



*General Motors LLC*

General Motors LLC  
Real Estate & Facilities  
Remediation Team  
One General Motors Drive  
Syracuse, NY 13206

November 28, 2011

Glenn May  
New York State Department of Environmental Conservation  
Division of Environmental Remediation  
270 Michigan Ave.  
Buffalo, NY 14203-2999

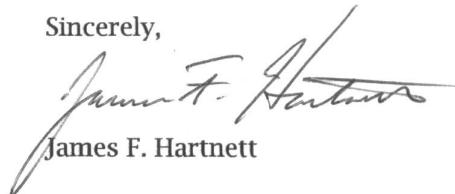
Re: Delphi Harrison Thermal Systems Site #932113  
Revised Report - Results of April 2011 Natural Attenuation Groundwater Sampling

Dear Mr. May,

Enclosed for your approval is a revised letter report summarizing the results of the monitoring natural attenuation groundwater sampling performed at the above referenced Site in April 2011. The revised report addresses the comments we received from the Department in your letter dated November 7, 2011.

We look forward to the Department's approval of the enclosed revised report.

Sincerely,



James F. Hartnett

Enclosure: GZA Letter Report April 2011 GW Sampling

Cc: Matt Forcucci - NYSDOH (electronic copy)  
Maura Desmond - NYSDEC (electronic copy)  
Roy Knapp - GMCH Lockport (electronic copy)  
James Walle Esq. - GM Legal Staff (electronic copy)



November 28, 2011  
File No. 21.0056546.0

Mr. James Hartnett  
General Motors LLC  
1 General Motors Drive  
Syracuse, NY 13206-1127

Re: Results of April 2011 Natural Attenuation Groundwater Sampling  
Delphi Harrison Thermal Systems Site (Site)  
Lockport, New York  
Registry Site No. 932113

Dear Mr. Hartnett:

535 Washington Street  
11th Floor  
Buffalo, New York  
14203  
716-685-2300  
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[www.gza.com](http://www.gza.com)

GZA GeoEnvironmental of New York (GZA) prepared this letter report to summarize the results of the April 2011 comprehensive groundwater sampling and natural attenuation parameter monitoring event at the above-referenced Site. The groundwater sampling event conducted from April 19<sup>th</sup> through April 22<sup>nd</sup>, 2011 included ten (10) monitoring wells (MW-4, -7, -8, -9, -10, -11, -12, -13, -14 and -15) that were sampled for the compounds of concern (COCs)<sup>1</sup> and monitored natural attenuation (MNA) parameters as identified in the Site Management Plan<sup>2</sup> (SMP). This sampling event was conducted as requested by New York State Department of Environmental Conservation (NYSDEC) in their September 27, 2010 letter.

## BACKGROUND

In March 2005, NYSDEC issued a Record of Decision (ROD) for the Site, which selected MNA as the remedial alternative for the Site. Annual MNA groundwater sampling has been completed voluntarily since October 2006.

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.

Based on the results of the groundwater sampling program through March 2009, the sampling program was expanded to include ten (10) monitoring well locations: MW-4, -7, -8, -9, -10, -11, -12, -13, -14 and -15. This expanded sampling event was completed in July 2009 and indicated that the site conditions continue to be favorable for natural attenuation of the COCs. The data did not indicate a significant change in groundwater

<sup>1</sup> These five COCs are trichloroethylene, tetrachloroethylene, *cis*-1,2-dichloroethene, *trans*-1,2-dichloroethylene, and vinyl chloride.

<sup>2</sup> DRAFT "Delphi Harrison Thermal Systems Site, Niagara County, New York, Site Management Plan, NYSDEC Site Number 9-32-113" dated April 28, 2011. Prepared for the GM Components Holdings, LLC, prepared by GZA GeoEnvironmental of New York.

conditions and it was recommended to continue the annual MNA sampling using these ten (10) monitoring well locations.

The next groundwater sampling event was completed in April 2010 to address the NYSDEC comment letter dated January 19, 2010. The April 2010 results indicated that natural attenuation is occurring even though there was limited evidence of a decreasing temporal trend in total organic carbon (TOC) concentrations near the source area (MW-7) and midpoint of the groundwater plume. However, there was adequate to strong evidence for anaerobic biodegradation of COCs at the leading edge of the groundwater plume. Given these conditions coupled with the lack of evidence of an expanding plume, it appears natural attenuation processes are effectively managing the COC plume migration under current conditions.



## APRIL 2011 GROUNDWATER MONITORING & SAMPLING

The April 2011 groundwater monitoring and sampling event was conducted in accordance with the SMP and included ten (10) monitoring wells (MW-4, -7 through -15, see Figure 1) from April 19<sup>th</sup> through 22<sup>nd</sup>, 2011.

### 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, total organic carbon, chloride, nitrate, nitrite, sulfate and sulfide.

Groundwater pumping rates used during the monitoring/sampling varied at the monitoring locations in order to establish a relatively stable water level during the pumping/monitoring. Once a stable water level was established within the monitoring well, the flow rates were maintained during the monitoring/sampling period. Samples

were collected for analysis after the field measured water quality parameters stabilized, and a minimum of one (1) well volume was purged. The Monitoring Well Observations & Groundwater Sampling Logs are included in Appendix A.

It should be noted that the ORP readings for the ten (10) monitoring wells were generally the same value (-330 mV) which is not consistent when compared to the previous sampling events. It is GZA's opinion that the ORP sensor may not have been functioning properly and the data was not used as part of the evaluation.



## 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. 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: It appears that there was a consistent downward trend of TCE concentrations at MW-7 occurring from 1996 to 2003. After 2003, there appears to be an increase in the TCE concentrations, with the exception of one anomalous TCE concentration (1.1 ppm) in the November 2008 sampling. This increase in TCE concentrations may be attributed to the decrease in the TOC concentrations discussed later in the report, General.

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.

It appears that there is a consistent downward trend of the 1,2-DCE concentrations at MW-4 since the start of the sampling in 1996.



- MW-8: It appears that there is a consistent downward trend of the TCE, PCE and 1,2-DCE concentrations at MW-8 since 1996, with some minor fluctuations. VC concentrations are currently higher than those since sampling was initiated in 1996, and appear to be of a similar order of magnitude since 1999. The consistent VC concentrations may be due to the decrease in the other COCs concentrations at this location.
- MW-9: The concentrations of the PCE and VC appear to generally be consistent since the start of the sampling in 1996, with some minor fluctuations and there has been a slight increase in the concentrations of TCE from 1999 until 2009.  
  
It appears that there is a slight downward trend in the 1,2-DCE concentrations at MW-9 since the start of the sampling in 1996.
- MW-10: It appears that there is a downward trend of the TCE and 1,2-DCE concentrations at MW-10 since 1996, with some minor fluctuations. The VC and PCE concentrations generally appear to be in a downward trend since 1999, 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.  
  
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 (11 of 13 samples rounds) being below the NYSDEC Class GA criteria (0.005 ppm).  
  
The concentrations of VC have fluctuated from below method detection limits (multiple sample rounds) to 0.008 ppm (August 2001) with just over half of the detected concentrations (7 of 13 samples rounds) being slightly above the NYSDEC Class GA criteria (0.002 ppm).
- MW-12: The detected concentrations of PCE and TCE have been below method detection limits or below their respective Class GA criteria (0.005 ppm) since the start of MW-12 sampling in 1997.  
  
The concentrations of 1,2-DCE have fluctuated from 0.011 ppm (November 2007) to 0.272 ppm (April 2010) which are above its NYSDEC Class GA criteria.  
  
The concentrations of VC have fluctuated from 0.011 ppm (October 2001) to 0.190 ppm (August 1997) which are above its NYSDEC Class GA criteria.



- 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 since the start of MW-13 sampling in 2001. TCE was detected in October 2006 at a concentration of 0.002 ppm, which is below its respective NYSDEC Class GA criteria.
- MW-14: The detected concentrations of TCE have been below method detection limits in seven of the nine sample rounds conducted since the start of MW-14 sampling in 2001. The two rounds where TCE did exceed its respective NYSDEC Class GA criteria were in February 2009 and July 2009.
- The detected concentrations of PCE have 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 seven of the nine sample rounds conducted since the start of MW-14 sampling in 2001. The two rounds where 1,2-DCE did exceed its respective NYSDEC Class GA criteria were in November 2007 and July 2009.
- The detected concentrations of VC have been below method detection limits in eight of the nine 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.
- MW-15: The detected concentrations of TCE have been below method detection limits in the first seven of the nine sample rounds conducted since the start of MW-15 sampling in 2001. The two rounds where TCE (0.007 ppm, both rounds) did slightly exceed its respective NYSDEC Class GA criteria were in April 2010 and April 2011.
- The detected concentrations of PCE have been above its NYSDEC Class GA criteria in the nine sample rounds conducted since the start of MW-15 sampling in 2001 ranging from 0.02 ppm (October 2001) to 0.0067 ppm (April 2011). There appears to be a general decreasing trend in the concentrations of PCE detected since 2001.
- The detected concentrations of 1,2-DCE and VC have been below their method detection limits in the nine samples rounds conducted since the start of MW-15 sampling in 2001.

#### Natural Attenuation Performance

Last year GZA performed an analysis of the historical water quality data collected to date

to evaluate performance. The substantive conclusions of that work were as follows:

- Based on GZA's analysis of the historical data, there is limited evidence for natural attenuation near the source area (MW-7) and midpoint (MW-4) of the groundwater plume, but adequate to strong evidence for anaerobic biodegradation of COCs at the leading edge of the groundwater plume; and
- There is a general decreasing temporal concentration trend for TOC at each monitoring well over the period of record, indicating that while MNA has had some effectiveness to date in managing COC migration, the "fuel" that drives reductive dechlorination (*i.e.*, ultimately hydrogen, a fermentation product of the organic carbon) is becoming depleted.

GZA reviewed the April 2011 groundwater quality data and the data are generally consistent with the substantive conclusions and trends noted in last year's summary report.

## CONCLUSIONS & RECOMMENDATIONS

Based on the results of the April 2011 sampling round, natural attenuation of COCs is occurring. There is a decreasing temporal trend in TOC concentrations, but the indicator parameters provide adequate to strong evidence that anaerobic biodegradation of the COCs is effectively controlling migration of impacted groundwater downgradient from the identified source area near MW-7. The decreasing TOC concentration trend across the Site indicates that the "fuel" that drives reductive dechlorination is becoming depleted.

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 2012. In addition to the analytes routinely monitored, GZA recommends expanding the analyte list to include the following to provide clarity on the current status of residual TOC in the formation:

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



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

Sincerely,



GZA GEOENVIRONMENTAL OF NEW YORK

A handwritten signature in blue ink that reads "Christopher Boron".

Christopher Boron  
Senior Project Manager

A handwritten signature in blue ink that reads "Bart A. Klettke".

Bart A. Klettke, P.E.  
Associate Principal

A handwritten signature in blue ink that reads "I. Richard Schaffner, Jr.". Below the signature, the text "C.G.W.P." and "Consultant Reviewer" is printed in a smaller font.

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

**TABLE**

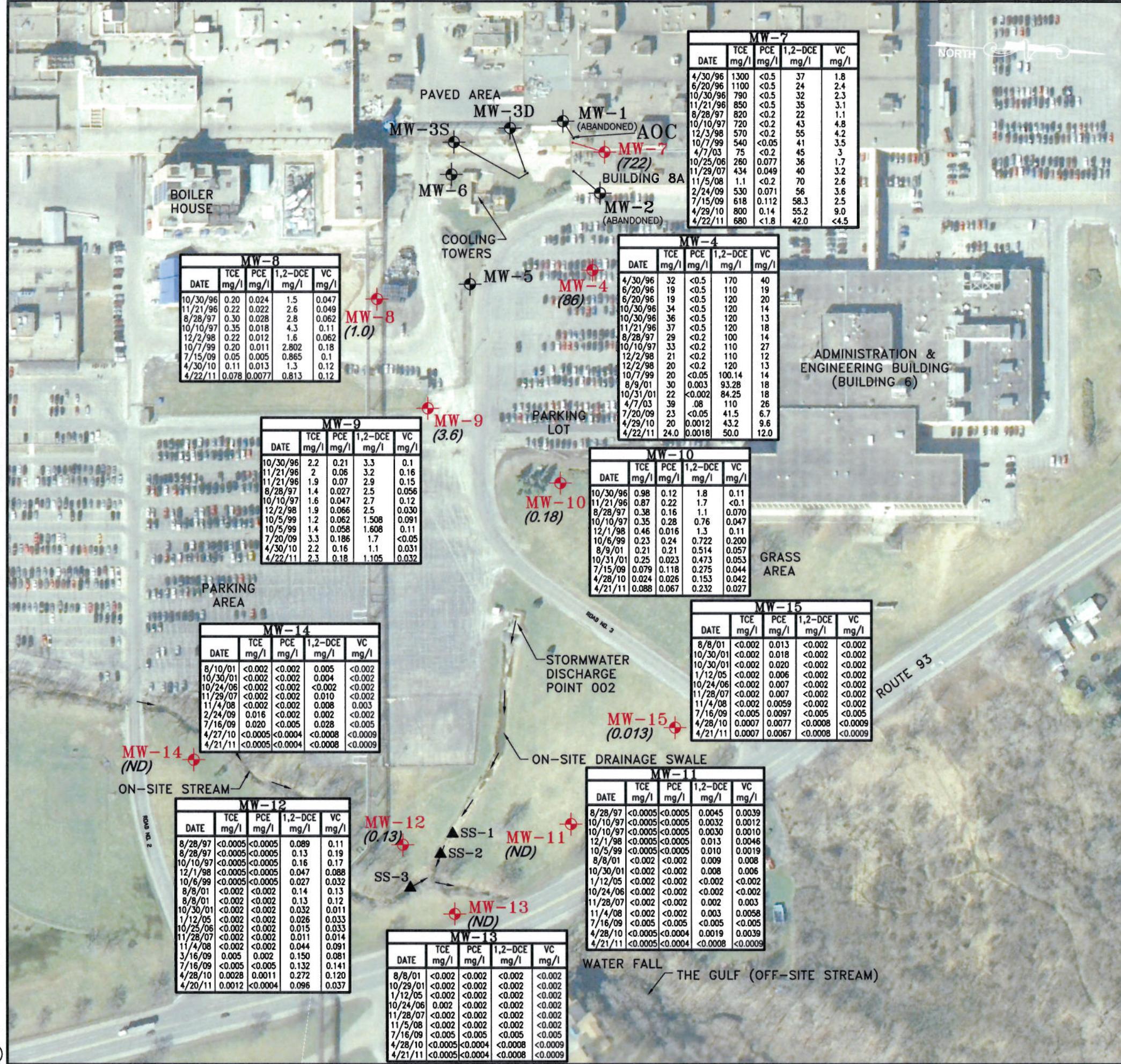
**Table 1**  
**Summary of Groundwater Field Measurements and Analytical Test Results for Natural Attenuation Parameters**  
**April 2011 Groundwater Sampling**  
**Delphi Thermal Systems**  
**West Lockport Complex**  
**Lockport, New York**

