	RSK-175		1	55142	05/07/13 13:55	NA	TAL BUR
Total/NA	Analysis	RSK-175		1	116879	05/06/13 08:40	JM	TAL BUF
Total/NA	Analysis	AM20GAX		1	119010	05/09/13 13:00	CTB	SC0015
Total/NA	Prep	3005A			116862	05/06/13 07:40	SS	TAL BUF
Total/NA	Analysis	6010B		1	117145	05/06/13 22:02	LH	TAL BUF
Total/NA	Prep	3005A			116862	05/06/13 07:40	SS	TAL BUF
Total/NA	Analysis	6010B		1	117369	05/07/13 19:57	AH	TAL BUF
Total/NA	Analysis	353.2		1	116782	05/03/13 21:12	NH	TAL BUF
Total/NA	Analysis	353.2		1	116786	05/03/13 21:12	NH	TAL BUF
Total/NA	Analysis	300.0		5	117004	05/07/13 03:13	KC	TAL BUF
Total/NA	Analysis	VFA-IC		1	117044	05/07/13 20:02	KC	TAL BUF
Total/NA	Analysis	SM 4500 S2 D		1	117205	05/07/13 12:12	KJ	TAL BUF
Total/NA	Analysis	300.0		20	117251	05/07/13 21:15	KAC	TAL BUF
Total/NA	Analysis	9060		1	117408	05/07/13 17:54	KC	TAL BUF
Total/NA	Analysis	350.1		1	117465	05/08/13 11:29	SB	TAL BUF
Total/NA	Analysis	SM 2320B		1	117560	05/09/13 02:28	LK	TAL BUF

Client Sample ID: MW-7-050313

Lab Sample ID: 480-37628-3

Date Collected: 05/03/13 14:10

Matrix: Water

Date Received: 05/03/13 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10000	118211	05/13/13 13:19	RL	TAL BUF
Total/NA	Analysis	RSK-175		1	55142	05/07/13 14:02	NA	TAL BUR
Total/NA	Analysis	RSK-175		1	116879	05/06/13 08:57	JM	TAL BUF
Total/NA	Prep	3005A			116862	05/06/13 07:40	SS	TAL BUF
Total/NA	Analysis	6010B		1	117145	05/06/13 22:05	LH	TAL BUF
Total/NA	Prep	3005A			116862	05/06/13 07:40	SS	TAL BUF
Total/NA	Analysis	6010B		1	117369	05/07/13 19:59	AH	TAL BUF
Total/NA	Analysis	353.2		1	116786	05/03/13 19:34	NH	TAL BUF
Total/NA	Analysis	353.2		1	116787	05/03/13 19:34	NH	TAL BUF
Total/NA	Analysis	350.1		1	116849	05/04/13 15:17	KS	TAL BUF
Total/NA	Analysis	300.0		5	117004	05/07/13 03:24	KC	TAL BUF
Total/NA	Analysis	VFA-IC		1	117044	05/07/13 20:31	KC	TAL BUF
Total/NA	Analysis	SM 4500 S2 D		1	117205	05/07/13 12:17	KJ	TAL BUF
Total/NA	Analysis	300.0		10	117251	05/07/13 21:25	KAC	TAL BUF
Total/NA	Analysis	9060		1	117408	05/07/13 18:25	KC	TAL BUF
Total/NA	Analysis	SM 2320B		1	117560	05/09/13 02:34	LK	TAL BUF

Client Sample ID: Trip Blank

Lab Sample ID: 480-37628-4

Date Collected: 05/03/13 00:00

Matrix: Water

Date Received: 05/03/13 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	118211	05/13/13 13:42	RL	TAL BUF
Total/NA	Analysis	8260B	DL	2	118351	05/14/13 02:28	TRF	TAL BUF

Laboratory References:

SC0015 = Pittsburgh, PA, 220 William Pitt Way, Pittsburgh, PA 15238, TEL (412)826-5245

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

TAL BUR = TestAmerica Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

Certification Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 058507, GM-Lockport Groundwater Sampling

TestAmerica Job ID: 480-37628-1

Laboratory: TestAmerica Buffalo

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Arkansas DEQ	State Program	6	88-0686	07-06-13
California	NELAP	9	1169CA	09-30-13
Connecticut	State Program	1	PH-0568	09-30-14
Florida	NELAP	4	E87672	06-30-13
Georgia	State Program	4	N/A	03-31-14
Georgia	State Program	4	956	06-30-13
Georgia	State Program	4	956	03-31-14
Illinois	NELAP	5	200003	09-30-13
Iowa	State Program	7	374	03-15-15
Kansas	NELAP	7	E-10187	01-31-14
Kentucky	State Program	4	90029	12-31-13
Kentucky (UST)	State Program	4	30	04-01-14
Louisiana	NELAP	6	02031	06-30-13
Maine	State Program	1	NY00044	12-04-13
Maryland	State Program	3	294	03-31-14
Massachusetts	State Program	1	M-NY044	06-30-13
Michigan	State Program	5	9937	04-01-13 *
Minnesota	NELAP	5	036-999-337	12-31-13
New Hampshire	NELAP	1	2973	09-11-13
New Hampshire	NELAP	1	2337	11-17-13
New Jersey	NELAP	2	NY455	06-30-13
New York	NELAP	2	10026	04-01-14
North Dakota	State Program	8	R-176	03-31-14
Oklahoma	State Program	6	9421	08-31-13
Oregon	NELAP	10	NY200003	06-09-13
Pennsylvania	NELAP	3	68-00281	07-31-13
Rhode Island	State Program	1	LAO00328	12-31-13
Tennessee	State Program	4	TN02970	04-01-14
Texas	NELAP	6	T104704412-11-2	07-31-13
USDA	Federal		P330-11-00386	11-22-14
Virginia	NELAP	3	460185	09-14-13
Washington	State Program	10	C784	02-10-14
West Virginia DEP	State Program	3	252	09-30-13
Wisconsin	State Program	5	998310390	08-31-13