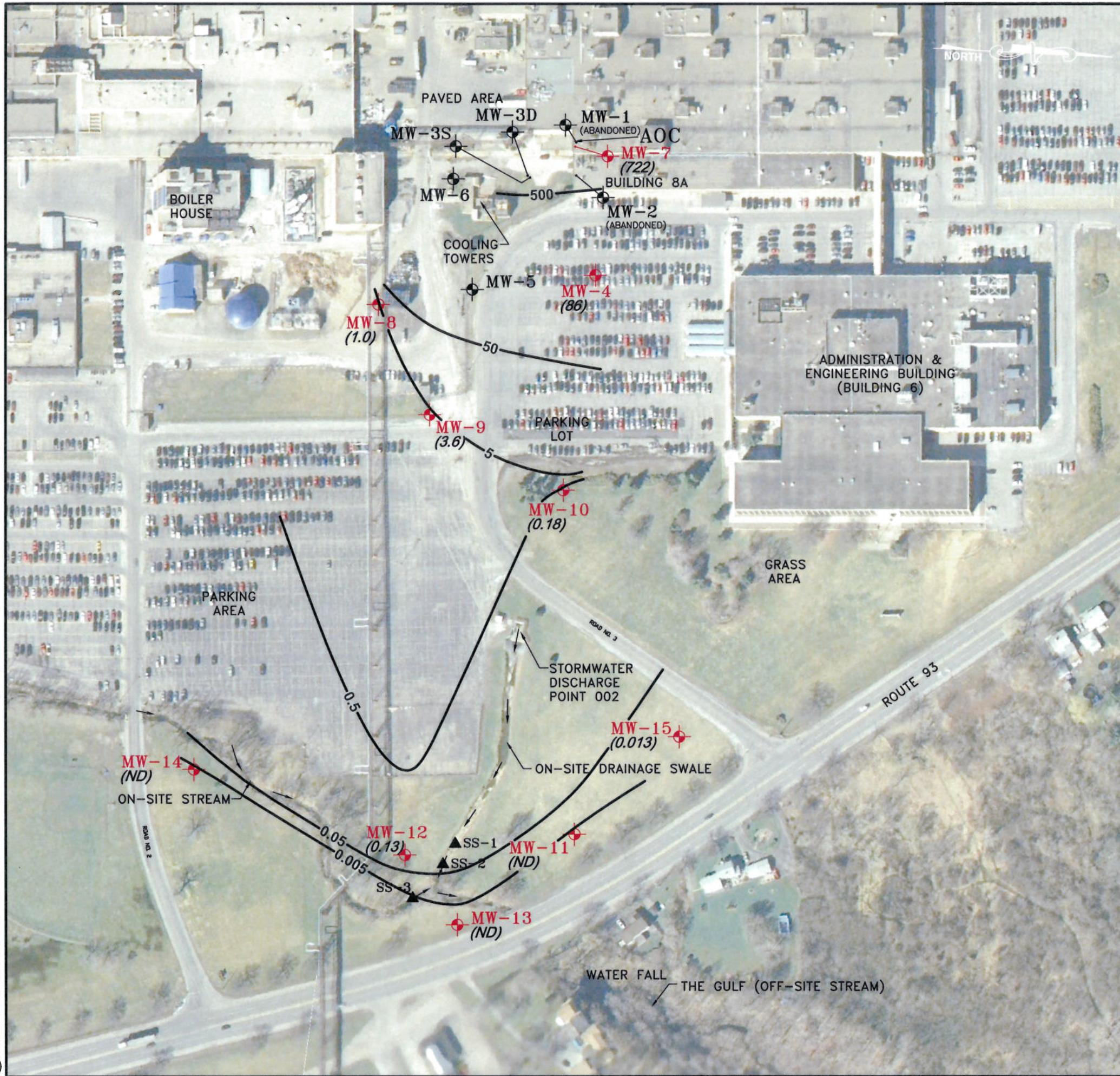
Location	Sample Date	Field Parameters						Analytical Test Results - Inorganic and Miscellaneous Water Quality Parameters																				
		Temp. (Deg. C)	Specific Cond. (mS/cm)	DO (mg/l)	ORP (mv)	pH (Std Units)	Methane (mg/l)	Organic Carbon (mg/l)	Alkalinity (mg/l)	Ammonia (mg/l)	Chloride (mg/l)	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)	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)	
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-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 <sup>3</sup>	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-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	4/30/2010	12.84	2.206	0.36	-58.6	6.9	0.015	1.8	243	NA	486	<0.05	<0.05		500	<1.0			0.21		99.2		0.46		248		7.99	
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	4/30/2010	12.0	8.042	0.79	86.4	6.7	0.015	2.1	247	NA	3,040	0.555	<0.05		263	<1.0			<0.05		102		0.15		1,680		8.72	
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</td															

**Table 1**  
**Summary of Groundwater Field Measurements and Analytical Test Results for Natural Attenuation Parameters**  
**April 2011 Groundwater Sampling**  
**Delphi Thermal Systems**  
**West Lockport Complex**  
**Lockport, New York**

Location	Sample Date	Field Parameters						Analytical Test Results - Inorganic and Miscellaneous Water Quality Parameters																				
		Temp. (Deg. C)	Specific Cond. (mS/cm)	DO (mg/l)	ORP (mv)	pH (Std Units)	Methane (mg/l)	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)
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
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
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	
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	
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-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	
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	
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-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	
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		87			

## **FIGURES**





#### NOTES:

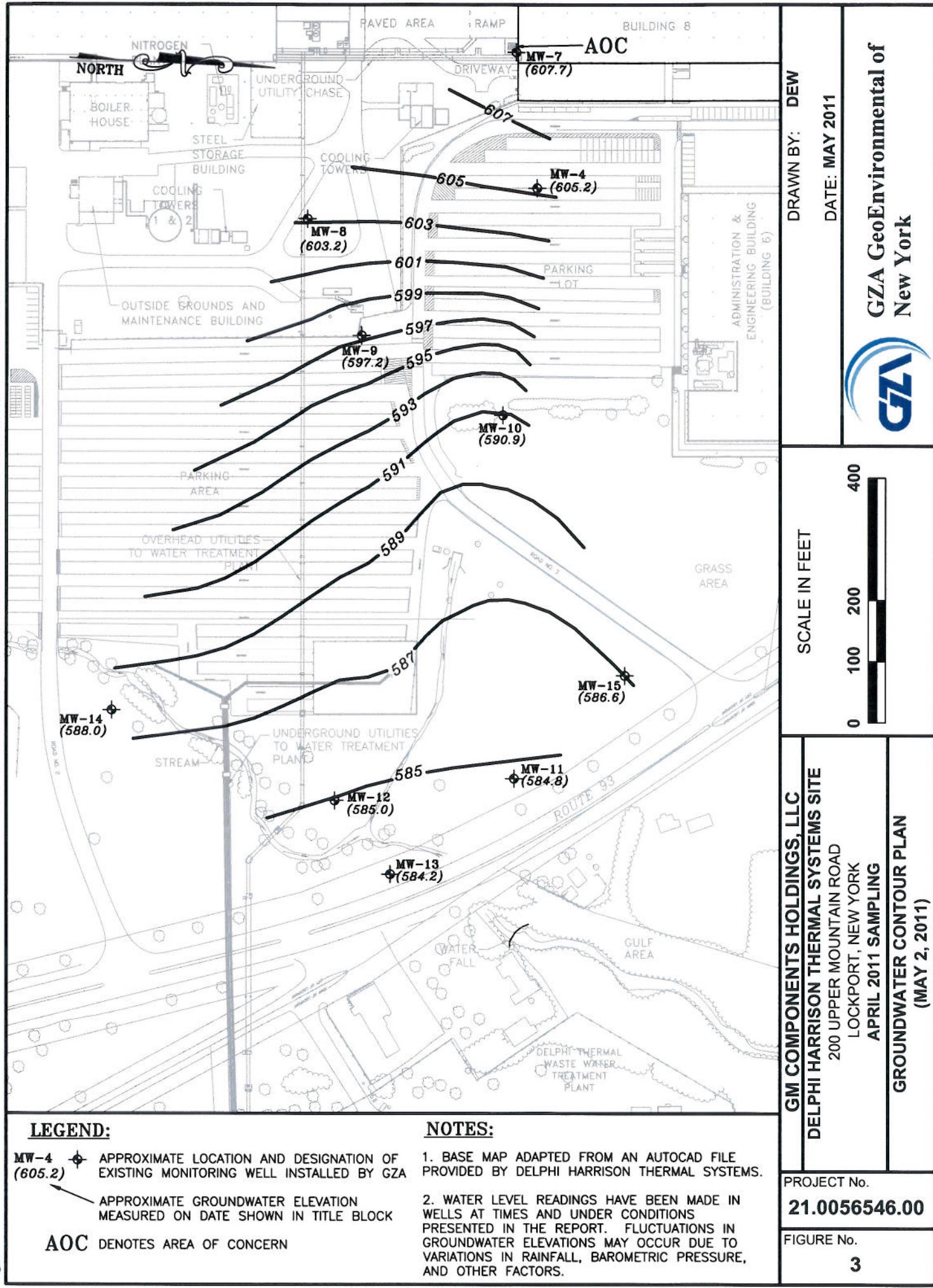
1. BASE MAP ADAPTED FROM A 2005 AERIAL PHOTOGRAPH DOWNLOADED FROM [http://www.nysgis.state.ny.us/gateway/mg/interactive\\_main.html](http://www.nysgis.state.ny.us/gateway/mg/interactive_main.html) AND SITE OBSERVATIONS.
2. ANALYTICAL TESTING WAS COMPLETED BY FREE-COL LABORATORIES, INC.
3. UNITS ARE LISTED 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:

APPROXIMATE LOCATION AND CONCENTRATION OF TOTAL VOC CONTOUR	50
APPROXIMATE LOCATION AND DESIGNATION OF MONITORING WELL INSTALLED BY GZA SHOWN WITH TOTAL VOC CONCENTRATION	MW-4 (73)
APPROXIMATE LOCATION AND DESIGNATION OF STREAM WATER SAMPLE	▲ SS-1
AOC	DENOTES AREA OF CONCERN
TCE = TRICHLOROETHENE	
PCE = TETRACHLOROETHENE	
1,2-DCE = TRANS & CIS 1,2-DICHLOROETHENE	
VC = VINYL CHLORIDE	

DRAWN BY: DEW  
DATE: MAY 2011  
GZA GeoEnvironmental of New York

GM COMPONENTS HOLDINGS, LLC DELPHI HARRISON THERMAL SYSTEMS SITE 200 UPPER MOUNTAIN ROAD LOCKPORT, NEW YORK APRIL 2011 SAMPLING	APPROXIMATE SCALE IN FEET 0 90 180 360
PROJECT No. <b>21.0056546.00</b>	
FIGURE No. <b>2</b>	



## **APPENDIX A**

### **MONITORING WELL OBSERVATION & GROUNDWATER SAMPLING LOGS**

### SAMPLE COLLECTION DATA SHEET - GROUNDWATER SAMPLING PROGRAM

PROJECT NAME

GM Components Holding (GMCH)

PROJECT NO.

210058546.04

SAMPLING CREW MEMBERS

Jennifer Davide

SUPERVISOR

Chris Bacon

DATE OF SAMPLE COLLECTION

4/20/11 → 4/22/11

[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-4	MW-4	613.07	34.89	8.49	604.58	4.7		5.8	6.77	11.85	7391	15:15	4/20/11
MW-7	MW-7	613.86	28.92	6.63	607.23	3.5		7.25	7.68	10.38	1.241	12 <sup>o</sup>	4/22
MW-8	MW-8	608.97	18.66	5.70	603.27	2.1		4.9	7.26	9.39	2.327	13 <sup>30</sup>	4/22
MW-9	MW-9	604.90	17.10	7.43	597.47	1.5		3.6	7.089.49	7.263	11:15		4/22
MW-10	MW-10	604.70	23.63	12.87	591.83	1.7		3.25	6.98	10.29	6.218	16:10	4/21
MW-11	MW-11	590.10	25.10	5.29	584.81	3.17		4.6	7.56	7.46	0.807	10:15	4/21
MW-12	MW-12	590.70	16.3	5.90	584.78	1.6		4	6.87	8.83	6.32	10 <sup>o</sup>	4/20
MW-13	MW-13	589.02	14.04	4.85	584.17	1.47		4	7.42	7.64	5.023	12 <sup>o</sup>	4/21

Additional Comments:

Copies to:

## SAMPLE COLLECTION DATA SHEET - GROUNDWATER SAMPLING PROGRAM

PROJECT NAME \_\_\_\_\_

PROJECT NO. \_\_\_\_\_

SAMPLING CREW MEMBERS \_\_\_\_\_

SUPERVISOR \_\_\_\_\_

DATE OF SAMPLE COLLECTION \_\_\_\_\_

[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-14	MW-14	592.77	2132	4.46	588.31	2.67		4.3	7.45	7.72	3779	4/21 14:45	
MW-15	MW-15	594.04	1683	7.05	586.99	1.56		3.5	6.84	7.71	2294	4/21 9:10	
DUP	MW-4	613.07	34.89	8.49	604.58	4.2		5.8	6.77	11.85	7391	4/22 15:15	

Additional Comments \_\_\_\_\_

Copies to:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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: CMCH  
Ref. No.: 21-0056546 Task 4

Date: 4/22/11  
Personnel: J. Davide

## Monitoring Well Data:

Well No.: MW-4 1 of 2 (DOW)  
Measurement Point: TOP  
Constructed Well Depth (ft): 32.5  
Measured Well Depth (ft): 34.89  
Depth of Sediment (ft): NA

Screen Length (ft): 17.5-32.5 (15)  
Depth to Pump Intake (ft)<sup>(1)</sup>: 20'  
Well Diameter, D (in): 2'  
Well Screen Volume, V<sub>s</sub> (mL)<sup>(2)</sup>: 4.2 (2a)  
Initial Depth to Water (ft): 8.49

Time	Pumping Rate (ml/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V <sub>p</sub> (ml.)	No. of Well
											Screen Volumes Purged <sup>(4)</sup>
2:04	567	9.62	1.13	7.16	10.63	5,989	-339	22.49	30	0	0
2:09	190	10.66	2.17	7.12	10.06	5,971	-338	18.33	19	.75	
2:14	151	10.66	2.17	7.15	10.31	5,903	-338	17.95	18	1	
2:19	227	10.69	2.19	7.17	10.34	6,033	-335	14.79	15	1.2	
2:24	227	10.68	2.18	7.13	10.35	6,843	-339	9.76	14	1.5	
2:29	151	10.70	2.21	7.63	10.68	6,907	-341	7.48	46	1.8	
2:34	151			6.58	11.09	7,131	-341	6.11	58	2	
2:39	151			6.82	11.15	7,128	-345	6.42	46	2.2	
2:44	227			6.79	11.29	7,234	-346	8.04	39	2.4	
2:49	227			6.89	11.37	7,301	-348	8.29	27	2.7	
2:54	151			6.77	11.51	7,311	-347	8.41	24	3	
2:59	151			6.75	11.47	7,370	-347	8.21	31	3.2	
3:04	151	↓	↓	6.77	11.49	7,361	-347	8.03	18	3.9	

## 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.  $V_s = \pi \cdot (D/2)^2 \cdot (5 \cdot 12) \cdot (2.54)^3$
- (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 stabilization criteria and appear to be stabilizing). No. of Well Screen Volumes Purged =  $V_p/V_s$

## MONITORING WELL RECORD FOR LOW-FLOW PURGING

### *Project Data:*

Project Name: \_\_\_\_\_  
Ref. No.: \_\_\_\_\_

Date: 4/22/11  
Personnel: \_\_\_\_\_

### Monitoring Well Data:

Well No.: MW-4 282 Dsp

Measurement Point: \_\_\_\_\_  
Constructed Well Depth (ft): \_\_\_\_\_  
Measured Well Depth (ft): \_\_\_\_\_  
Depth of Sediment (ft): \_\_\_\_\_

Screen Length (ft): \_\_\_\_\_  
Depth to Pump Intake (ft)<sup>(1)</sup>: \_\_\_\_\_  
Well Diameter, D (in): \_\_\_\_\_  
Well Screen Volume,  $V_s$  (ml.)<sup>(2)</sup>: \_\_\_\_\_  
Initial Depth to Water (ft) \_\_\_\_\_

50

- (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,  $V_s = \pi r^2 (D/2)^2 (5*12)*(2.54)^3$

(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 stabilization criteria and appear to be stabilizing). No. of Well Screen Volumes Purged =  $V_p/V_s$

WELL PURGING FIELD INFORMATION FORM  
SITE/PROJECT NAME: \_\_\_\_\_

JOB# 56546 - 64  
WELL# MNJ-41 11

WELL PURGING INFORMATION

04/21/01

04/21/01

11142

11158

PURGE DATE  
(MM DD YY)

SAMPLE DATE  
(MM DD YY)

WATER VOL IN CASING  
(LITRES/GALLONS)

ACTUAL VOLUME PURGED  
(LITRES/GALLONS)

PURGING AND SAMPLING EQUIPMENT

PURGING EQUIPMENT	DEDICATED <input checked="" type="checkbox"/> Y <input type="checkbox"/> N (CIRCLE ONE)	SAMPLING EQUIPMENT	DEDICATED <input type="checkbox"/> D <input checked="" type="checkbox"/> N (CIRCLE ONE)
-------------------	--	--------------------	--

PURGING DEVICE	<input checked="" type="checkbox"/> B A - SUBMERSIBLE PUMP B - PERISTALTIC PUMP C - BLADDER PUMP	D - GAS LIFT PUMP E - PURGE PUMP F - DIPPER BOTTLE	G - BAILER H - WATERBAK	X- PURGING OTHER (SPECIFY) _____
----------------	--	--	----------------------------	----------------------------------

SAMPLING DEVICE	<input checked="" type="checkbox"/> B	C - BLADDER PUMP	F - DIPPER BOTTLE	X- SAMPLING OTHER (SPECIFY) _____
-----------------	---------------------------------------	------------------	-------------------	-----------------------------------

PURGING DEVICE	<input checked="" type="checkbox"/> E A - TEFLON B - STAINLESS STEEL C - POLYPROPYLENE	D - PVC E - POLYETHYLENE	F - SILICONE	X- PURGING OTHER (SPECIFY) _____
----------------	--	-----------------------------	--------------	----------------------------------

SAMPLING DEVICE	<input checked="" type="checkbox"/> E	C - POLYPROPYLENE	G - COMBINATION TEFLON/POLYPROPYLENE	X- SAMPLING OTHER (SPECIFY) _____
-----------------	---------------------------------------	-------------------	---	-----------------------------------

PURGING DEVICE	<input checked="" type="checkbox"/> E A - TEFLON B - TYGON C - ROPE	D - POLYPROPYLENE E - POLYETHYLENE	F - SILICONE G - COMBINATION TEFLON/POLYPROPYLENE	X- PURGING OTHER (SPECIFY) _____
----------------	---	---------------------------------------	---	----------------------------------

SAMPLING DEVICE	<input checked="" type="checkbox"/> E	C - ROPE	X- (SPECIFY) _____	X- SAMPLING OTHER (SPECIFY) _____
-----------------	---------------------------------------	----------	--------------------	-----------------------------------

FILTERING DEVICES 0.45	<input type="checkbox"/>	A - IN-LINE DISPOSABLE	B - PRESSURE	C - VACUUM
------------------------	--------------------------	------------------------	--------------	------------

FIELD MEASUREMENTS

WELL ELEVATION	161307	(ft/ft)	GROUNDWATER ELEVATION	160458	(ft/ft)
----------------	--------	---------	-----------------------	--------	---------

DEPTH TO WATER	18149	(ft/ft)	WELL DEPTH	13250	(ft/ft)
----------------	-------	---------	------------	-------	---------

pH	TURBIDITY	CONDUCTIVITY	ORP	DO	SAMPLE TEMPERATURE
<input type="checkbox"/> °C					
<input type="checkbox"/> °C					
<input type="checkbox"/> °C					
<input type="checkbox"/> °C					
<input type="checkbox"/> °C					
<input type="checkbox"/> °C					

FIELD COMMENTS

SAMPLE APPEARANCE	Good	ODOR	None	COLOR	Clear-Red Specs	TRANSP.	Clear
WEATHER CONDITIONS	Wind Speed 5-10	Direction NNE	NNE	Precipitation Y/N	Outlook	Cloudy	50%
SPECIFIC COMMENTS	_____						
	_____						
	_____						
	_____						
	_____						

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE GM PROTOCOLS

DATE

PRINT

SIGNATURE

4/21/01 Jennifer Davide JJD

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

## MONITORING WELL RECORD FOR LOW-FLOW PURGING

## Project Data:

Project Name: GMCH  
Ref. No.: 210056546 Task 4

Date: 4/22/11  
Personnel: J. Davide

## Monitoring Well Data:

Well No.: MW-7 1 of 2  
Measurement Point: TOR  
Constructed Well Depth (ft): 27.20  
Measured Well Depth (ft): 28.92  
Depth of Sediment (ft): NA

Screen Length (ft): 12.2 - 27.2 = 15'  
Depth to Pump Intake (ft)<sup>(1)</sup>: 15'  
Well Diameter, D (in): 2"  
Well Screen Volume, V<sub>s</sub> (ml.)<sup>(2)</sup>: 3.5 gal  
Initial Depth to Water (ft): 6.63

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup>		Temperature °C	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V <sub>p</sub> (mL)	No. of Well Screen Volumes Purged <sup>(4)</sup>
			pH	ft							
8.57	454	7.75	6.2	7.94	9.36	1,388	-322	79.75	4	0	0
9.02	681	10.34	3.71	7.83	10.02	1,305	-326	20.13	3	.60	
9.07	378	14.21	2.58	7.63	10.21	1,211	-333	24.37	6	1.5	
9.12		15.70	9.07	7.69	10.20	1,207	-333	29.37	5	2	
9.17		16.97	10.34	7.68	10.19	1,201	-334	43.20	9	2.5	
9.22		18.29	11.66	7.68	10.20	1,204	-335	45.73	23	5	
9.27		19.56	12.93	7.66	10.24	1,213	-335	47.35	38	3.5	1
9.32		21.06	14.43	7.67	10.34	1,217	-336	49.08	45	4	
9.37		22.47	15.84	7.68	10.44	1,219	-335	41.50	42	4.5	
9.42		23.70	17.07	7.68	10.41	1,216	-336	44.11	34	5	
9.47		25.13	18.25	7.68	10.38	1,218	-336	45.55	48	5.5	
9.52		26.17	19.54	7.68	10.47	1,215	-337	43.41	46	6	
9.57	↓	27.02	20.39	7.68	10.31	1,217	-336	41.59	23	6.5	

## 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.  $V_s = \pi r^2 (D/2)^2 (5 \times 12) (2.54)$
- (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 stabilization criteria and appear to be stabilizing). No. of Well Screen Volumes Purged =  $V_p/V_s$

#### MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Oracle

Project Name: \_\_\_\_\_  
Ref. No.: \_\_\_\_\_

Date: 4/22/11  
Personnel: \_\_\_\_\_

### Monitoring Well Data:

Well No.: MW-7 2022

Screen Length (ft): \_\_\_\_\_  
Depth to Pump Intake (ft)<sup>(1)</sup>: \_\_\_\_\_  
Well Diameter, D (in): \_\_\_\_\_  
Well Screen Volume, V<sub>s</sub> (mL)<sup>(2)</sup>: \_\_\_\_\_  
Initial Depth to Water (ft): \_\_\_\_\_

Measurement Point: \_\_\_\_\_  
Constructed Well Depth (ft): \_\_\_\_\_  
Measured Well Depth (ft): \_\_\_\_\_  
Depth of Sediment (ft): \_\_\_\_\_

Notes Well went dry then recharged prior to Sampling

(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) 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 visible and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing). No. of Well Screen Volumes Purged =  $V_p/V_s$

WELL PURGING FIELD INFORMATION FORM			JOB# <u>5T615416 - 04</u>		
SITE/PROJECT NAME: <u>GMCH</u>			WELL# <u>MW-7</u>		
WELL PURGING INFORMATION					
<u>10/14/22/11U</u>	<u>10/14/22/11U</u>	<u>11135</u>	<u>11173</u>		
PURGE DATE (MM/DD/YY)	SAMPLE DATE (MM/DD/YY)	WATER VOL IN CASING (LITRES/GALLONS)	ACTUAL VOLUME PURGED (LITRES/GALLONS)		
PURGING AND SAMPLING EQUIPMENT					
PURGING EQUIPMENT	DEDICATED <input checked="" type="checkbox"/> Y <input type="checkbox"/> N (CIRCLE ONE)	SAMPLING EQUIPMENT	DEDICATED <input checked="" type="checkbox"/> Y <input type="checkbox"/> N (CIRCLE ONE)		
PURGING DEVICE	<input checked="" type="checkbox"/> B A - SUBMERSIBLE PUMP B - PERISTALTIC PUMP C - BLADDER PUMP	D - GAS LIFT PUMP E - PURGE PUMP F - DIPPER BOTTLE	G - BAILER H - WATERBAG		
SAMPLING DEVICE	<input checked="" type="checkbox"/> B C - POLYPROPYLENE	F - PVC	X - PURGING OTHER (SPECIFY)  X - SAMPLING OTHER (SPECIFY)		
PURGING DEVICE	<input checked="" type="checkbox"/> E A - TEFON B - STAINLESS STEEL	E - POLYETHYLENE	X - PURGING OTHER (SPECIFY)		
SAMPLING DEVICE	<input checked="" type="checkbox"/> E C - POLYPROPYLENE		X - SAMPLING OTHER (SPECIFY)		
PURGING DEVICE	<input checked="" type="checkbox"/> E A - TEFON B - TYGON	D - POLYPROPYLENE E - POLYETHYLENE	F - SILICONE G - COMBINATION TEFLON/POLYPROPYLENE	X - PURGING OTHER (SPECIFY)	
SAMPLING DEVICE	<input checked="" type="checkbox"/> E C - ROPE	X - (SPECIFY)	X - SAMPLING OTHER (SPECIFY)		
FILTERING DEVICES 0.45	<input type="checkbox"/> A - IN-LINE DISPOSABLE	B - PRESSURE	C - VACUUM		
FIELD MEASUREMENTS					
WELL ELEVATION	<u>161386</u> (m/ft)		GROUNDWATER ELEVATION	<u>16107123</u> (m/ft)	
DEPTH TO WATER	<u>16163</u> (m/ft)		WELL DEPTH	<u>127.70</u> (m/ft)	
pH	TURBIDITY	CONDUCTIVITY	ORP	DO	SAMPLE TEMPERATURE
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FIELD COMMENTS					
SAMPLE APPEARANCE	<u>Good</u>	ODOR	<u>None</u>	COLOR	<u>Clear</u>
WEATHER CONDITIONS	<u>6-5</u>	DIRECTION	<u>NNW</u>	PRECIPITATION Y/N OUTLOOK	<u>Clear Cloudy 50%</u>
SPECIFIC COMMENTS					
I CERTIFY THAT THE PURGING PROCEDURE WAS IN ACCORDANCE WITH APPLICABLE GMG PROTOCOLS					
DATE	PRINT	SIGNATURE			

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

## MONITORING WELL RECORD FOR LOW-FLOW PURGING

## Project Data:

Project Name: GMCH  
Ref. No.: 21-0056546 Task 4

Date: 4/22/11  
Personnel: J. Davide

## Monitoring Well Data:

Well No.: MW-8  
Measurement Point: TOR  
Constructed Well Depth (ft): 16.3  
Measured Well Depth (ft): 18.66  
Depth of Sediment (ft): NA

Screen Length (ft): 11.3 - 16.3 = 5'  
Depth to Pump Intake (ft)<sup>(1)</sup>: 14'  
Well Diameter, D (in): 2'  
Well Screen Volume, V<sub>s</sub> (ml)<sup>(2)</sup>: 2.1  
Initial Depth to Water (ft): 5.70

Time	Pumping Rate ml/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V <sub>p</sub> (ml)	No. of Well Screen Volumes Purged <sup>(4)</sup>
12:32	567	6.71	1.02	7.74	9.65	2.153	-341	56.35	0	0	
12:37	264	7.73	2.03	7.45	9.14	2.531	-336	57.39	0	.95	
12:42	227	7.70	2.00	7.37	9.16	2.512	-340	55.79	0	1.1	
12:47	227	7.72	2.02	7.30	9.16	2.068	-341	53.40	-1	1.4	
12:52	530			7.28	9.71	2.329	-347	55.54	-1	2.1	1
12:57	227			7.28	9.31	2.378	-343	56.73	-1	2.4	
1:02	301			7.27	9.40	2.384	-344	53.09	-1	2.8	
1:07	301			7.26	9.33	2.344	-344	54.25	-1	3.2	
1:12	301			7.26	9.38	2.319	-345	53.17	-1	3.6	
1:17	316			7.26	9.42	2.324	-345	53.81	-1	4.1	2
1:22	373			7.27	9.38	2.376	-345	52.22	-1	4.5	
1:27	373			7.26	9.39	2.327	-344	52.37	-1	4.9	

## 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.  $V_s = \pi^2(D/2)^2(5)(12)(2.54)^3$
- (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 stabilization criteria and appear to be stabilizing). No. of Well Screen Volumes Purged =  $V_p/V_s$

WELL PURGING FIELD INFORMATION FORM			JOB# <u>56546</u> - <u>04</u>		
SITE/PROJECT NAME: <u>CrMCH</u>			WELL# <u>MW-8</u>		
WELL PURGING INFORMATION					
<u>1041211111</u>	<u>1041211111</u>	<u>1111211</u>	<u>1111419</u>		
PURGE DATE (MM DD YYYY)	SAMPLE DATE (MM DD YYYY)	WATER VOL IN CASING GALLONS/GALLONS	ACTUAL VOLUME PURGED GALLONS/GALLONS		
PURGING AND SAMPLING EQUIPMENT					
PURGING EQUIPMENT	DEDICATED <input checked="" type="checkbox"/> N <input type="checkbox"/>	SAMPLING EQUIPMENT	DEDICATED <input checked="" type="checkbox"/> N <input type="checkbox"/>		
PURGING DEVICE	<input checked="" type="checkbox"/> A - SUBMERSIBLE PUMP <input type="checkbox"/> B - PERISTALTIC PUMP <input type="checkbox"/> C - BLADDER PUMP	D - GAS LIFT PUMP <input type="checkbox"/> E - PURGE PUMP <input type="checkbox"/> F - DIPPER BOTTLE	G - BAILEER <input type="checkbox"/> H - WATERBAG		
SAMPLING DEVICE	<input checked="" type="checkbox"/> B <input type="checkbox"/> C	F - DIPPER BOTTLE			
PURGING DEVICE	<input checked="" type="checkbox"/> E - TEFON <input type="checkbox"/> B - STAINLESS STEEL <input type="checkbox"/> C - POLYPROPYLENE	D - PVC <input type="checkbox"/> E - POLYETHYLENE	X - PURGING OTHER (SPECIFY)		
SAMPLING DEVICE	<input checked="" type="checkbox"/> E - ROPE	X - (SPECIFY)	X - SAMPLING OTHER (SPECIFY)		
PURGING DEVICE	<input checked="" type="checkbox"/> E - TEFON <input type="checkbox"/> B - TYLON <input type="checkbox"/> C - ROPE	D - POLYPROPYLENE <input type="checkbox"/> E - POLYETHYLENE	F - SILICONE <input type="checkbox"/> G - COMBINATION TEFLON/POLYPROPYLENE		
SAMPLING DEVICE	X - (SPECIFY)	X - (SPECIFY)	X - PURGING OTHER (SPECIFY)		
FILTERING DEVICES 0.45	<input type="checkbox"/> A - IN-LINE DISPOSABLE	B - PRESSURE	C - VACUUM		
FIELD MEASUREMENTS					
WELL ELEVATION	<u>1601897</u> (ft/t)		GROUNDWATER ELEVATION	<u>1603271</u> (ft/t)	
DEPTH TO WATER	<u>1570</u> (ft/t)		WELL DEPTH	<u>111630</u> (ft/t)	
pH	TURBIDITY	CONDUCTIVITY	ORP	DO	SAMPLE TEMPERATURE
<input type="checkbox"/> (ft/t)	<input type="checkbox"/> (ft/t)	<input type="checkbox"/> (ft/t)	<input type="checkbox"/> (mV)	<input type="checkbox"/> (mg/l)	<input type="checkbox"/> (°C)
<input type="checkbox"/> (ft/t)	<input type="checkbox"/> (ft/t)	<input type="checkbox"/> (ft/t)	<input type="checkbox"/> (mV)	<input type="checkbox"/> (mg/l)	<input type="checkbox"/> (°C)
<input type="checkbox"/> (ft/t)	<input type="checkbox"/> (ft/t)	<input type="checkbox"/> (ft/t)	<input type="checkbox"/> (mV)	<input type="checkbox"/> (mg/l)	<input type="checkbox"/> (°C)
<input type="checkbox"/> (ft/t)	<input type="checkbox"/> (ft/t)	<input type="checkbox"/> (ft/t)	<input type="checkbox"/> (mV)	<input type="checkbox"/> (mg/l)	<input type="checkbox"/> (°C)
<input type="checkbox"/> (ft/t)	<input type="checkbox"/> (ft/t)	<input type="checkbox"/> (ft/t)	<input type="checkbox"/> (mV)	<input type="checkbox"/> (mg/l)	<input type="checkbox"/> (°C)
FIELD COMMENTS					
SAMPLE APPEARANCE	<u>Good</u>		COLOR	<u>clear</u>	
WEATHER CONDITIONS	<u>WIND SPEED 0-10</u>		DIRECTION	<u>NNE</u>	
SPECIFIC COMMENTS	<u>Precipitation Y/N CLOUDS 00</u>				
I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE GM PED PROTOCOLS					
DATE	PRINT	SIGNATURE			

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: CJMCH  
 Ref. No.: 21-0056546 - Task 4

Date: 4/27/11  
 Personnel: J-David

## Monitoring Well Data:

Well No.: MW-9  
 Measurement Point: TDR  
 Constructed Well Depth (ft): 15.47 (plus 2' stick up)  
 Measured Well Depth (ft): 17.10  
 Depth of Sediment (ft): NA