Laboratory: TestAmerica Burlington

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Connecticut	State Program	1	PH-0751	09-30-13
DE Haz. Subst. Cleanup Act (HSCA)	State Program	3	NA	02-13-15
Florida	NELAP	4	E87467	06-30-13
L-A-B	DoD ELAP		L2336	10-26-13
Louisiana	NELAP	6	176292	06-30-13
Minnesota	NELAP	5	050-999-436	12-31-13
New Hampshire	NELAP	1	2006	12-18-13
New Jersey	NELAP	2	VT972	06-30-13
New York	NELAP	2	10391	04-01-14
Pennsylvania	NELAP	3	68-00489	04-30-14
USDA	Federal		P330-11-00093	02-17-14

* Expired certification is currently pending renewal and is considered valid.

Certification Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 058507, GM-Lockport Groundwater Sampling

TestAmerica Job ID: 480-37628-1

Laboratory: TestAmerica Burlington (Continued)

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Vermont	State Program	1	VT-4000	12-31-13
Virginia	NELAP	3	460209	12-14-13

Method Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 058507, GM-Lockport Groundwater Sampling

TestAmerica Job ID: 480-37628-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL BUF
AM20GAX	Dissolved Gases (GC)	NONE	SC0015
RSK-175	Dissolved Gases (GC)	RSK	TAL BUR
RSK-175	Dissolved Gases (GC)	RSK	TAL BUF
6010B	Metals (ICP)	SW846	TAL BUF
300.0	Anions, Ion Chromatography	MCAWW	TAL BUF
350.1	Nitrogen, Ammonia	MCAWW	TAL BUF
353.2	Nitrate	EPA	TAL BUF
353.2	Nitrogen, Nitrite	MCAWW	TAL BUF
9060	Organic Carbon, Total (TOC)	SW846	TAL BUF
SM 2320B	Alkalinity	SM	TAL BUF
SM 4500 S2 D	Sulfide, Total	SM	TAL BUF
VFA-IC	Volatile Fatty Acids, Ion Chromatography	TestAmerica SOP	TAL BUF

Protocol References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

NONE = NONE

RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique , RSKSOP-175, Rev. 0, 8/11/94, USEPA Research Lab

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TestAmerica SOP = TestAmerica, Inc., Standard Operating Procedure

Laboratory References:

SC0015 = Pittsburgh, PA, 220 William Pitt Way, Pittsburgh, PA 15238, TEL (412)826-5245

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

TAL BUR = TestAmerica Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

Sample Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 058507, GM-Lockport Groundwater Sampling

TestAmerica Job ID: 480-37628-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-37628-1	MW-12-050313	Water	05/03/13 09:00	05/03/13 15:30
480-37628-2	MW-14-050313	Water	05/03/13 12:00	05/03/13 15:30
480-37628-3	MW-7-050313	Water	05/03/13 14:10	05/03/13 15:30
480-37628-4	Trip Blank	Water	05/03/13 00:00	05/03/13 15:30

Microseeps, Inc
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

May 14, 2013

Melissa Deyo
Test America
10 Hazelwood Drive
Buffalo, NY 14228

RE: **480-37628**

Microseeps Workorder: 8902

Dear Melissa Deyo:

Enclosed are the analytical results for sample(s) received by the laboratory on Tuesday, May 07, 2013. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Robbin Robl 05/14/2013 C.T. 5/15/13
rrobl@microseeps.com

Customer Service Representative

Enclosures

As a valued client we would appreciate your comments on our service.
Please email info@microseeps.com.

Total Number of Pages ____

CERTIFICATE OF ANALYSIS

Microseeps, Inc
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

LABORATORY ACCREDITATIONS & CERTIFICATIONS

Accreditor:	Pennsylvania Department of Environmental Protection, Bureau of Laboratories
Accreditation ID:	02-00538
Scope:	NELAP Non-Potable Water and Solid & Hazardous Waste
Accreditor:	NELAP: State of Florida, Department of Health, Bureau of Laboratories
Accreditation ID:	E87832
Scope:	Clean Water Act (CWA) Resource Conservation and Recovery Act (RCRA)
Accreditor:	South Carolina Department of Health and Environmental Control, Office of Environmental Laboratory Certification
Accreditation ID:	89009003
Scope:	Clean Water Act (CWA); Resource Conservation and Recovery Act (RCRA)
Accreditor:	NELAP: State of Louisiana, Department of Environmental Quality
Accreditation ID:	04104
Scope:	Solid and Chemical Materials; Non-Potable Water
Accreditor:	NELAP: New Jersey, Department of Environmental Protection
Accreditation ID:	PA026
Scope:	Non-Potable Water; Solid and Chemical Materials
Accreditor:	NELAP: New York, Department of Health Wadsworth Center
Accreditation ID:	11815
Scope:	Non-Potable Water; Solid and Hazardous Waste
Accreditor:	State of Connecticut, Department of Public Health, Division of Environmental Health
Accreditation ID:	PH-0263
Scope:	Clean Water Act (CWA) Resource Conservation and Recovery Act (RCRA)
Accreditor:	NELAP: Texas, Commission on Environmental Quality
Accreditation ID:	T104704453-09-TX
Scope:	Non-Potable Water
Accreditor:	State of New Hampshire
Accreditation ID:	299409
Scope:	Non-potable water
Accreditor:	State of Georgia
Accreditation ID:	Chapter 391-3-26
Scope:	As per the Georgia EPD Rules and Regulations for Commercial Laboratories, Microseeps is accredited by the Pennsylvania Department of Environmental Protection Bureau of Laboratories under the National Environmental Laboratory Approval Program (NELAC).