Screen Length (ft): 10-15' (5')  
 Depth to Pump Intake (ft)<sup>(1)</sup>: 12'  
 Well Diameter, D (in): 2"  
 Well Screen Volume, V<sub>s</sub> (mL)<sup>(2)</sup>: 1.5 Gal.  
 Initial Depth to Water (ft): 7.43

Time	Pumping Rate mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	Datedown		Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V <sub>p</sub> (mL)	No. of Well Screen Volumes Purged <sup>(4)</sup>
				pH	°C						
10:33	302	8.32	.89	7.38	8.84	6.446	-338	26.37	3	0	
10:38	454	8.22	.79	7.33	8.65	6.624	-341	9.52	0	40	
10:43	378	8.30	.67	7.26	8.83	6.977	-345	6.05		1	
10:48	227	8.32	.69	7.19	8.91	7.073	-344	5.03		1.2	
10:53				7.14	9.24	7.263	-333	2.46		1.5	1
10:58				7.10	9.31	7.286	-345	2.55		1.8	
11:03				7.09	9.43	7.321	-345	2.45		2	
11:08				7.08	9.53	7.297	-344	2.80		2.3	
11:13				7.08	9.47	7.267	-344	2.98		2.5	
11:18				7.09	9.46	7.239	-346	2.79		2.9	
11:23				7.08	9.49	7.281	-345	2.81		3.3	2
11:28				7.08	9.49	7.263	-345	2.84		3.6	

## 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.  $V_s = \pi^*(D/2)^2 * (3*12)*(2.54)^3$
- (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 stabilization criteria and appear to be stabilizing). No. of Well Screen Volumes Purged =  $V_p/V_s$

WELL PURGING FIELD INFORMATION FORM			JOB# 56546 - 04		
SITE/PROJECT NAME: GMCH			WELL# MW-9		
WELL PURGING INFORMATION					
104122111	104122111	11115	11136		
PURGE DATE (MM DD YYYY)	SAMPLE DATE (MM DD YYYY)	WATER VOL IN CASING (LITRES/GALLONS)	ACTUAL VOLUME PURGED (LITRES/GALLONS)		
PURGING AND SAMPLING EQUIPMENT					
PURGING EQUIPMENT	DEDICATED TO <input checked="" type="checkbox"/> N <input type="checkbox"/> S (CIRCLE ONE)	SAMPLING EQUIPMENT	DEDICATED TO <input checked="" type="checkbox"/> N <input type="checkbox"/> S (CIRCLE ONE)		
PURGING DEVICE	<input checked="" type="checkbox"/> B A - SUBMERSIBLE PUMP B - PERISTALTIC PUMP C - BLADDER PUMP	D - GAS LIFT PUMP E - PURGE PUMP F - DIPPER BOTTLE	G - BARREL H - WATERBAG		
SAMPLING DEVICE	<input checked="" type="checkbox"/> B C - POLYPROPYLENE	F - DIPPER BOTTLE	X - PURGING OTHER (SPECIFY) _____		
PURGING DEVICE	<input checked="" type="checkbox"/> E A - TEFON B - STAINLESS STEEL	D - PVC E - POLYETHYLENE	X - SAMPLING OTHER (SPECIFY) _____		
SAMPLING DEVICE	<input checked="" type="checkbox"/> E C - POLYPROPYLENE	F - SILICONE G - COMBINATION TEFLON/POLYPROPYLENE	X - PURGING OTHER (SPECIFY) _____		
PURGING DEVICE	<input checked="" type="checkbox"/> E A - TEFON B - TEGON C - RUBBER	D - POLYPROPYLENE E - POLYETHYLENE	X - SAMPLING OTHER (SPECIFY) _____		
SAMPLING DEVICE	<input checked="" type="checkbox"/> E X - SPECIFIED	F - SILICONE G - COMBINATION TEFLON/POLYPROPYLENE	X - PURGING OTHER (SPECIFY) _____		
FILTERING DEVICES 0.45	A - IN-LINE DISPOSABLE	B - PRESSURE	C - VACUUM		
FIELD MEASUREMENTS					
WELL ELEVATION	16164190 (m/t)		GROUNDWATER ELEVATION	597747 (m/t)	
DEPTH TO WATER	1748 (m/t)		WELL DEPTH	115142 (m/t)	
pH	TURBIDITY	CONDUCTIVITY	ORP	DO	SAMPLE TEMPERATURE
<input type="checkbox"/> 6.00	<input type="checkbox"/> (mdu)	<input type="checkbox"/> (µmho)	<input type="checkbox"/> (mV) AT 25°C	<input type="checkbox"/> (mg/l)	<input type="checkbox"/> (°C)
<input type="checkbox"/> 6.50	<input type="checkbox"/> (mdu)	<input type="checkbox"/> (µmho)	<input type="checkbox"/> (mV) AT 25°C	<input type="checkbox"/> (mg/l)	<input type="checkbox"/> (°C)
<input type="checkbox"/> 7.00	<input type="checkbox"/> (mdu)	<input type="checkbox"/> (µmho)	<input type="checkbox"/> (mV) AT 25°C	<input type="checkbox"/> (mg/l)	<input type="checkbox"/> (°C)
<input type="checkbox"/> 7.50	<input type="checkbox"/> (mdu)	<input type="checkbox"/> (µmho)	<input type="checkbox"/> (mV) AT 25°C	<input type="checkbox"/> (mg/l)	<input type="checkbox"/> (°C)
<input type="checkbox"/> 8.00	<input type="checkbox"/> (mdu)	<input type="checkbox"/> (µmho)	<input type="checkbox"/> (mV) AT 25°C	<input type="checkbox"/> (mg/l)	<input type="checkbox"/> (°C)
FIELD COMMENTS					
SAMPLE APPEARANCE	Good	ODOR	None	COLOR	Clear
WEATHER CONDITIONS	Wind Speed 0-15	Direction NNE	Precipitation Y/N	Outlook	clear cloudy 50%
SPECIFIC COMMENTS					
DATE	PRINT	SIGNATURE			
I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE GM PROTOCOLS					
4/22/01	Barber Duode				

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

## MONITORING WELL RECORD FOR LOW-FLOW PURGING

## Project Data:

Project Name: GMCH  
 Ref. No.: 21-0056546 Task 4

Date: 4/21/11  
 Personnel: J. Davide

## Monitoring Well Data:

Well No.: MW-10  
 Measurement Point: TOP  
 Constructed Well Depth (ft): 21.3  
 Measured Well Depth (ft): 23.63  
 Depth of Sediment (ft): NA

Screen Length (ft): 12.5 - 21.3 = 8.8'  
 Depth to Pump Intake (ft)<sup>(1)</sup>: 16'  
 Well Diameter, D (in): 2  
 Well Screen Volume, V<sub>s</sub> (mL)<sup>(2)</sup>: 1.7 (2a)  
 Initial Depth to Water (ft): 12.87

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup>	Well Parameters								Volume Purged, V <sub>p</sub> (mL)	No. of Well Screen Volumes Purged <sup>(4)</sup>
				Temperature °C	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V <sub>p</sub> (mL)	Volume Purged, V <sub>p</sub> (mL)	Volume Purged, V <sub>p</sub> (mL)		
3:14	567	14.01	1.14	7.08	15.75	0.015	-326	26.43	31	0	0	0	0
3:19	189	13.86	.99	7.13	19.98	3.121	-333	26.67	21	.75	.75	.75	1
3:24				7.10	10.21	3.462	-334	19.30	10	1	1	1	1
3:29				7.08	10.28	3.733	-335	18.11	4	1.25	1.25	1.25	1
3:34				7.06	10.23	4.736	-335	12.10	2	1.5	1.5	1.5	1
3:39				7.01	10.29	5.645	-337	10.19	2	1.75	1.75	1.75	1
3:44				6.98	10.31	6.066	-336	7.89	0	2	2	2	2
3:49				6.99	10.28	6.219	-337	5.57	0	2.25	2.25	2.25	2
3:54				6.98	10.26	6.222	-338	4.81	0	2.5	2.5	2.5	2
3:59				6.98	10.29	6.219	-337	4.64	0	2.75	2.75	2.75	2
4:04				6.99	10.28	6.220	-336	4.79	0	3	3	3	3
4:09				6.98	10.29	6.218	-337	4.83	0	3.25	3.25	3.25	3

## 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,  $V_s = \pi \cdot (D/2)^2 \cdot (5 \cdot 12) \cdot (2.54)^3$
- (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 stabilization criteria and appear to be stabilizing). No. of Well Screen Volumes Purged =  $V_p/V_s$

WELL PURGING FIELD INFORMATION FORM	JOB# <u>56546 - 64</u>
SITE/PROJECT NAME: <u>MW-10</u>	WELL# <u>MW-10</u>

WELL PURGING INFORMATION					
<u>10/4/2011</u>	<u>10/4/2011</u>	<u>11110</u>	<u>133</u>		
PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	WATER VOL IN CASING (LITRES/GALLONS)	ACTUAL VOLUME PURGED (LITRES/GALLONS)		
PURGING AND SAMPLING EQUIPMENT					
PURGING EQUIPMENT	DEDICATED <input checked="" type="checkbox"/> N (CIRCLE ONE)	SAMPLING EQUIPMENT	DEDICATED <input checked="" type="checkbox"/> N (CIRCLE ONE)		
PURGING DEVICE	<input checked="" type="checkbox"/> B A - SUBMERSIBLE PUMP B - PERISTALTIC PUMP C - BLADDER PUMP	D - GAS LIFT PUMP E - PURGE PUMP F - DIPPER BOTTLE	G - BAILEY H - WATERBAG		
SAMPLING DEVICE	<input checked="" type="checkbox"/> E A - TEFLOC B - STAINLESS STEEL C - POLYPROPYLENE	D - PVC E - POLYETHYLENE	X - SAMPLING OTHER (SPECIFY)		
PURGING DEVICE	<input checked="" type="checkbox"/> E A - TEFON B - TYGON	D - POLYPROPYLENE E - POLYETHYLENE	F - SILICONE G - COMBINATION TEFLON/POLYPROPYLENE		
SAMPLING DEVICE	<input checked="" type="checkbox"/> E C - RUBBER X - (SPECIFY)	X - SAMPLING OTHER (SPECIFY)	X - PURGING OTHER (SPECIFY)		
FILTERING DEVICES 0.45					
	A - IN-LINE DISPOSABLE	B - PRESSURE	C - VACUUM		
FIELD MEASUREMENTS					
WELL ELEVATION	<u>160470</u> (m/t)		GROUNDWATER ELEVATION	<u>1591183</u> (m/t)	
DEPTH TO WATER	<u>1287</u> (m/t)		WELL DEPTH	<u>12130</u> (m/t)	
pH	TURBIDITY	CONDUCTIVITY	ORP	DO	SAMPLE TEMPERATURE
<input type="checkbox"/> (mV)	<input type="checkbox"/> (ntu)	<input type="checkbox"/> (µmho)	<input type="checkbox"/> (mV) AT 25°C	<input type="checkbox"/> (mM)	<input type="checkbox"/> (°C)
<input type="checkbox"/> (mV)	<input type="checkbox"/> (ntu)	<input type="checkbox"/> (µmho)	<input type="checkbox"/> (mV) AT 25°C	<input type="checkbox"/> (mM)	<input type="checkbox"/> (°C)
<input type="checkbox"/> (mV)	<input type="checkbox"/> (ntu)	<input type="checkbox"/> (µmho)	<input type="checkbox"/> (mV) AT 25°C	<input type="checkbox"/> (mM)	<input type="checkbox"/> (°C)
<input type="checkbox"/> (mV)	<input type="checkbox"/> (ntu)	<input type="checkbox"/> (µmho)	<input type="checkbox"/> (mV) AT 25°C	<input type="checkbox"/> (mM)	<input type="checkbox"/> (°C)
<input type="checkbox"/> (mV)	<input type="checkbox"/> (ntu)	<input type="checkbox"/> (µmho)	<input type="checkbox"/> (mV) AT 25°C	<input type="checkbox"/> (mM)	<input type="checkbox"/> (°C)
FIELD COMMENTS					
SAMPLE APPEARANCE	Good	ODOR	None	COLOR	Yellow to clear
WEATHER CONDITIONS	Wind Speed <u>0-5</u>	Direction	DNE	Precipitation	N/A
SPECIFIC COMMENTS	<u>Cleared up Cloudy 49°</u>				
I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE GM PROTOCOLS					
DATE	PRINT	Signature <u>Wulu Jennifer Daude purf Di</u>			

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  
 Ref. No.: 21-0056546 Task 6

Date: 4/21/11  
 Personnel: J. Daude

## Monitoring Well Data:

Well No.: MW-11 1&2  
 Measurement Point: TDR  
 Constructed Well Depth (ft): 24.10  
 Measured Well Depth (ft): 25.10  
 Depth of Sediment (ft): NA

Screen Length (ft): 9.21.4 (15.1)  
 Depth to Pump Intake (ft)<sup>(1)</sup>: 18  
 Well Diameter, D (in): 2  
 Well Screen Volume, V<sub>s</sub> (mL)<sup>(2)</sup>: 3.17 mL  
 Initial Depth to Water (ft): 5.29

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown		Temperature °C	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V <sub>p</sub> (mL)	No. of Well Screen Volumes Purged <sup>(3)</sup>
			from Initial Water Level <sup>(4)</sup>	pH							
9:30	305	6.00	0.71	6.91	7.56	0.173	-328	25.09	1	0	0
9:35	227	6.04	0.75	7.59	7.06	0.978	-318	10.89	4	.4	
9:40				7.54	7.04	0.887	-321	9.38	3	.7	
9:45				7.55	7.04	0.886	-322	7.79	2	1	
9:50				7.54	7.02	0.885	-323	6.59	1	1.3	
9:55				7.58	7.16	0.895	-324	7.00	0	1.6	
10:00				7.59	7.37	0.916	-325	15.0		1.9	
10:05				7.60	7.34	0.913	-326	12.4		2.2	
10:10				7.61	7.31	0.896	-325	17.91		2.5	
10:15				7.66	7.54	0.840	-325	16.13		2.8	
10:20				7.60	7.43	0.824	-325	18.20		3.1	
10:25				7.57	7.49	0.819	-325	18.66		3.4	
10:30		↓	↓	7.58	7.44	0.808	-325	19.41	↓	3.7	

## 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:  $V_s = \pi \cdot (D/2)^2 \cdot (5^{\circ}12')^2 \cdot (2.54)^2$
- (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 stabilization criteria and appear to be stabilizing). No. of Well Screen Volumes Purged =  $V_p/V_s$

MONITORING WELL RECORD FOR LOW-FLOW PURGING

### *Project Details*

Project Name: \_\_\_\_\_  
Ref. No.: \_\_\_\_\_

Date: \_\_\_\_\_  
Personnel: \_\_\_\_\_

### **Monitoring Well Data:**

Well No.: MW-11 282  
Measurement Point:  
Constructed Well Depth (ft):  
Measured Well Depth (ft):  
Depth of Sediment (ft):

Screen Length (ft): \_\_\_\_\_  
Depth to Pump Intake (ft)<sup>(1)</sup>: \_\_\_\_\_  
Well Diameter, D (in): \_\_\_\_\_  
Well Screen Volume, V<sub>s</sub> (mL)<sup>(2)</sup>: \_\_\_\_\_  
Initial Depth to Water (ft): \_\_\_\_\_

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,  $V_s = \pi * (D/2)^2 * (5*12) * (2.54)^3$

(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 purple water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing). No. of Well Screen Volumes Purged =  $V_p/V_s$