CERTIFICATE OF ANALYSIS

Microseeps, Inc
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

SAMPLE SUMMARY

Workorder: 8902 480-37628

Lab ID	Sample ID	Matrix	Date Collected	Date Received
89020001	MW-12-050313(480-37628-1)	Bubble Strip	5/3/2013 09:00	5/7/2013 11:00
89020002	MW-14-050313(480-37628-2)	Bubble Strip	5/3/2013 12:00	5/7/2013 11:00

Microseeps, Inc
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 8902 480-37628

Lab ID: **89020001** Date Received: 5/7/2013 11:00 Matrix: Bubble Strip

Sample ID: **MW-12-050313(480-37628-1)** Date Collected: 5/3/2013 09:00

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
RISK - MICR										
Analysis Desc: AM20GAX			Analytical Method: AM20GAX							
Hydrogen	**1.1**	nM	0.60	0.074	1			5/9/2013 13:00	GT	

Microseeps, Inc
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 8902 480-37628

Lab ID: **89020002** Date Received: 5/7/2013 11:00 Matrix: Bubble Strip

Sample ID: **MW-14-050313(480-37628-2)** Date Collected: 5/3/2013 12:00

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
RISK - MICR										
Analysis Desc: AM20GAX			Analytical Method: AM20GAX							
Hydrogen	**16**	nM	0.60	0.074	1			5/9/2013 13:12	GT	

Microseeps, Inc
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS QUALIFIERS

Workorder: 8902 480-37628

DEFINITIONS/QUALIFIERS

Disclaimer :	The Pennsylvania Department of Environmental Protection (PADEP) has decided to no longer recognize analyses that do not produce data for primary compliance, for NELAP accreditation. The methods affected by this decision are AM20GAx, AM21G, SW846 7199 and AM4.02. The laboratory shall continue to administer the NELAP/TNI standard requirements in the performance of these methods.
MDL	Method Detection Limit. Can be used synonymously with LOD; Limit Of Detection.
PQL	Practical Quanitation Limit. Can be used synonymously with LOQ; Limit Of Quantitation.
ND	Not detected at or above reporting limit.
DF	Dilution Factor.
S	Surrogate.
RPD	Relative Percent Difference.
% Rec	Percent Recovery.
U	Indicates the compound was analyzed for, but not detected at or above the noted concentration.
J	Estimated concentration greater than the set method detection limit (MDL) and less than the set reporting limit (PQL).

Microseeps, Inc
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

QUALITY CONTROL DATA

Workorder: 8902 480-37628

QC Batch: DISG/2986 Analysis Method: AM20GAX

QC Batch Method: AM20GAX

Associated Lab Samples: 89020001, 89020002

METHOD BLANK: 20146

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
RISK				
Hydrogen	nM	0.60 U	0.60	

LABORATORY CONTROL SAMPLE & LCSD: 20147 20148

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
RISK										
Hydrogen	nM	24	26	26	108	107	80-120	0.93	20	

Microseeps, Inc
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 8902 480-37628

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
89020001	MW-12-050313(480-37628-1)			AM20GAX	DISG/2986
89020002	MW-14-050313(480-37628-2)			AM20GAX	DISG/2986

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

8902

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Deyo, Melissa L	Carrier Tracking No(s):	COC No: 480-9913.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: melissa.deyo@testamericainc.com		Page: Page 1 of 1
Company: Microseeps				Job #: 480-37628-1
Address: 220 William Pitt Way,	Due Date Requested: 5/15/2013			
City: Pittsburgh	TAT Requested (days):			
State, Zip: PA, 15238				
Phone: 412-826-5245(Tel)	PO #:			
Email:	WO #:			
Project Name: 058507, GM-Lockport Groundwater Sampling	Project #: 48004014			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	AM20GAX/ Hydrogen	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-12-050313 (480-37628-1)	5/3/13	09:00 Eastern		Water			X	1	
MW-14-050313 (480-37628-2)	5/3/13	12:00 Eastern		Water			X	1	

Possible Hazard Identification
Unconfirmed

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

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

Special Instructions/QC Requirements:

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	5-3-13 1600			5/6/13 0900	TAP6#
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	5/6/13 1200			5/7/13 1100	MS
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

5/16/2013

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

Chain of Custody Record

480-37628 Chain of Custody

Client Information	Sampler: Thomas Bohlen	Lab PM: Deyo, Melissa L	Carrier
Client Contact: Mr. Christopher Boron	Phone: (716) 844-7050	E-Mail: melissa.deyo@testamericainc.com	Page 1 of 1
Company: GZA GeoEnvironmental, Inc.			GZA Job #: 21.0056546.00 Task 24
Address: 535 Washington Street 11th Floor	Due Date Requested:		
City: Buffalo	TAT Requested (days): 3 Weeks		
State, Zip: NY, 14203			
Phone: (716) 685-2300	PO #: 4047065		
Email: christopher.boron@gza.com	WO #: 58507		
Project Name: 058507, GM-Lockport Groundwater Sampling	Project #: 48004014		
Site: Delphi Harrison Thermal Systems Site	SSOW#: 256015		

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	RSK_175_CO2 - Carbon dioxide	VFA_IC - Volatile Fatty Acids	350.1 - Ammonia	6010B - Metals - Fe, Mn, Mg, K & Na	8260B - PCE, TCE, DCE (trans and cis), Vinyl Chl	9060 - Total Organic Carbon	RSK_175 - Methane, Ethane, Ethene	SM4500_S2_D - Sulfide	353.2, 353.2_Nitrite, Nitrate_Calc	2320B - Total Alkalinity	300.0_28D - Anions (Chloride & Sulfate)	AM20GAX	Total Number of containers	Special Instructions/Note:
			Preservation Code:			N	N	S	D	A	A	A	CB	N	N	N			
MW-12-050313	5/3/13	900	G	Water	N	X	X	X	X	X	X	X	X	X	X	X	X		X Microseeps Dissolved H_2
MW-14-050313	↓	1200	↓	Water	N	X	X	X	X	X	X	X	X	X	X	X	X		
MW-7-050313	↓	1410	↓	↓	N	X	X	X	X	X	X	X	X	X	X	X			
Trip Blank										X									

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

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

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

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

Special Instructions/QC Requirements:

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Thomas Bohlen	5/3/13 1530			5/3/13 1530	TA BUFFALO
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: #1 3.8

5/16/2013

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

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Deyo, Melissa L	Carrier Tracking No(s):	COC No. 480-9916.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: melissa.deyo@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.				Job #: 480-37628-1
Address: 30 Community Drive, Suite 11,	Due Date Requested: 5/15/2013			
City: South Burlington	TAT Requested (days):			
State, Zip: VT, 05403				
Phone: 802-660-1990(Tel)	PO #:			
Email	WO #:			
Project Name: 058507, GM-Lockport Groundwater Sampling	Project #: 48004014			
Site:	SSOW#:			

Analysis Requested

480-37628 Chain of Custody

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	RSK_175_CO2/ Carbon dioxide	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-12-050313 (480-37628-1)	5/3/13	09:00 Eastern		Water			X	3	
MW-14-050313 (480-37628-2)	5/3/13	12:00 Eastern		Water			X	3	
MW-7-050313 (480-37628-3)	5/3/13	14:10 Eastern		Water			X	3	

Possible Hazard Identification
Unconfirmed

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

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

Special Instructions/QC Requirements:

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	5-3-2013 1600			5/6/13 935	
Relinquished by	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

5/16/2013

ORIGIN ID: DKKA (716) 691-2600
KEN KINECKI
TESTAMERICA
10 HAZELWOOD DR

AMHERST, NY 14228
UNITED STATES US

SHIP DATE: 03MAY13
ACTWGT: 27.0 LB MAN
CAD: 735603/CAFE2608
DIMS: 26x15x14 IN

BILL RECIPIENT

TO MARK PHILLIPS
TA BURLINGTON
30 COMMUNITY DRIVE
SUITE 11
SOUTH BURLINGTON VT 05403
(802) 660-1990 REF: BURLINGTON
DEPT: SAMPLE CONTROL

FedEx Express

MON - 06 MAY 3:00P
STANDARD OVERNIGHT

TRK# 0201 4485 0264 3181

KS BTVA

05403
VT - US BTV

Part # 154254-354 RIT2 02/13

Login Sample Receipt Checklist

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 480-37628-1

Login Number: 37628

List Source: TestAmerica Buffalo

List Number: 1

Creator: Stau, Brandon

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	gza
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	N/A	
Chlorine Residual checked.	N/A	

Login Sample Receipt Checklist

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 480-37628-1

Login Number: 37628
List Number: 1
Creator: Poucher, Stephanie A

List Source: TestAmerica Burlington
List Creation: 05/06/13 10:24 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	709086
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.0ºC IR GUN ID 181. CF 0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level as required.

TestAmerica

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

TestAmerica Job ID: 480-38450-1

Client Project/Site: 058507, GM-Lockport Groundwater Sampling

For:

Conestoga-Rovers & Associates, Inc.
2055 Niagara Falls Blvd., Suite 3
Niagara Falls, New York 14304

Attn: Kathleen Willy

Authorized for release by:
5/30/2013 10:39:51 AM
Rebecca Jones, Project Mgmt. Assistant
rebecca.jones@testamericainc.com

Designee for

Melissa Deyo, Project Manager I
melissa.deyo@testamericainc.com

Table of Contents

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job ID: 480-38450-1

Laboratory: TestAmerica Buffalo

Narrative

Job Narrative
480-38450-1

Comments
No additional comments.

Receipt
The samples were received on 5/16/2013 4:45 PM; the samples arrived in good condition, properly preserved and, where required, on ice.
The temperature of the cooler at receipt was 5.0º C.

No analytical or quality issues were noted.

Detection Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 058507, GM-Lockport Groundwater Sampling

TestAmerica Job ID: 480-38450-1

Client Sample ID: MW-10-051613 — Lab Sample ID: 480-38450-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Hydrogen	0.77		0.60	0.074	nm	1		AM20GAX	Total/NA

Client Sample ID: MW-4-051613 — Lab Sample ID: 480-38450-2

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Hydrogen	0.63		0.60	0.074	nm	1		AM20GAX	Total/NA

Client Sample ID: MW-15-051613 — Lab Sample ID: 480-38450-3

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Hydrogen	0.75		0.60	0.074	nm	1		AM20GAX	Total/NA

Client Sample ID: MW-11-051613 — Lab Sample ID: 480-38450-4

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Hydrogen	0.91		0.60	0.074	nm	1		AM20GAX	Total/NA

Client Sample ID: MW-13-051613 — Lab Sample ID: 480-38450-5

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Hydrogen	0.69		0.60	0.074	nm	1		AM20GAX	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 058507, GM-Lockport Groundwater Sampling