WELL PURGING FIELD INFORMATION FORM  
SITE/PROJECT NAME: GMCH

JOB# 56546 - 64  
WELL# MW-111

WELL PURGING INFORMATION															
<u>10/4/2011</u>	<u>10/4/2011</u>	<u>111304</u>	<u>1111416</u>												
PURGE DATE (MM DD YYYY)	SAMPLE DATE (MM DD YYYY)	WATER VOL IN CASING (LITRES/GALLONS)	ACTUAL VOLUME PURGED (LITRES/GALLONS)												
PURGING AND SAMPLING EQUIPMENT		SAMPLING EQUIPMENT													
PURGING EQUIPMENT	DEDICATED <input checked="" type="checkbox"/> N (CIRCLE ONE)	SAMPLING EQUIPMENT	DEDICATED <input checked="" type="checkbox"/> S (CIRCLE ONE)												
PURGING DEVICE	<input checked="" type="checkbox"/> B A - SUBMERSIBLE PUMP B - PERISTALTIC PUMP C - BLADDER PUMP	D - GAS LIFT PUMP E - PURGE PUMP F - DIPPER BOTTLE	G - BAILER H - WATERRAM												
SAMPLING DEVICE	<input checked="" type="checkbox"/> B C - BLADDER PUMP	F - DIPPER BOTTLE	X - PURGING OTHER (SPECIFY)												
PURGING DEVICE	<input checked="" type="checkbox"/> E A - TEFLON B - STAINLESS STEEL C - POLYPROPYLENE	D - PVC E - POLYETHYLENE	X - SAMPLING OTHER (SPECIFY)												
SAMPLING DEVICE	<input checked="" type="checkbox"/> E A - TEFLON B - TYGON C - ROPE	E - POLYTHYERINE X - (SPECIFY)	X - PURGING OTHER (SPECIFY)												
PURGING DEVICE	<input checked="" type="checkbox"/> E A - TEFLON B - TYGON C - ROPE	D - POLYPROPYLENE E - POLYTHYERINE X - (SPECIFY)	F - SILICONE G - COMBINATION TEFLON/POLYPROPYLENE												
SAMPLING DEVICE	X - (SPECIFY)	X - (SPECIFY)	X - SAMPLING OTHER (SPECIFY)												
FILTERING DEVICES 0.45	A - IN-LINE DISPOSABLE	B - PRESSURE	C - VACUUM												
FIELD MEASUREMENTS															
WELL ELEVATION	<u>1590.10</u>	ft (ft)	GROUNDWATER ELEVATION	<u>584.84</u>	ft (ft)										
DEPTH TO WATER	<u>529</u>	m (ft)	WELL DEPTH	<u>2410</u>	m (ft)										
pH	<input type="checkbox"/>	TURBIDITY	<input type="checkbox"/>	CONDUCTIVITY	<input type="checkbox"/>	ORP	<input type="checkbox"/>	DO	<input type="checkbox"/>	SAMPLE TEMPERATURE	<input type="checkbox"/>				
	(mV)		(ntu)		(µmho)	AT 25°C	(mV)		(mV)		(°C)				
FIELD COMMENTS															
SAMPLE APPEARANCE	<u>Good</u>			ODOR	<u>None</u>			COLOR	<u>Clear</u>			TURBIDITY	<u>Clear</u>		
WEATHER CONDITIONS				WIND SPEED	<u>0-5</u>			DIRECTION	<u>UNE</u>			PRECIPITATION	<u>N/O OUTCLOUDS</u>		
SPECIFIC COMMENTS															
I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE GMG PROTOCOLS												<u>4/21/11</u> <u>Jennifer Davis</u>			
DATE	PRINT	SIGNATURE													

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: GMCM  
Ref. No.: 71-0056546 Test 4

Date: 4/20/11 Sample 10<sup>40</sup>  
Personnel: J. Davide

### **Monitoring Well Data:**

Well No.: MW-12  
Measurement Point: TOR  
Constructed Well Depth (ft): 15.1  
Measured Well Depth (ft): 16.3  
Depth of Sediment (ft): NA

Screen Length (ft):  $8 - 15.1 = 7.1'$   
 Depth to Pump Intake (ft)<sup>(1)</sup>: 10'  
 Well Diameter, D (in): 2 in  
 Well Screen Volume, V<sub>s</sub> (mL)<sup>(2)</sup>:  $10.4 \times .16 = 1.6 \text{ Gal}$   
 Initial Depth to Water (ft): 5.90

## 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.  $V_s = \pi \cdot (D/2)^2 \cdot (5 \cdot 12) \cdot (2.54)$

(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 stabilization criteria and appear to be stabilizing). No. of Well Screen Volumes Purged =  $V_p/V_s$

WELL PURGING FIELD INFORMATION FORM  
SITE/PROJECT NAME: GWCH

JOB# 56546-04  
WELL# MW-112

WELL PURGING INFORMATION						
<u>04/20/11</u>	<u>104120111</u>	<u>111116</u>	<u>111110</u>			
PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	WATER VOL. IN CASING (LITRES/GALLONS)	ACTUAL VOLUME PURGED (LITRES/GALLONS)			
PURGING AND SAMPLING EQUIPMENT		SAMPLING EQUIPMENT				
PURGING EQUIPMENT <input checked="" type="checkbox"/> DEDICATED <input type="checkbox"/> N (CIRCLE ONE)			SAMPLING EQUIPMENT <input checked="" type="checkbox"/> DEDICATED <input type="checkbox"/> Y (CIRCLE ONE)			
PURGING DEVICE <input checked="" type="checkbox"/> A - SUBMERSIBLE PUMP <input type="checkbox"/> B - PERISTALTIC PUMP <input type="checkbox"/> C - BLADDER PUMP	D - GAS LIFT PUMP <input type="checkbox"/> E - PURGE PUMP <input type="checkbox"/> F - DIPPER BOTTLE	G - BAILER <input type="checkbox"/> H - WATERBAR	X - PURGING OTHER (SPECIFY) <input type="checkbox"/>			
SAMPLING DEVICE <input checked="" type="checkbox"/> B <input type="checkbox"/> C			X - SAMPLING OTHER (SPECIFY) <input type="checkbox"/>			
PURGING DEVICE <input type="checkbox"/> E <input type="checkbox"/> A - TEFLON <input type="checkbox"/> B - STAINLESS STEEL	D - PVC <input type="checkbox"/> E - POLYETHYLENE		X - PURGING OTHER (SPECIFY) <input type="checkbox"/>			
SAMPLING DEVICE <input type="checkbox"/> E <input type="checkbox"/> C - POLYPROPYLENE			X - SAMPLING OTHER (SPECIFY) <input type="checkbox"/>			
PURGING DEVICE <input type="checkbox"/> E <input type="checkbox"/> A - TEFLON <input type="checkbox"/> B - TYGON	D - POLYPROPYLENE <input type="checkbox"/> E - POLYETHYLENE	F - SILICONE <input type="checkbox"/> G - COMBINATION TEFLON/POLYPROPYLENE	X - PURGING OTHER (SPECIFY) <input type="checkbox"/>			
SAMPLING DEVICE <input type="checkbox"/> E <input type="checkbox"/> C - ROPE	X - (SPECIFY)		X - SAMPLING OTHER (SPECIFY) <input type="checkbox"/>			
FILTERING DEVICES 0.45 <input type="checkbox"/> A - IN-LINE DISPOSABLE <input type="checkbox"/> B - PRESSURE <input type="checkbox"/> C - VACUUM						
FIELD MEASUREMENTS						
WELL ELEVATION	<u>159101711</u>		(m / ft)	GROUNDWATER ELEVATION	<u>151841718</u>	(m / ft)
DEPTH TO WATER	<u>15910</u>		(m / ft)	WELL DEPTH	<u>11510</u>	(m / ft)
pH	TURBIDITY	CONDUCTIVITY	ORP	DO	SAMPLE TEMPERATURE	
<input type="checkbox"/> (std)	<input type="checkbox"/> (ntu)	<input type="checkbox"/> (µmho) AT 25°C	<input type="checkbox"/> (mV)	<input type="checkbox"/> (mg/L)	<input type="checkbox"/> (°C)	
<input type="checkbox"/> (std)	<input type="checkbox"/> (ntu)	<input type="checkbox"/> (µmho) AT 25°C	<input type="checkbox"/> (mV)	<input type="checkbox"/> (mg/L)	<input type="checkbox"/> (°C)	
<input type="checkbox"/> (std)	<input type="checkbox"/> (ntu)	<input type="checkbox"/> (µmho) AT 25°C	<input type="checkbox"/> (mV)	<input type="checkbox"/> (mg/L)	<input type="checkbox"/> (°C)	
<input type="checkbox"/> (std)	<input type="checkbox"/> (ntu)	<input type="checkbox"/> (µmho) AT 25°C	<input type="checkbox"/> (mV)	<input type="checkbox"/> (mg/L)	<input type="checkbox"/> (°C)	
<input type="checkbox"/> (std)	<input type="checkbox"/> (ntu)	<input type="checkbox"/> (µmho) AT 25°C	<input type="checkbox"/> (mV)	<input type="checkbox"/> (mg/L)	<input type="checkbox"/> (°C)	
FIELD COMMENTS						
SAMPLE APPEARANCE	<u>Good</u>		ODOR	<u>No</u>	COLOR	
WEATHER CONDITIONS	<u>10-15</u>		DIRECTION	<u>WSW</u>	PRECIPITATION	
SPECIFIC COMMENTS	<u>Yellow &gt; Clear</u>					
I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE EM PROTOCOLS						
DATE	PRINT	SIGNATURE				

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

#### MONITORING WELL RECORD FOR LOW-FLOW PURGING

### Project Data:

Project Name: GIMCH  
Ref. No.: 71-0056546 Task 4

Date: 4/21/11  
Personnel: J. Davide

### **Monitoring Well Data:**

*Monitoring Well Data:*

Well No.:	MW-13 (MS/MSD)
Measurement Point:	TOR
Constructed Well Depth (ft):	15'
Measured Well Depth (ft):	14.04
Depth of Sediment (ft):	.96'

Screen Length (ft): 8-15' = 7'  
 Depth to Pump Intake (ft)<sup>(1)</sup>: 10'  
 Well Diameter, D (in): 2"  
 Well Screen Volume, V<sub>s</sub> (mL)<sup>(2)</sup>: 1.47 (gal)  
 Initial Depth to Water (ft): 4.85

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,  $V_s = \pi r^2 (D/2)^2 (5*12)(2.54)$

(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 stabilization criteria and appear to be stabilizing). No. of Well Screen Volumes Purged =  $V_p/V_s$

WELL PURGING FIELD INFORMATION FORM			JOB# <u>56546-04</u>		
SITE/PROJECT NAME: <u>GMCY</u>			WELL# <u>MW-113</u>		
WELL PURGING INFORMATION					
<u>1041211111</u>	<u>1041211111</u>	<u>11115</u>	<u>11140</u>		
PURGE DATE (MM/DD/YY)	SAMPLE DATE (MM/DD/YY)	WATER VOL IN CASING (LITRES/GALLONS)	ACTUAL VOLUME PURGED (LITRES/GALLONS)		
PURGING AND SAMPLING EQUIPMENT					
PURGING EQUIPMENT	DEDICATED <input checked="" type="checkbox"/> (CIRCLE ONE)	SAMPLING EQUIPMENT	DEDICATED <input checked="" type="checkbox"/> (CIRCLE ONE)		
PURGING DEVICE	<input checked="" type="checkbox"/> A - SUBMERSIBLE PUMP <input type="checkbox"/> B - PERISTALTIC PUMP <input type="checkbox"/> C - BLADDER PUMP	D - GAS LIFT PUMP <input type="checkbox"/> E - PURGE PUMP <input type="checkbox"/> F - DIPPER BOTTLE	G - BAILER <input type="checkbox"/> H - WATERBAG		
SAMPLING DEVICE	<input checked="" type="checkbox"/> I - TEFON <input type="checkbox"/> J - STAINLESS STEEL <input type="checkbox"/> K - POLYPROPYLENE	L - PVC <input type="checkbox"/> M - POLYETHYLENE	N -		
PURGING DEVICE	<input type="checkbox"/> E	D - POLYPROPYLENE <input type="checkbox"/> E - PVC/ETHYLENE	F - SILICONE <input type="checkbox"/> G - COMBINATION TEFLON/POLYPROPYLENE		
SAMPLING DEVICE	<input type="checkbox"/> E	<input type="checkbox"/> F	<input type="checkbox"/> G		
PURGING DEVICE	<input type="checkbox"/> E	D - POLYPROPYLENE <input type="checkbox"/> E - PVC/ETHYLENE	F - SILICONE <input type="checkbox"/> G - COMBINATION TEFLON/POLYPROPYLENE		
SAMPLING DEVICE	<input type="checkbox"/> E	<input type="checkbox"/> F	<input type="checkbox"/> G		
FILTERING DEVICES 0.45	<input type="checkbox"/> A - IN-LINE DISPOSABLE <input type="checkbox"/> B - PRESSURE <input type="checkbox"/> C - VACUUM				
FIELD MEASUREMENTS					
WELL ELEVATION	<u>1589.02</u> (m/t)		GROUNDWATER ELEVATION	<u>1584.17</u> (m/t)	
DEPTH TO WATER	<u>14.85</u> (m/t)		WELL DEPTH	<u>11.500</u> (m/t)	
pH	TURBIDITY	CONDUCTIVITY	ORP	DO	SAMPLE TEMPERATURE
<input type="checkbox"/> (std)	<input type="checkbox"/> (ntu)	<input type="checkbox"/> (µmho)	<input type="checkbox"/> (mV) AT 25°C	<input type="checkbox"/> (mg/l)	<input type="checkbox"/> (°C)
<input type="checkbox"/> (std)	<input type="checkbox"/> (ntu)	<input type="checkbox"/> (µmho)	<input type="checkbox"/> (mV) AT 25°C	<input type="checkbox"/> (mg/l)	<input type="checkbox"/> (°C)
<input type="checkbox"/> (std)	<input type="checkbox"/> (ntu)	<input type="checkbox"/> (µmho)	<input type="checkbox"/> (mV) AT 25°C	<input type="checkbox"/> (mg/l)	<input type="checkbox"/> (°C)
<input type="checkbox"/> (std)	<input type="checkbox"/> (ntu)	<input type="checkbox"/> (µmho)	<input type="checkbox"/> (mV) AT 25°C	<input type="checkbox"/> (mg/l)	<input type="checkbox"/> (°C)
<input type="checkbox"/> (std)	<input type="checkbox"/> (ntu)	<input type="checkbox"/> (µmho)	<input type="checkbox"/> (mV) AT 25°C	<input type="checkbox"/> (mg/l)	<input type="checkbox"/> (°C)
FIELD COMMENTS					
SAMPLE APPEARANCE	<u>Good</u>		COOK COLOR:	<u>Yellowish</u> TURBIDITY: <u>cleared up</u>	
WEATHER CONDITIONS	WIND SPEED	<u>0.5</u>	DIRECTION	<u>NE</u>	PRECIPITATION <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> % <u>48</u>
SPECIFIC COMMENTS	<u>M5/M5D</u>				
DATE	PRINT	SIGNATURE			

I CERTIFY THAT THE SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE GM PROTOCOLS.

4/21/11 Jennifer Daude J.D.

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: GMCH  
Ref No.: 210056546 Task 4

Date: 4/21/11  
Personnel: J. Davide

## Monitoring Well Data:

Well No.: MW-14  
Measurement Point: TOR  
Constructed Well Depth (ft): 19.1  
Measured Well Depth (ft): 21.32  
Depth of Sediment (ft): NA

Screen Length (ft): 9.1 - 19.1 = 10'  
Depth to Pump Intake (ft)<sup>(1)</sup>: 12'  
Well Diameter, D (in): 2"  
Well Screen Volume, V<sub>s</sub> (mL)<sup>(2)</sup>: 7.67 (2a)  
Initial Depth to Water (ft): 4.46

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup>	pH	Temperature °C	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V <sub>p</sub> (mL)	No. of Well Screen Volumes Purged <sup>(4)</sup>
1:35	5.67	5.64	1.18	7.74	20.08	3.586	-334	23.64	4	0	0
1:40	4.16	7.60	3.14	7.58	21.41	3.439	-332	25.90	2	.75	.
1:45	2.27	9.67	5.2	7.53	22.23	3.413	-332	28.37	3	1.3	.
1:50		9.80	5.34	7.48	24.49	3.438	-332	32.27	0	1.6	.
1:55		9.84	5.38	7.48	23.36	3.441	-333	31.09	0	1.9	.
2:00				7.46	25.56	3.473	-334	28.77	0	2.2	.
2:05				7.45	26.67	3.807	-334	28.57	0	2.5	.
2:10				7.44	27.70	3.730	-335	28.34	0	2.8	1
2:15				7.44	27.71	3.786	-335	28.29	0	3.1	.
2:20				7.45	27.69	3.756	-335	28.36	0	3.4	.
2:25				7.45	27.71	3.781	-336	28.31	0	3.7	.
2:30				7.44	27.70	3.774	-336	28.29	0	4	.
2:35		↓	↓	7.45	27.72	3.779	-335	28.27	0	4.3	.