TestAmerica Job ID: 480-38450-1

Client Sample ID: MW-10-051613 — **Lab Sample ID: 480-38450-1**
Date Collected: 05/16/13 09:12 — **Matrix: Water**
Date Received: 05/16/13 16:45

Method: AM20GAX - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hydrogen	0.77		0.60	0.074	nm			05/23/13 11:02	1

Client Sample ID: MW-4-051613 — **Lab Sample ID: 480-38450-2**
Date Collected: 05/16/13 10:08 — **Matrix: Water**
Date Received: 05/16/13 16:45

Method: AM20GAX - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hydrogen	0.63		0.60	0.074	nm			05/23/13 11:15	1

Client Sample ID: MW-15-051613 — **Lab Sample ID: 480-38450-3**
Date Collected: 05/16/13 11:17 — **Matrix: Water**
Date Received: 05/16/13 16:45

Method: AM20GAX - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hydrogen	0.75		0.60	0.074	nm			05/23/13 11:27	1

Client Sample ID: MW-11-051613 — **Lab Sample ID: 480-38450-4**
Date Collected: 05/16/13 12:10 — **Matrix: Water**
Date Received: 05/16/13 16:45

Method: AM20GAX - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hydrogen	0.91		0.60	0.074	nm			05/23/13 11:40	1

Client Sample ID: MW-13-051613 — **Lab Sample ID: 480-38450-5**
Date Collected: 05/16/13 13:06 — **Matrix: Water**
Date Received: 05/16/13 16:45

Method: AM20GAX - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hydrogen	0.69		0.60	0.074	nm			05/23/13 15:14	1

QC Association Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 058507, GM-Lockport Groundwater Sampling

TestAmerica Job ID: 480-38450-1

GC VOA

Analysis Batch: 121001

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-38450-1	MW-10-051613	Total/NA	Water	AM20GAX	
480-38450-2	MW-4-051613	Total/NA	Water	AM20GAX	
480-38450-3	MW-15-051613	Total/NA	Water	AM20GAX	
480-38450-4	MW-11-051613	Total/NA	Water	AM20GAX	
480-38450-5	MW-13-051613	Total/NA	Water	AM20GAX	

Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 058507, GM-Lockport Groundwater Sampling

TestAmerica Job ID: 480-38450-1

Client Sample ID: MW-10-051613

Lab Sample ID: 480-38450-1

Date Collected: 05/16/13 09:12

Matrix: Water

Date Received: 05/16/13 16:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	AM20GAX		1	121001	05/23/13 11:02	CTB	SC0015

Client Sample ID: MW-4-051613

Lab Sample ID: 480-38450-2

Date Collected: 05/16/13 10:08

Matrix: Water

Date Received: 05/16/13 16:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	AM20GAX		1	121001	05/23/13 11:15	CTB	SC0015

Client Sample ID: MW-15-051613

Lab Sample ID: 480-38450-3

Date Collected: 05/16/13 11:17

Matrix: Water

Date Received: 05/16/13 16:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	AM20GAX		1	121001	05/23/13 11:27	CTB	SC0015

Client Sample ID: MW-11-051613

Lab Sample ID: 480-38450-4

Date Collected: 05/16/13 12:10

Matrix: Water

Date Received: 05/16/13 16:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	AM20GAX		1	121001	05/23/13 11:40	CTB	SC0015

Client Sample ID: MW-13-051613

Lab Sample ID: 480-38450-5

Date Collected: 05/16/13 13:06

Matrix: Water

Date Received: 05/16/13 16:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	AM20GAX		1	121001	05/23/13 15:14	CTB	SC0015

Laboratory References:

SC0015 = Pittsburgh, PA, 220 William Pitt Way, Pittsburgh, PA 15238, TEL (412)826-5245

Certification Summary

Client: Conestoga-Rovers & Associates, Inc.
TestAmerica Job ID: 480-38450-1
Project/Site: 058507, GM-Lockport Groundwater Sampling

Laboratory: TestAmerica Buffalo

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Arkansas DEQ	State Program	6	88-0686	07-06-13
California	NELAP	9	1169CA	09-30-13
Connecticut	State Program	1	PH-0568	09-30-14
Florida	NELAP	4	E87672	06-30-13
Georgia	State Program	4	N/A	03-31-14
Georgia	State Program	4	956	06-30-13
Georgia	State Program	4	956	03-31-14
Illinois	NELAP	5	200003	09-30-13
Iowa	State Program	7	374	03-15-15
Kansas	NELAP	7	E-10187	01-31-14
Kentucky	State Program	4	90029	12-31-13
Kentucky (UST)	State Program	4	30	04-01-14
Louisiana	NELAP	6	02031	06-30-13
Maine	State Program	1	NY00044	12-04-13
Maryland	State Program	3	294	03-31-14
Massachusetts	State Program	1	M-NY044	06-30-13
Michigan	State Program	5	9937	04-01-13 *
Minnesota	NELAP	5	036-999-337	12-31-13
New Hampshire	NELAP	1	2973	09-11-13
New Hampshire	NELAP	1	2337	11-17-13
New Jersey	NELAP	2	NY455	06-30-13
New York	NELAP	2	10026	04-01-14
North Dakota	State Program	8	R-176	03-31-14
Oklahoma	State Program	6	9421	08-31-13
Oregon	NELAP	10	NY200003	06-09-13
Pennsylvania	NELAP	3	68-00281	07-31-13
Rhode Island	State Program	1	LAO00328	12-31-13
Tennessee	State Program	4	TN02970	04-01-14
Texas	NELAP	6	T104704412-11-2	07-31-13
USDA	Federal		P330-11-00386	11-22-14
Virginia	NELAP	3	460185	09-14-13
Washington	State Program	10	C784	02-10-14
West Virginia DEP	State Program	3	252	09-30-13
Wisconsin	State Program	5	998310390	08-31-13

* Expired certification is currently pending renewal and is considered valid.

Method Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 058507, GM-Lockport Groundwater Sampling

TestAmerica Job ID: 480-38450-1

Method	Method Description	Protocol	Laboratory
AM20GAX	Dissolved Gases (GC)	NONE	SC0015

Protocol References:

NONE = NONE

Laboratory References:

SC0015 = Pittsburgh, PA, 220 William Pitt Way, Pittsburgh, PA 15238, TEL (412)826-5245

Sample Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 058507, GM-Lockport Groundwater Sampling

TestAmerica Job ID: 480-38450-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-38450-1	MW-10-051613	Water	05/16/13 09:12	05/16/13 16:45
480-38450-2	MW-4-051613	Water	05/16/13 10:08	05/16/13 16:45
480-38450-3	MW-15-051613	Water	05/16/13 11:17	05/16/13 16:45
480-38450-4	MW-11-051613	Water	05/16/13 12:10	05/16/13 16:45
480-38450-5	MW-13-051613	Water	05/16/13 13:06	05/16/13 16:45

Microseeps, Inc
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

May 28, 2013

Melissa Deyo
Test America
10 Hazelwood Drive
Buffalo, NY 14228

RE: **480-38450**

Microseeps Workorder: 9017

Dear Melissa Deyo:

Enclosed are the analytical results for sample(s) received by the laboratory on Friday, May 17, 2013. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Robbin Robl 05/28/2013
rrobl@microseeps.com

Customer Service Representative

Enclosures

As a valued client we would appreciate your comments on our service.
Please email info@microseeps.com.

Total Number of Pages 14

CERTIFICATE OF ANALYSIS

Microseeps, Inc
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

LABORATORY ACCREDITATIONS & CERTIFICATIONS

Accreditor:	Pennsylvania Department of Environmental Protection, Bureau of Laboratories
Accreditation ID:	02-00538
Scope:	NELAP Non-Potable Water and Solid & Hazardous Waste
Accreditor:	NELAP: State of Florida, Department of Health, Bureau of Laboratories
Accreditation ID:	E87832
Scope:	Clean Water Act (CWA) Resource Conservation and Recovery Act (RCRA)
Accreditor:	South Carolina Department of Health and Environmental Control, Office of Environmental Laboratory Certification
Accreditation ID:	89009003
Scope:	Clean Water Act (CWA); Resource Conservation and Recovery Act (RCRA)
Accreditor:	NELAP: State of Louisiana, Department of Environmental Quality
Accreditation ID:	04104
Scope:	Solid and Chemical Materials; Non-Potable Water
Accreditor:	NELAP: New Jersey, Department of Environmental Protection
Accreditation ID:	PA026
Scope:	Non-Potable Water; Solid and Chemical Materials
Accreditor:	NELAP: New York, Department of Health Wadsworth Center
Accreditation ID:	11815
Scope:	Non-Potable Water; Solid and Hazardous Waste
Accreditor:	State of Connecticut, Department of Public Health, Division of Environmental Health
Accreditation ID:	PH-0263
Scope:	Clean Water Act (CWA) Resource Conservation and Recovery Act (RCRA)
Accreditor:	NELAP: Texas, Commission on Environmental Quality
Accreditation ID:	T104704453-09-TX
Scope:	Non-Potable Water
Accreditor:	State of New Hampshire
Accreditation ID:	299409
Scope:	Non-potable water
Accreditor:	State of Georgia
Accreditation ID:	Chapter 391-3-26
Scope:	As per the Georgia EPD Rules and Regulations for Commercial Laboratories, Microseeps is accredited by the Pennsylvania Department of Environmental Protection Bureau of Laboratories under the National Environmental Laboratory Approval Program (NELAC).

Microseeps, Inc
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Fax: (412) 826-3433

SAMPLE SUMMARY

Workorder: 9017 480-38450

Lab ID	Sample ID	Matrix	Date Collected	Date Received
90170001	MW-10-051613(480-38450-1)	Bubble Strip	5/16/2013 09:12	5/17/2013 11:00
90170002	MW-4-051613(480-38450-2)	Bubble Strip	5/16/2013 10:08	5/17/2013 11:00
90170003	MW-15-051613(480-38450-3)	Bubble Strip	5/16/2013 11:17	5/17/2013 11:00
90170004	MW-11-051613(480-38450-4)	Bubble Strip	5/16/2013 12:10	5/17/2013 11:00
90170005	MW-13-051613(480-38450-5)	Bubble Strip	5/16/2013 13:06	5/17/2013 11:00

Microseeps, Inc
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ANALYTICAL RESULTS

Workorder: 9017 480-38450

Lab ID: **90170001** Date Received: 5/17/2013 11:00 Matrix: Bubble Strip

Sample ID: **MW-10-051613(480-38450-1)** Date Collected: 5/16/2013 09:12

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
RISK - MICR										
Analysis Desc: AM20GAX			Analytical Method: AM20GAX							
Hydrogen	**0.77**	nM	0.60	0.074	1			5/23/2013 11:02	GT	

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ANALYTICAL RESULTS

Workorder: 9017 480-38450

Lab ID: 90170002 Date Received: 5/17/2013 11:00 Matrix: Bubble Strip

Sample ID: MW-4-051613(480-38450-2) Date Collected: 5/16/2013 10:08

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
RISK - MICR										
Analysis Desc: AM20GAX			Analytical Method: AM20GAX							
Hydrogen	**0.63**	nM	0.60	0.074	1			5/23/2013 11:15	GT	