## 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.  $V_s = \pi r^2 (D/2)^2 (5'12)(2.54)^3$
- (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 stabilization criteria and appear to be stabilizing). No. of Well Screen Volumes Purged =  $V_p/V_s$

WELL PURGING FIELD INFORMATION FORM  
SITE/PROJECT NAME: GMCH

JOB# 56546 - 64  
WELL# MW-114

WELL PURGING INFORMATION			
1041211111	1041211111	111126	111143
PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	WATER VOL IN CASING (LITRES/GALLONS)	ACTUAL VOLUME PURGED (LITRES/GALLONS)
PURGING AND SAMPLING EQUIPMENT			
PURGING EQUIPMENT	DEDICATED <input checked="" type="checkbox"/> N <input type="checkbox"/>	SAMPLING EQUIPMENT	DEDICATED <input checked="" type="checkbox"/> N <input type="checkbox"/>
(CIRCLE ONE)		(CIRCLE ONE)	
PURGING DEVICE	<input checked="" type="checkbox"/> A - SUBMERSIBLE PUMP <input type="checkbox"/> B - PERISTALTIC PUMP <input type="checkbox"/> C - BLADDER PUMP	D - GAS LIFT PUMP <input type="checkbox"/> E - PURGE PUMP <input type="checkbox"/> F - DIVER BOTTLE	G - BAILER <input type="checkbox"/> H - WATERRA®
SAMPLING DEVICE	<input checked="" type="checkbox"/> I - TEFON <input type="checkbox"/> J - STAINLESS STEEL <input type="checkbox"/> K - POLYPROPYLENE	L - PVC <input type="checkbox"/> M - POLYETHYLENE	N - SILEICONE <input type="checkbox"/> O - COMBINATION TEFLON/POLYPROPYLENE
PURGING DEVICE	<input type="checkbox"/> P - TEFON <input checked="" type="checkbox"/> Q - TYGON <input type="checkbox"/> R - ROPE	D - POLYPROPYLENE <input type="checkbox"/> E - POLYETHYLENE	F - SILEICONE <input type="checkbox"/> G - COMBINATION TEFLON/POLYPROPYLENE
SAMPLING DEVICE	X - (SPECIFY)		X - (SPECIFY)
PURGING DEVICE	<input type="checkbox"/> S - TEFON <input type="checkbox"/> T - TYGON <input type="checkbox"/> U - ROPE	V - POLYPROPYLENE <input type="checkbox"/> W - POLYETHYLENE	X - PURGING OTHER (SPECIFY)
SAMPLING DEVICE	X - (SPECIFY)		X - (SPECIFY)
FILTERING DEVICES 0.45			
	A - IN-LINE DISPOSABLE	B - PRESSURE	C - VACUUM
FIELD MEASUREMENTS			
WELL ELEVATION	159277 (ft/ft)	GROUNDWATER ELEVATION	158831 (ft/ft)
DEPTH TO WATER	4416 (m/m)	WELL DEPTH	121313 (m/m)
pH	(mV)	ORP	(mV)
TURBIDITY	(ntu)	DO	(mg/L)
CONDUCTIVITY	(µmho AT 25°C)	SAMPLE TEMPERATURE	(°C)
	(mV)		(°C)
FIELD COMMENTS			
SAMPLE APPEARANCE	Cloudy	ODOR	None
WEATHER CONDITIONS	Wind Speed 0-5	Direction NNE	Color Clear
SPECIFIC COMMENTS	Precipitation Y/N OUTSIDE Clear Cloudy 49		
I CERTIFY THAT THE PURGING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE FMG PROTOCOLS			
DATE	PRINT	SIGNATURE	Jennifer Davide

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

## MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Duties

Project Name: GIMCH  
Ref. No.: 21-0052546 Task 4

Date: 4/21/11  
Personnel: J. Davide

### Monitoring Well Data:

Well No.: MW-15  
Measurement Point: Top  
Constructed Well Depth (ft): 17.90  
Measured Well Depth (ft): 16.83  
Depth of Sediment (ft): 1.07

Screen Length (ft):	<u>8-15 = 7 feet</u>
Depth to Pump Intake (ft) <sup>(1)</sup> :	<u>10 feet</u>
Well Diameter, D (in):	<u>2 in.</u>
Well Screen Volume, V <sub>s</sub> (ml) <sup>(2)</sup> :	<u>1.56 Gal</u>
Initial Depth to Water (ft)	<u>7.05</u>

Time	Pumping Rate (ml/min)	Depth to Water (ft)	Draught down from Initial Water Level (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V <sub>p</sub> (ml)	No. of Well Screen Volumes Purged <sup>(b)</sup>
8:33	378	7.79	0.74	6.36	7.52	2.204	-323	27.5	4	0	
8:37		7.92	0.87	6.61	7.63	2.246	-325	27.9	0	1/2	
8:43			1	6.73	7.70	2.302	-327	30.11	0	1	
8:48			1	6.79	7.72	2.299	-327	29.61	0	1/2	1
8:53			1	6.82	7.74	2.295	-327	29.56	0	2	
8:58			1	6.84	7.73	2.294	-328	29.57	0	2 1/2	
9:03			1	6.83	7.73	2.293	-328	28.22	0	3	2
9:08		1	1	6.84	7.71	2.294	-328	28.03	0	3 1/2	

## 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,  $V_s = \pi^*(D/2)^2 * (5*12) * (2.54)^3$

(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 stabilization criteria and appear to be stabilizing). No. of Well Screen Volumes Purged=  $V_p/V_s$

## WELL PURGING FIELD INFORMATION FORM

JOB# 56546-04

SITE/PROJECT NAME: GMCR

WELL# MW-15

## WELL PURGING INFORMATION

1041211111

1041211111

111115

111135

PURGE DATE  
(MM DD YY)SAMPLE DATE  
(MM DD YY)WATER VOL IN CASING  
(LITRES/GALLONS)ACTUAL VOLUME PURGED  
(LITRES/GALLONS)

## PURGING AND SAMPLING EQUIPMENT

PURGING EQUIPMENT	DEDICATED <input checked="" type="checkbox"/> N <input type="checkbox"/> Y (CIRCLE ONE)	SAMPLING EQUIPMENT	DEDICATED <input checked="" type="checkbox"/> Y <input type="checkbox"/> N (CIRCLE ONE)
-------------------	--	--------------------	--

PURGING DEVICE	<input checked="" type="checkbox"/> A - SUBMERSIBLE PUMP <input type="checkbox"/> B - PERISTALTIC PUMP <input type="checkbox"/> C - BLADDER PUMP	PURGING PUMP	<input type="checkbox"/> D - GAS LIFT PUMP <input type="checkbox"/> E - PURGE PUMP <input type="checkbox"/> F - DIPPER BOTTLE	BAILER	<input type="checkbox"/> G - BAILER <input type="checkbox"/> H - WATERBAG	X- <input type="checkbox"/> PURGING OTHER (SPECIFY)
----------------	--	--------------	---	--------	--	---

SAMPLING DEVICE	<input checked="" type="checkbox"/> B <input type="checkbox"/> C	SAMPLING BOTTLE			X- <input type="checkbox"/> SAMPLING OTHER (SPECIFY)
-----------------	---	-----------------	--	--	--

PURGING DEVICE	<input checked="" type="checkbox"/> E <input type="checkbox"/> F <input type="checkbox"/> G	PURGING LINE	<input type="checkbox"/> H - PVC <input type="checkbox"/> I - POLYETHYLENE	SILICONE	X- <input type="checkbox"/> PURGING OTHER (SPECIFY)
----------------	---	--------------	---	----------	---

SAMPLING DEVICE	<input type="checkbox"/> A - TEFZEL <input type="checkbox"/> B - TYGON <input type="checkbox"/> C - ROPES	SAMPLING LINE	<input type="checkbox"/> D - POLYPROPYLENE <input type="checkbox"/> E - POLYETHYLENE	<input type="checkbox"/> F - COMBINATION TEFLON/ETHYLPROPYLENE	X- <input type="checkbox"/> SAMPLING OTHER (SPECIFY)
-----------------	---	---------------	---	---	--

PURGING DEVICE	<input checked="" type="checkbox"/> E <input type="checkbox"/> F <input type="checkbox"/> G	PURGING LINE (SPECIFY)	<input type="checkbox"/> H - PVC <input type="checkbox"/> I - POLYETHYLENE	SILICONE	X- <input type="checkbox"/> PURGING OTHER (SPECIFY)
----------------	---	---------------------------	---	----------	---

FILTERING DEVICES 0.45	<input type="checkbox"/> A - IN-LINE DISPOSABLE	P - PRESSURE	C - VACUUM		SAMPLING OTHER (SPECIFY)
------------------------	---	--------------	------------	--	--------------------------

## FIELD MEASUREMENTS

WELL ELEVATION	15914.94	(ft/ft)	GROUNDWATER ELEVATION	5866.99	(ft/ft)
----------------	----------	---------	-----------------------	---------	---------

DEPTH TO WATER	17.05	(ft/ft)	WELL DEPTH	117.90	(ft/ft)
----------------	-------	---------	------------	--------	---------

pH	TURBIDITY	CONDUCTIVITY	ORP	DO	SAMPLE TEMPERATURE
<input type="checkbox"/> (6.0)	<input type="checkbox"/> (ntu)	<input type="checkbox"/> (µmho) AT 25°C	<input type="checkbox"/> (mV)	<input type="checkbox"/> (mg/l)	<input type="checkbox"/> (°C)
<input type="checkbox"/> (6.0)	<input type="checkbox"/> (ntu)	<input type="checkbox"/> (µmho) AT 25°C	<input type="checkbox"/> (mV)	<input type="checkbox"/> (mg/l)	<input type="checkbox"/> (°C)
<input type="checkbox"/> (6.0)	<input type="checkbox"/> (ntu)	<input type="checkbox"/> (µmho) AT 25°C	<input type="checkbox"/> (mV)	<input type="checkbox"/> (mg/l)	<input type="checkbox"/> (°C)
<input type="checkbox"/> (6.0)	<input type="checkbox"/> (ntu)	<input type="checkbox"/> (µmho) AT 25°C	<input type="checkbox"/> (mV)	<input type="checkbox"/> (mg/l)	<input type="checkbox"/> (°C)
<input type="checkbox"/> (6.0)	<input type="checkbox"/> (ntu)	<input type="checkbox"/> (µmho) AT 25°C	<input type="checkbox"/> (mV)	<input type="checkbox"/> (mg/l)	<input type="checkbox"/> (°C)

## FIELD COMMENTS

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

WEATHER CONDITIONS	Wind Speed B-5	DIRECTIONS NNE	PRECIPITATION Y/N	OUTLOOK	Cloudy 45%
--------------------	----------------	----------------	-------------------	---------	------------

SPECIFIC COMMENTS						
-------------------	--	--	--	--	--	--

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE GM PROTOCOLS

Date PRINT

Signature

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

## **Chain of Custody Record**

## **Chain of Custody Record**



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

**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**

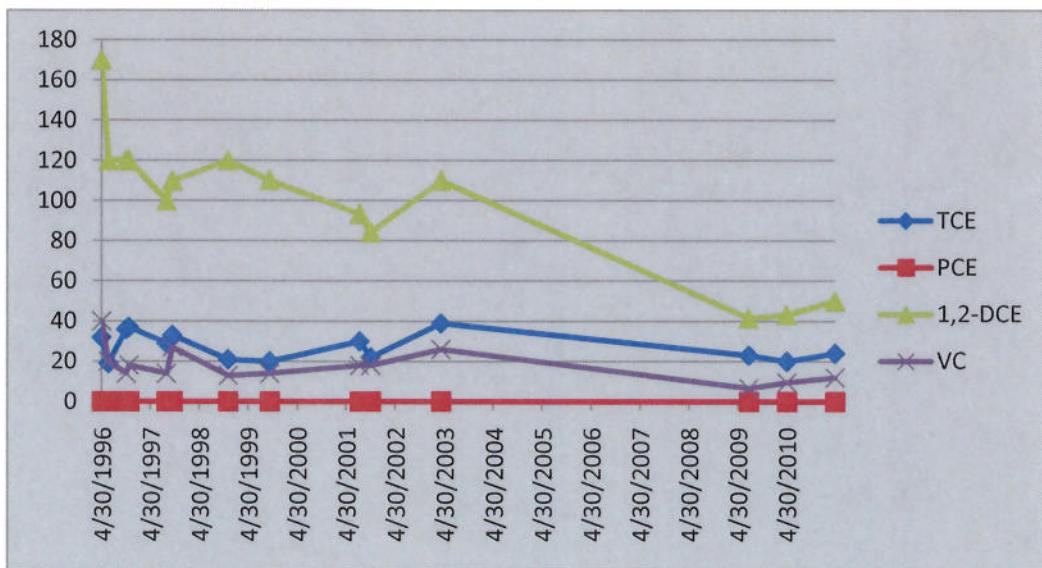
Date	TCE	PCE	1,2-DCE	VC
4/30/1996	32	<0.5	170	40
6/20/1996	19	<0.5	120	20
10/30/1996	36	<0.5	120	14
11/21/1996	37	<0.5	120	18
8/28/1997	29	<0.5	100	14
10/10/1997	33	<0.2	110	27
12/2/1998	21	<0.2	120	13
10/7/1999	20	<0.05	110.14	14
8/9/2001	30	0.003	93.28	18
10/31/2001	22	<0.002	84.25	18
4/7/2003	39	0.08	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

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.

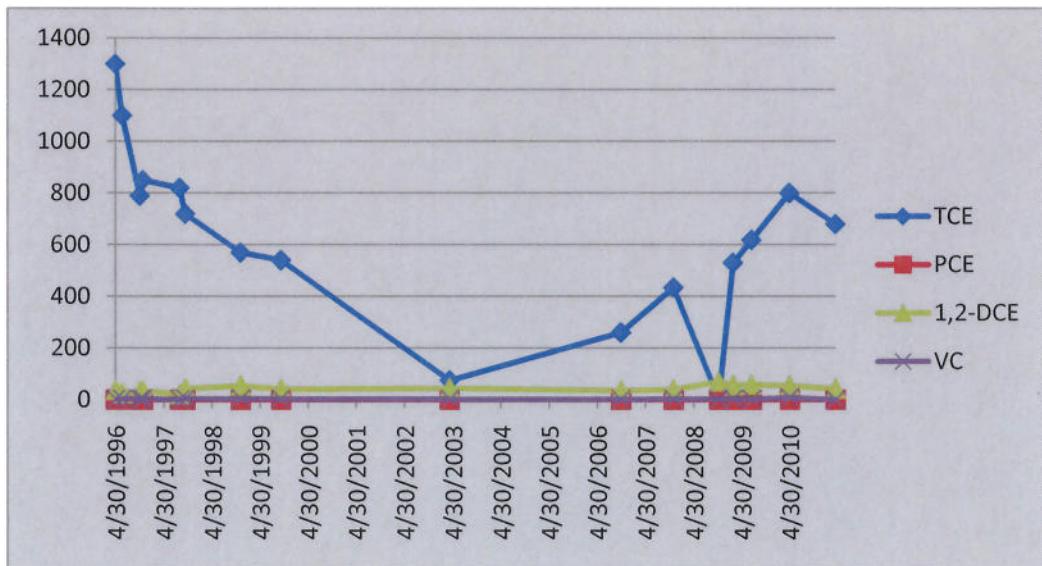


**MW-7 Groundwater Data**  
**Delphi Harrison Thermal Systems Site**  
**GM Components Holdings, LLC**  
**Lockport, New York**

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

Notes:

Results are provided in parts per million (ppm)

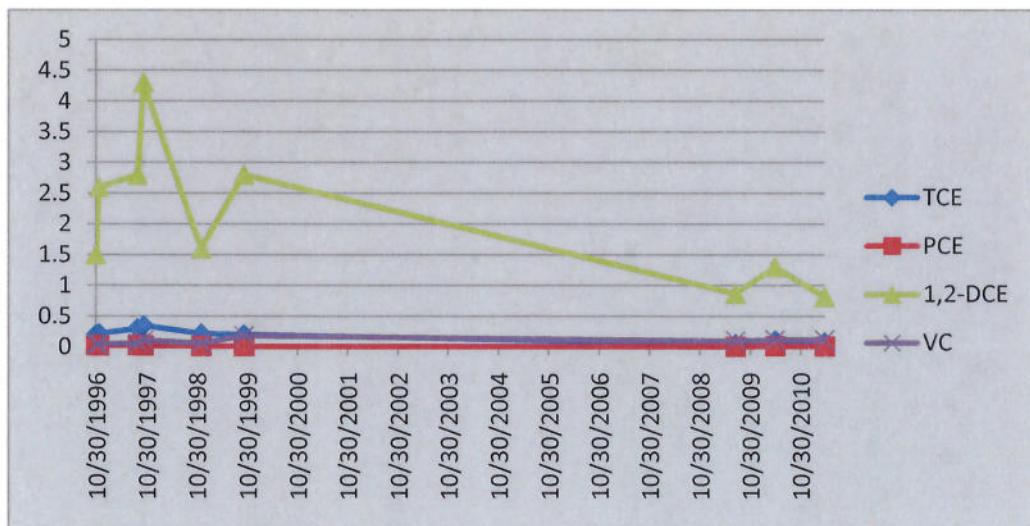


**MW-8 Groundwater Data**  
**Delphi Harrison Thermal Systems Site**  
**GM Components Holdings, LLC**  
**Lockport, New York**