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ANALYTICAL RESULTS

Workorder: 9017 480-38450

Lab ID: 90170003 Date Received: 5/17/2013 11:00 Matrix: Bubble Strip
Sample ID: MW-15-051613(480-38450-3) Date Collected: 5/16/2013 11:17

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
RISK - MICR										
Analysis Desc: AM20GAX		Analytical Method: AM20GAX								
Hydrogen	**0.75**	nM	0.60	0.074	1			5/23/2013 11:27	GT	

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Pittsburgh, PA 15238
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ANALYTICAL RESULTS

Workorder: 9017 480-38450

Lab ID: 90170004
Sample ID: MW-11-051613(480-38450-4)

Date Received: 5/17/2013 11:00
Date Collected: 5/16/2013 12:10

Matrix: Bubble Strip

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
RISK - MICR										
Analysis Desc: AM20GAX			Analytical Method: AM20GAX							
Hydrogen	**0.91**	nM	0.60	0.074	1			5/23/2013 11:40	GT	

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ANALYTICAL RESULTS

Workorder: 9017 480-38450

Lab ID: **90170005** Date Received: 5/17/2013 11:00 Matrix: Bubble Strip

Sample ID: **MW-13-051613(480-38450-5)** Date Collected: 5/16/2013 13:06

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
RISK - MICR										
Analysis Desc: AM20GAX			Analytical Method: AM20GAX							
Hydrogen	**0.69**	nM	0.60	0.074	1			5/23/2013 15:14	GT	

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ANALYTICAL RESULTS QUALIFIERS

Workorder: 9017 480-38450

DEFINITIONS/QUALIFIERS

Disclaimer : The Pennsylvania Department of Environmental Protection (PADEP) has decided to no longer recognize analyses that do not produce data for primary compliance, for NELAP accreditation. The methods affected by this decision are AM20GAx, AM21G, SW846 7199 and AM4.02. The laboratory shall continue to administer the NELAP/TNI standard requirements in the performance of these methods.

MDL	Method Detection Limit. Can be used synonymously with LOD; Limit Of Detection.
PQL	Practical Quanitation Limit. Can be used synonymously with LOQ; Limit Of Quantitation.
ND	Not detected at or above reporting limit.
DF	Dilution Factor.
S	Surrogate.
RPD	Relative Percent Difference.
% Rec	Percent Recovery.
U	Indicates the compound was analyzed for, but not detected at or above the noted concentration.
J	Estimated concentration greater than the set method detection limit (MDL) and less than the set reporting limit (PQL).

Microseeps, Inc
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Pittsburgh, PA 15238
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QUALITY CONTROL DATA

Workorder: 9017 480-38450

QC Batch: DISG/3011 Analysis Method: AM20GAX

QC Batch Method: AM20GAX

Associated Lab Samples: 90170001, 90170002, 90170003, 90170004

METHOD BLANK: 20387

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
RISK				
Hydrogen	nM	0.60 U	0.60	

LABORATORY CONTROL SAMPLE & LCSD: 20388 20389

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
RISK										
Hydrogen	nM	24	25	25	103	103	80-120	0	20	

Microseeps, Inc
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Pittsburgh, PA 15238
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QUALITY CONTROL DATA

Workorder: 9017 480-38450

QC Batch: DISG/3012 Analysis Method: AM20GAX

QC Batch Method: AM20GAX

Associated Lab Samples: 90170005

METHOD BLANK: 20394

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
RISK				
Hydrogen	nM	0.60 U	0.60	

LABORATORY CONTROL SAMPLE & LCSD: 20395 20396

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
RISK										
Hydrogen	nM	24	26	26	107	106	80-120	0.94	20	

Microseeps, Inc
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 9017 480-38450

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
90170001	MW-10-051613(480-38450-1)			AM20GAX	DISG/3011
90170002	MW-4-051613(480-38450-2)			AM20GAX	DISG/3011
90170003	MW-15-051613(480-38450-3)			AM20GAX	DISG/3011
90170004	MW-11-051613(480-38450-4)			AM20GAX	DISG/3011
90170005	MW-13-051613(480-38450-5)			AM20GAX	DISG/3012

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

9017

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Deyo, Melissa L	Carrier Tracking No(s):	COC No: 480-10158.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: melissa.deyo@testamericainc.com		Page: Page 1 of 1
Company: Microseeps				Job #: 480-38450-1
Address: 220 William Pitt Way,	Due Date Requested: 5/29/2013			
City: Pittsburgh	TAT Requested (days):			
State, Zip: PA, 15238				
Phone: 412-826-5245(Tel)	PO #:			
Email:	WO #:			
Project Name: 058507, GM-Lockport Groundwater Sampling	Project #: 48004014			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

	Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	AM20GAX/ Hydrogen	Total Number of containers	Special Instructions/Note:
				Preservation Code:						
1	MW-10-051613 (480-38450-1)	5/16/13	09:12 Eastern		Water			X	1	
2	MW-4-051613 (480-38450-2)	5/16/13	10:08 Eastern		Water			X	1	
3	MW-15-051613 (480-38450-3)	5/16/13	11:17 Eastern		Water			X	1	
4	MW-11-051613 (480-38450-4)	5/16/13	12:10 Eastern		Water			X	1	
5	MW-13-051613 (480-38450-5)	5/16/13	13:06 Eastern		Water			X	1	

4.8°C

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify)	Special Instructions/QC Requirements:

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	5/16/13 1700	TA	[signature]	5.17.13	MS
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 1100	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

5/30/2013

NON-CONFORMANCE FORM

Microseeps Project Number: 9017

Date: 5.17.13 Time of Receipt: 1100 Receiver: LY

Client: TA

REASON FOR NON-CONFORMANCE:

No time of collection on vials.
Time taken from COC.