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	0.0077	0.813	0.12

Notes:

Results are provided in parts per million (ppm)



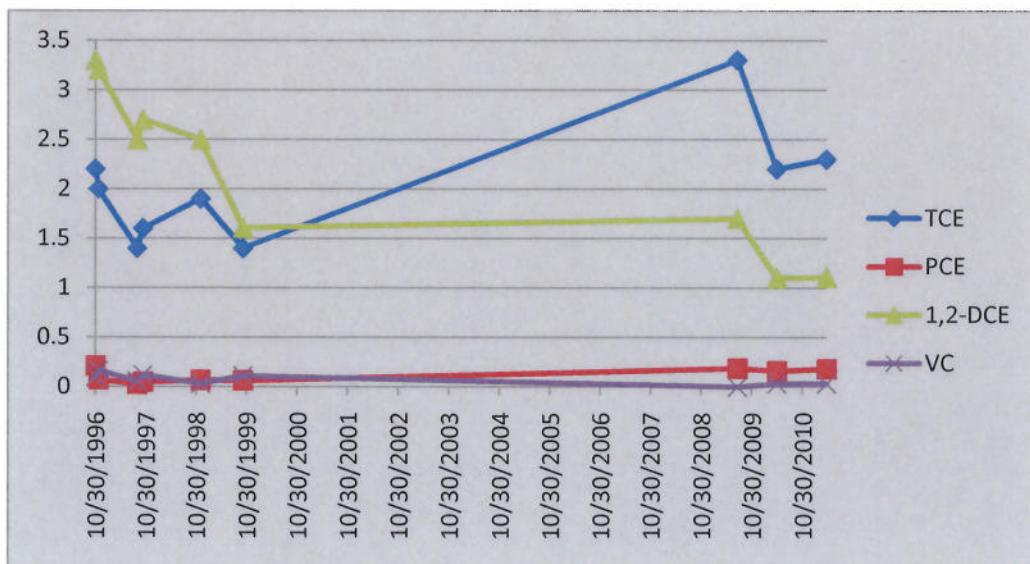
**MW-9 Groundwater Data**  
**Delphi Harrison Thermal Systems Site**  
**GM Components Holdings, LLC**  
**Lockport, New York**

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.

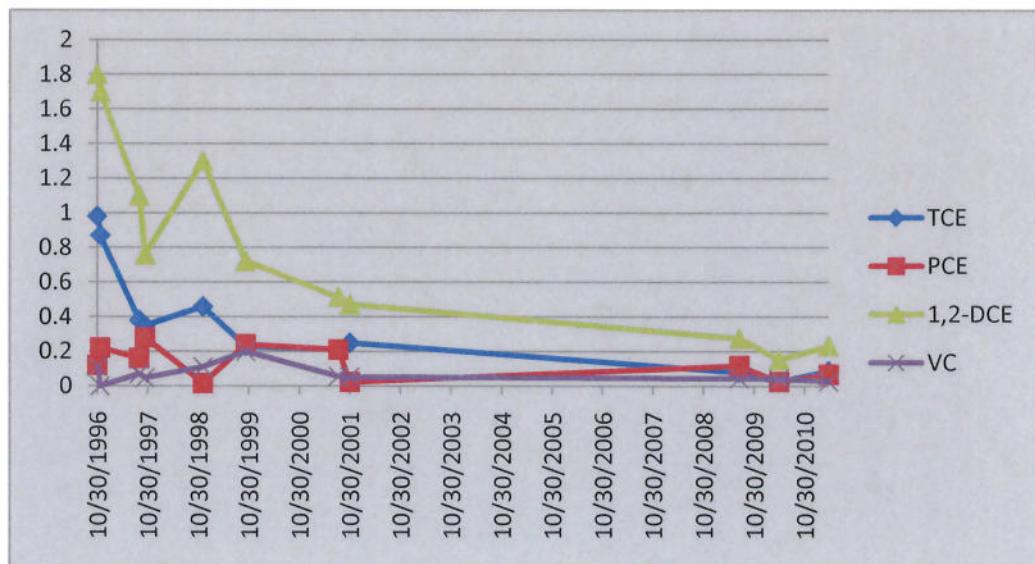


**MW-10 Groundwater Data**  
**Delphi Harrison Thermal Systems Site**  
**GM Components Holdings, LLC**  
**Lockport, New York**

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

Notes:

Results are provided in parts per million (ppm)



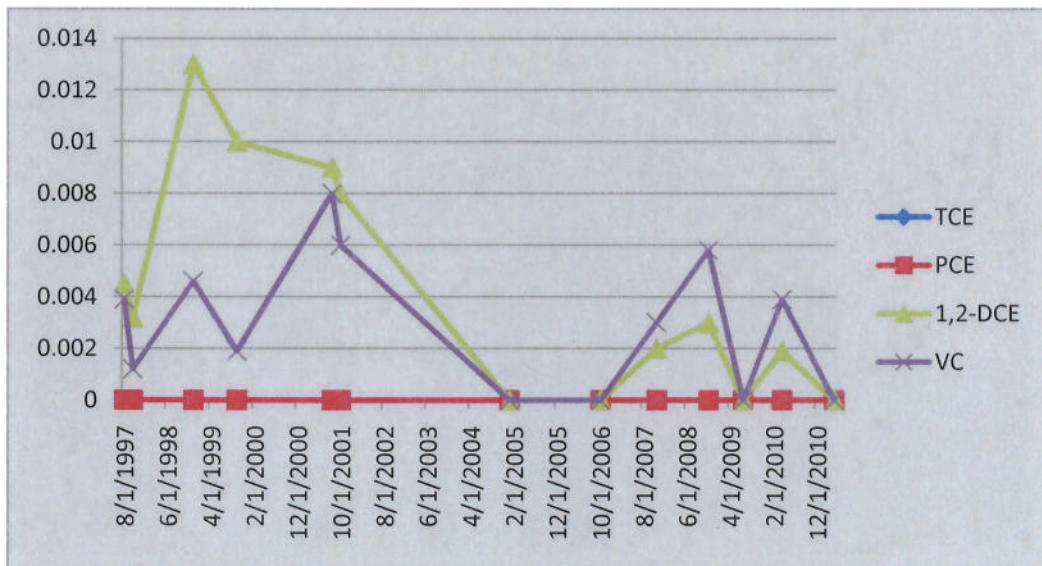
**MW-11 Groundwater Data**  
**Delphi Harrison Thermal Systems Site**  
**GM Components Holdings, LLC**  
**Lockport, New York**

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

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.



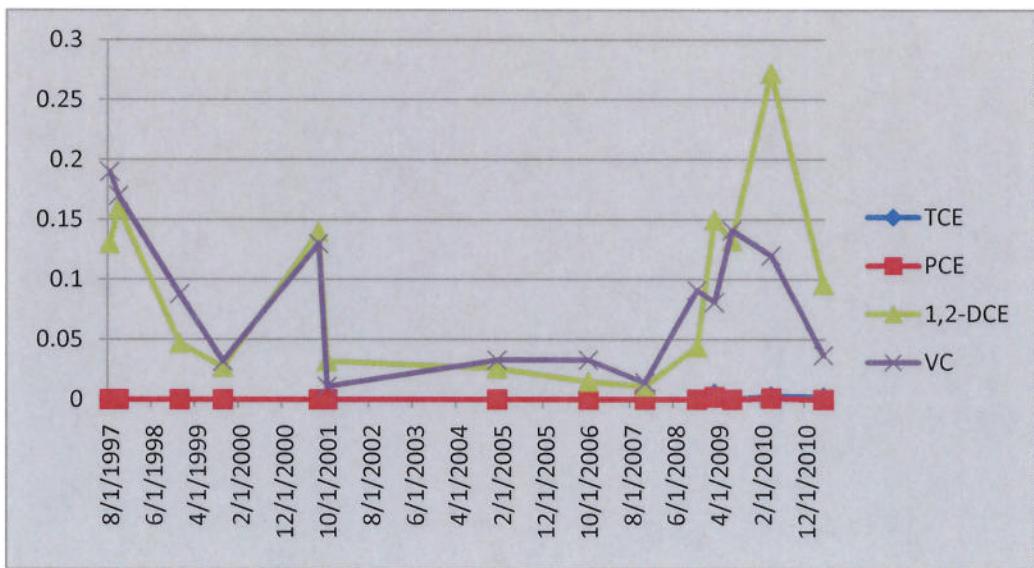
**MW-12 Groundwater Data**  
**Delphi Harrison Thermal Systems Site**  
**GM Components Holdings, LLC**  
**Lockport, New York**

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

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.

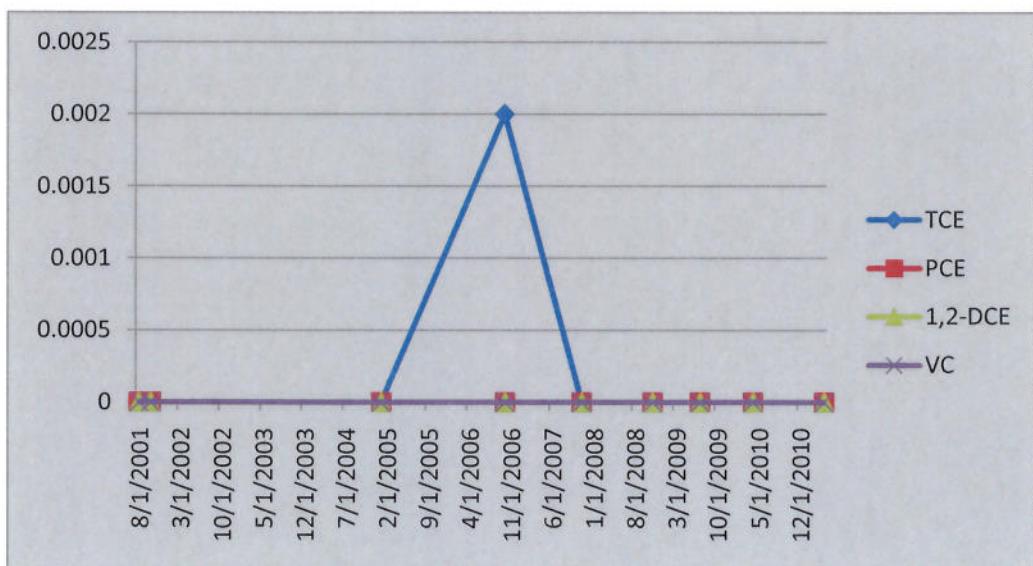


**MW-13 Groundwater Data**  
**Delphi Harrison Thermal Systems Site**  
**GM Components Holdings, LLC**  
**Lockport, New York**

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

Notes:

Results are provided in parts per million (ppm)

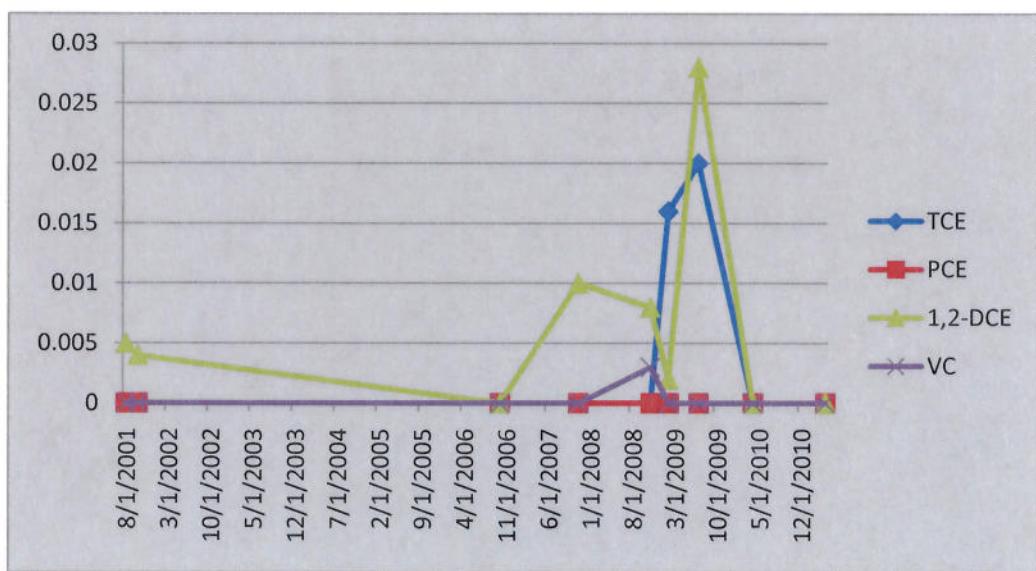


**MW-14 Groundwater Data**  
**Delphi Harrison Thermal Systems Site**  
**GM Components Holdings, LLC**  
**Lockport, New York**

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

Notes:

Results are provided in parts per million (ppm)



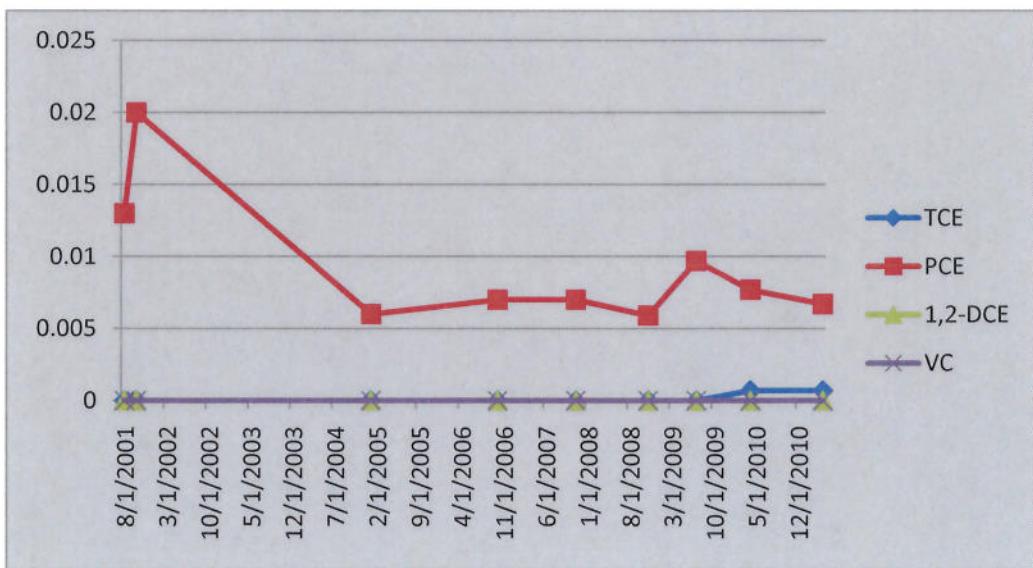
**MW-15 Groundwater Data**  
**Delphi Harrison Thermal Systems Site**  
**GM Components Holdings, LLC**  
**Lockport, New York**

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

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: 480-3974-1

Client Project/Site: 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:

05/12/2011 04:19:18 PM

Melissa Deyo

Project Administrator

[melissa.deyo@testamericainc.com](mailto:melissa.deyo@testamericainc.com)

Designee for

Denise Giglia

Project Manager I

[denise.giglia@testamericainc.com](mailto:denise.giglia@testamericainc.com)

### LINKS

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results through

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Ask  
The  
Expert

Visit us at:

[www.testamericainc.com](http://www.testamericainc.com)

Results relate only to the items tested and the sample(s) as received by the laboratory. The test results in this report meet all 2003 NELAC requirements for accredited parameters, exceptions are noted in this report. Pursuant to NELAC, this report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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# Qualifier Definition/Glossary

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

TestAmerica Job ID: 480-3974-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
F	MS or MSD exceeds the control limits
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.

### General Chemistry

Qualifier	Qualifier Description
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.
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.
EPA	United States Environmental Protection Agency
ND	Not Detected above the reporting level.
MDL	Method Detection Limit
RL	Reporting Limit
RE, RE1 (etc.)	Indicates a Re-extraction or Reanalysis of the sample.
%R	Percent Recovery
RPD	Relative Percent Difference, a measure of the relative difference between two points.