ACTION TAKEN:

Client name: _____ Date: _____ Time: _____

OK to proceed.

Customer Service Initials: RR Date: 5/20/13

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

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Thomas Bohlen	Lab PM: Deyo, Melissa L	Carrier Tracking No(s):	COC No:
Client Contact: Mr. Christopher Boron	Phone: (716) 844-7050	E-Mail: melissa.deyo@testamericainc.com		Page: Page 1 of 1
Company: GZA GeoEnvironmental, Inc.				GZA Job #: 21.0056546.00 Task 24
Address: 535 Washington Street 11th Floor	Due Date Requested:			
City: Buffalo	TAT Requested (days): 3 Weeks			
State, Zip: NY, 14203				
Phone: (716) 685-2300	PO #: 4047065			
Email: christopher.boron@gza.com	WO #: 58507			
Project Name: 058507, GM-Lockport Groundwater Sampling	Project #: 48004014			
Site: Delphi Harrison Thermal Systems Site	SSOW#: 256015			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	RSK_175_CO2 - Carbon dioxide	VFA_IC - Volatile Fatty Acids	350.1 - Ammonia	6010B - Metals - Fe, Mn, Mg, K & Na	8260B - PCE, TCE, DCE (trans and cis), Vinyl Chl	9060 - Total Organic Carbon	RSK_175 - Methane, Ethane, Ethene	SM4500_S2_D - Sulfide	353.2, 353.2_Nitrite, Nitrate_Calc	2320B - Total Alkalinity	300.0_28D - Anions (Chloride & Sulfate)	AM20GAX	Total Number of containers	Special Instructions/Note:
			Preservation Code:			N	N	S	D	A	A	A	CB	N	N	N			
MW-10-051613	5/16/13	912		Water													*		* - Dissolved H2 for Microseeps
MW-4-051613		1008		Water													*		
MW-15-051613		1117															*		
MW-11-051613		1210															*		
MW-13-051613		1306															*		

480-38450 Chain of Custody

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

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

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

Special Instructions/QC Requirements:

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	Thomas Bohlen	5/16/13/1615	GZA		5/16/13 1615	GZA
2		5/16/13 1645	GZA		5/16/13	TAL-BUF
3		Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 5.0 ICE #1

5/30/2013

Login Sample Receipt Checklist

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 480-38450-1

Login Number: 38450

List Source: TestAmerica Buffalo

List Number: 1

Creator: Kolb, Chris M

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	N/A	

APPENDIX D

ANAEROBIC BIODEGRADATION SCREENING TABLES

EPA cVOC MONITORED NATURAL ATTENUATION RANKING SYSTEM

Strength of Evidence Scorecard
Delphi Harrison Thermal Systems Site
GM Component Holdings, LLC
Lockport, New York

Analysis	Concentration in Most Contaminated Zone	Value	EXAMPLE Lab or Field Analysis Value (mg/L)	EXAMPLE Score	MW-7	MW-4	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15
DO	<0.5 mg/L	3	3.5			3			3		3	3
DO	>5 mg/l	-3										
Nitrate	<1 mg/L	2	ND	2	2	2	2	2	2	2	2	
Iron II	>1 mg/l	2	0.2			2			2	2		
Sulfate	<20 mg/L	2	243									
Sulfide	>1 mg/L	3	0.6									
Methane	<0.5 mg/L	0	0.26	0	0	0	0	0	0	0	0	0
Methane	>0.5 mg/L	3										
ORP	<50 mV	1	-98.5	1	1	1		2	1	1	1	
ORP	<-100 mV	2										
pH	5< pH <9	0	6.8	0	0	0	0	0	0	0	0	0
pH	5> pH >10	-2										
TOC	>20 mg/L	2	1.5									
Temp	> 20°C	1	20.4	1								
Carbon Dioxide	>2 times background (4.2)	1	6.8			1			1			1
Alkalinity	>2 times background (200)	1	372									1
Chloride	>2 times background (1440)	2	338			2			2			
Hydrogen	>1 nM	3	NT						3		3	
Hydrogen	<1nM	0	NT									
Volatile Fatty Acids	>0.1 mg/L	2	ND		2							
BTEX	>0.1 mg/L	2	ND									
PCE		0	ND									
TCE	If Daughter Product	2	190									
DCE	If Daughter Product	2	10,034	2	2	2	2	2	2			
VC	If Daughter Product	2	380.00	2	2	2	2	2	2			
1,1,1-TCA		0	ND									
DCA	If Daughter Product	2	ND									
Carbon Tetrachloride		0	ND									
Chloroethane	If Daughter Product	2	ND									
Ethene/Ethane	>0.01 mg/L or	2	0.0097		3							
	>0.1 mg/L	3										
Chloroform	If Daughter Product	2	ND									
Dichloromethane	If Daughter Product	2	ND									
				8	**12**	**15**	**6**	**8**	**18**	**5**	**9**	**5**

Scoring Interpretation	
0 to 5	Inadequate evidence for anaerobic biodegradation* of chlorinated organics
6 to 14	Limited evidence for anaerobic biodegradation* of chlorinated organics
15 to 20	Adequate evidence for anaerobic biodegradation* of chlorinated organics
>20	Strong evidence for anaerobic biodegradation* of chlorinated organics
*reductive dechlorination	

Values Taken from EPA Document **EPA/600/R-98/128,** *Technical Protocol for Evaluating Natural Attenuation of Chlorinated Solvents in Ground Water* , 1998, Table 2.3 and Table 2.4

Notes:
1. ND=not detected
2. NT=not tested