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# Case Narrative

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

TestAmerica Job ID: 480-3974-1

**Job ID: 480-3974-1**

**Laboratory: TestAmerica Buffalo**

## Narrative

### Job Narrative 480-3974-1

## Receipt

All samples were received in good condition within temperature requirements.

## GC/MS VOA

Method 8260B: The following samples were diluted due to the abundance of target analytes: MW-10 (480-4057-5 DL), (480-4057-5 MS), (480-4057-5 MSD), MW-9 (480-4134-1 DL), MW-7 (480-4134-2), MW-7 (480-4134-2 DL), MW-8 (480-4134-3 DL), DUP (480-4134-4 DL) and MW-4 (480-4134-5 DL). Elevated reporting limits (RLs) are provided.

Method 8260B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch 13484 were outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria; therefore, no corrective action was necessary.

Method 8260B: The method blanks for batches 14403 and 14429 contained Trichloroethene 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.

## GC VOA

Method RSK-175: The following samples were diluted due to the abundance of target analytes: MW-12 (480-3974-1), MW-13 (480-4057-3), MW-13 (480-4057-3 MS), MW-14 (480-4057-4), MW-10 (480-4057-5), MW-7 (480-4134-2), MW-8 (480-4134-3), DUP (480-4134-4) and MW-4 (480-4134-5). Elevated reporting limits (RLs) are provided.

No other analytical or quality issues were noted.

## Metals

Method 6010B: The following samples were diluted due to the abundance of target analyte Sodium: MW-13 (480-4057-3), MW-10 (480-4057-5), MW-9 (480-4134-1), MW-7 (480-4134-2), DUP (480-4134-4) and MW-4 (480-4134-5). Elevated reporting limits (RLs) are provided.

Method 6010B: The method blank for preparation batch 13057 contained Calcium above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of the sample was not performed.

Method 6010B: The method blank for preparation batch 13489 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 the samples was not performed.

No other analytical or quality issues were noted.

## General Chemistry

Method SM 4500 Cl- E: The method blanks (480-13193/53) and (480-13466/62) for batches 13193 and 13466 contained Chloride above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of the samples was not performed.

Method(s) SM 4500 Cl- E: The method blank for batch 13801 contained Chloride 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.

# Detection Summary

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

TestAmerica Job ID: 480-3974-1

## Client Sample ID: MW-12

## Lab Sample ID: 480-3974-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	96		1.0	0.81	ug/L	1	8260B	Total/NA	
Trichloroethene	1.2		1.0	0.46	ug/L	1	8260B	Total/NA	
Vinyl chloride	37		1.0	0.90	ug/L	1	8260B	Total/NA	
Methane	42		20	4.4	ug/L	20	RSK-175	Total/NA	
Calcium	227	B		0.50	mg/L	1	6010B	Total/NA	
Iron	6.6		0.050	0.019	mg/L	1	6010B	Total/NA	
Magnesium	65.1		0.20	0.043	mg/L	1	6010B	Total/NA	
Manganese	7.1		0.0030	0.00030	mg/L	1	6010B	Total/NA	
Potassium	3.7		0.50	0.20	mg/L	1	6010B	Total/NA	
Sodium	958		1.0	0.32	mg/L	1	6010B	Total/NA	
Ammonia	1.1		0.020	0.0090	mg/L	1	350.1	Total/NA	
Sulfate	108		25.0	7.5	mg/L	5	9038	Total/NA	
Total Organic Carbon	3.3		1.0	0.43	mg/L	1	9060	Total/NA	
Alkalinity, Total	272		5.0	0.79	mg/L	1	SM 2320B	Total/NA	
Chloride	1880	B		100	mg/L	100	SM 4500 Cl- E	Total/NA	

## Client Sample ID: MW-15

## Lab Sample ID: 480-4057-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	6.7		1.0	0.36	ug/L	1	8260B	Total/NA	
Trichloroethene	0.65	J	1.0	0.46	ug/L	1	8260B	Total/NA	
Calcium	217		0.50	0.10	mg/L	1	6010B	Total/NA	
Iron	0.019	J	0.050	0.019	mg/L	1	6010B	Total/NA	
Magnesium	55.5		0.20	0.043	mg/L	1	6010B	Total/NA	
Manganese	0.24	B	0.0030	0.00030	mg/L	1	6010B	Total/NA	
Potassium	3.7		0.50	0.20	mg/L	1	6010B	Total/NA	
Sodium	390		1.0	0.32	mg/L	1	6010B	Total/NA	
Nitrate as N	0.95		0.050	0.011	mg/L	1	353.2	Total/NA	
Sulfate	86.7		25.0	7.5	mg/L	5	9038	Total/NA	
Total Organic Carbon	3.5		1.0	0.43	mg/L	1	9060	Total/NA	
Alkalinity, Total	394		5.0	0.79	mg/L	1	SM 2320B	Total/NA	
Chloride	895	B		20.0	9.2 mg/L	20	SM 4500 Cl- E	Total/NA	

## Client Sample ID: MW-11

## Lab Sample ID: 480-4057-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methane	7.1		1.0	0.22	ug/L	1	RSK-175	Total/NA	
Calcium	92.5		0.50	0.10	mg/L	1	6010B	Total/NA	
Iron	0.14		0.050	0.019	mg/L	1	6010B	Total/NA	
Magnesium	30.8		0.20	0.043	mg/L	1	6010B	Total/NA	
Manganese	0.086	B	0.0030	0.00030	mg/L	1	6010B	Total/NA	
Potassium	5.7		0.50	0.20	mg/L	1	6010B	Total/NA	
Sodium	119		1.0	0.32	mg/L	1	6010B	Total/NA	
Ammonia	0.038		0.020	0.0090	mg/L	1	350.1	Total/NA	
Nitrate as N	0.32		0.050	0.011	mg/L	1	353.2	Total/NA	
Sulfate	53.5		25.0	7.5	mg/L	5	9038	Total/NA	
Total Organic Carbon	2.8		1.0	0.43	mg/L	1	9060	Total/NA	
Alkalinity, Total	294		5.0	0.79	mg/L	1	SM 2320B	Total/NA	
Chloride	170	B		5.0	2.3 mg/L	5	SM 4500 Cl- E	Total/NA	

## Client Sample ID: MW-13

## Lab Sample ID: 480-4057-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methane	58		10	2.2	ug/L	10		RSK-175	Total/NA

TestAmerica Buffalo

# Detection Summary

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

TestAmerica Job ID: 480-3974-1

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

## Lab Sample ID: 480-4057-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	210		0.50	0.10	mg/L	1	6010B		Total/NA
Iron	7.4		0.050	0.019	mg/L	1	6010B		Total/NA
Magnesium	53.2		0.20	0.043	mg/L	1	6010B		Total/NA
Manganese	6.3	B	0.0030	0.00030	mg/L	1	6010B		Total/NA
Potassium	8.3		0.50	0.20	mg/L	1	6010B		Total/NA
Sodium	1320		5.0	1.6	mg/L	5	6010B		Total/NA
Ammonia	0.94		0.020	0.0090	mg/L	1	350.1		Total/NA
Nitrate as N	0.069		0.050	0.011	mg/L	1	353.2		Total/NA
Sulfate	105		25.0	7.5	mg/L	5	9038		Total/NA
Total Organic Carbon	5.8		1.0	0.43	mg/L	1	9060		Total/NA
Alkalinity, Total	368		5.0	0.79	mg/L	1	SM 2320B		Total/NA
Chloride	2090	B	50.0	23.0	mg/L	50	SM 4500 Cl- E		Total/NA

## Client Sample ID: MW-14

## Lab Sample ID: 480-4057-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methane	16		10	2.2	ug/L	10	RSK-175		Total/NA
Calcium	149		0.50	0.10	mg/L	1	6010B		Total/NA
Iron	0.052		0.050	0.019	mg/L	1	6010B		Total/NA
Magnesium	68.0		0.20	0.043	mg/L	1	6010B		Total/NA
Manganese	0.19	B	0.0030	0.00030	mg/L	1	6010B		Total/NA
Potassium	5.4		0.50	0.20	mg/L	1	6010B		Total/NA
Sodium	875		1.0	0.32	mg/L	1	6010B		Total/NA
Ammonia	0.14		0.020	0.0090	mg/L	1	350.1		Total/NA
Nitrate as N	0.093		0.050	0.011	mg/L	1	353.2		Total/NA
Sulfate	78.2		25.0	7.5	mg/L	5	9038		Total/NA
Total Organic Carbon	2.8		1.0	0.43	mg/L	1	9060		Total/NA
Alkalinity, Total	339		5.0	0.79	mg/L	1	SM 2320B		Total/NA
Chloride	1750	B	50.0	23.0	mg/L	50	SM 4500 Cl- E		Total/NA

## Client Sample ID: MW-10

## Lab Sample ID: 480-4057-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	67		1.0	0.36	ug/L	1	8260B		Total/NA
trans-1,2-Dichloroethene	1.6		1.0	0.90	ug/L	1	8260B		Total/NA
Trichloroethene	88		1.0	0.46	ug/L	1	8260B		Total/NA
Vinyl chloride	27		1.0	0.90	ug/L	1	8260B		Total/NA
cis-1,2-Dichloroethene - DL	230		4.0	3.2	ug/L	4	8260B		Total/NA
Methane	64		20	4.4	ug/L	20	RSK-175		Total/NA
Calcium	281		0.50	0.10	mg/L	1	6010B		Total/NA
Iron	0.75		0.050	0.019	mg/L	1	6010B		Total/NA
Magnesium	77.3		0.20	0.043	mg/L	1	6010B		Total/NA
Manganese	2.1	B	0.0030	0.00030	mg/L	1	6010B		Total/NA
Potassium	6.9		0.50	0.20	mg/L	1	6010B		Total/NA
Sodium	1760		5.0	1.6	mg/L	5	6010B		Total/NA
Ammonia	0.11		0.020	0.0090	mg/L	1	350.1		Total/NA
Sulfate	175		50.0	15.0	mg/L	10	9038		Total/NA
Total Organic Carbon	4.1		1.0	0.43	mg/L	1	9060		Total/NA
Alkalinity, Total	277		5.0	0.79	mg/L	1	SM 2320B		Total/NA
Chloride	3230	B	100	46.0	mg/L	100	SM 4500 Cl- E		Total/NA

## Client Sample ID: TRIP BLANK

## Lab Sample ID: 480-4057-6

No Detections.

# Detection Summary

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

TestAmerica Job ID: 480-3974-1

## Client Sample ID: MW-9

## Lab Sample ID: 480-4134-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
trans-1,2-Dichloroethene	4.9		1.0	0.90	ug/L	1	8260B		Total/NA
Vinyl chloride	32		1.0	0.90	ug/L	1	8260B		Total/NA
cis-1,2-Dichloroethene - DL	1100		40	32	ug/L	40	8260B		Total/NA
Tetrachloroethene - DL	180		40	14	ug/L	40	8260B		Total/NA
Trichloroethene - DL	2300	B	40	18	ug/L	40	8260B		Total/NA
Methane	6.9		1.0	0.22	ug/L	1	RSK-175		Total/NA
Calcium	392		0.50	0.10	mg/L	1	6010B		Total/NA
Iron	0.034	J		0.050	0.019	mg/L	1	6010B	Total/NA
Magnesium	94.9		0.20	0.043	mg/L	1	6010B		Total/NA
Manganese	0.11			0.0030	0.00030	mg/L	1	6010B	Total/NA
Potassium	6.9		0.50	0.20	mg/L	1	6010B		Total/NA
Sodium	1710		5.0	1.6	mg/L	5	6010B		Total/NA
Ammonia	0.11		0.020	0.0090	mg/L	1	350.1		Total/NA
Nitrate as N	0.39		0.050	0.011	mg/L	1	353.2		Total/NA
Sulfate	362		50.0	15.0	mg/L	10	9038		Total/NA
Alkalinity, Total	233		5.0	0.79	mg/L	1	SM 2320B		Total/NA
Chloride	3410		121	55.7	mg/L	121	SM 4500 Cl- E		Total/NA

## Client Sample ID: MW-7

## Lab Sample ID: 480-4134-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	42000		5000	4100	ug/L	5000	8260B		Total/NA
Trichloroethene - DL	680000	B	10000	4600	ug/L	10000	8260B		Total/NA
Methane	15		5.0	1.1	ug/L	5	RSK-175		Total/NA
Calcium	121		0.50	0.10	mg/L	1	6010B		Total/NA
Iron	0.20		0.050	0.019	mg/L	1	6010B		Total/NA
Magnesium	60.1		0.20	0.043	mg/L	1	6010B		Total/NA
Manganese	0.025			0.0030	0.00030	mg/L	1	6010B	Total/NA
Potassium	13.8		0.50	0.20	mg/L	1	6010B		Total/NA
Sodium	3290		10.0	3.2	mg/L	10	6010B		Total/NA
Ammonia	0.53		0.020	0.0090	mg/L	1	350.1		Total/NA
Sulfate	463		125	37.5	mg/L	25	9038		Total/NA
Total Organic Carbon	9.2		1.0	0.43	mg/L	1	9060		Total/NA
Alkalinity, Total	223		5.0	0.79	mg/L	1	SM 2320B		Total/NA
Chloride	267		13.0	6.0	mg/L	13	SM 4500 Cl- E		Total/NA

## Client Sample ID: MW-8

## Lab Sample ID: 480-4134-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	7.7		1.0	0.36	ug/L	1	8260B		Total/NA
trans-1,2-Dichloroethene	2.5		1.0	0.90	ug/L	1	8260B		Total/NA
Trichloroethene	78	B	1.0	0.46	ug/L	1	8260B		Total/NA
cis-1,2-Dichloroethene - DL	810		25	20	ug/L	25	8260B		Total/NA
Vinyl chloride - DL	120		25	23	ug/L	25	8260B		Total/NA
Methane	18		5.0	1.1	ug/L	5	RSK-175		Total/NA
Calcium	220		0.50	0.10	mg/L	1	6010B		Total/NA
Iron	0.12		0.050	0.019	mg/L	1	6010B		Total/NA
Magnesium	102		0.20	0.043	mg/L	1	6010B		Total/NA
Manganese	0.53			0.0030	0.00030	mg/L	1	6010B	Total/NA
Potassium	7.9		0.50	0.20	mg/L	1	6010B		Total/NA
Sodium	355		1.0	0.32	mg/L	1	6010B		Total/NA
Ammonia	0.30		0.020	0.0090	mg/L	1	350.1		Total/NA
Sulfate	562		125	37.5	mg/L	25	9038		Total/NA
Alkalinity, Total	244		5.0	0.79	mg/L	1	SM 2320B		Total/NA

# Detection Summary

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

TestAmerica Job ID: 480-3974-1

## Client Sample ID: MW-8 (Continued)

## Lab Sample ID: 480-4134-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	683		21.0	9.7	mg/L	21		SM 4500 Cl- E	Total/NA

## Client Sample ID: DUP

## Lab Sample ID: 480-4134-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	1.8		1.0	0.36	ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene - DL	50000		1000	810	ug/L	1000		8260B	Total/NA
Trichloroethene - DL	24000	B	1000	460	ug/L	1000		8260B	Total/NA
Vinyl chloride - DL	12000		1000	900	ug/L	1000		8260B	Total/NA
Methane	2000		500	110	ug/L	500		RSK-175	Total/NA
Calcium	493		0.50	0.10	mg/L	1		6010B	Total/NA
Iron	3.1		0.050	0.019	mg/L	1		6010B	Total/NA
Magnesium	139		0.20	0.043	mg/L	1		6010B	Total/NA
Manganese	1.6		0.0030	0.00030	mg/L	1		6010B	Total/NA
Potassium	17.8		0.50	0.20	mg/L	1		6010B	Total/NA
Sodium	1420		5.0	1.6	mg/L	5		6010B	Total/NA
Ammonia	1.9		0.020	0.0090	mg/L	1		350.1	Total/NA
Sulfate	370		50.0	15.0	mg/L	10		9038	Total/NA
Total Organic Carbon	0.60	J	1.0	0.43	mg/L	1		9060	Total/NA
Alkalinity, Total	342		5.0	0.79	mg/L	1		SM 2320B	Total/NA
Chloride	3260		121	55.7	mg/L	121		SM 4500 Cl- E	Total/NA

## Client Sample ID: MW-4

## Lab Sample ID: 480-4134-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	1.5		1.0	0.36	ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene - DL	45000		1000	810	ug/L	1000		8260B	Total/NA
Trichloroethene - DL	21000	B	1000	460	ug/L	1000		8260B	Total/NA
Vinyl chloride - DL	10000		1000	900	ug/L	1000		8260B	Total/NA
Methane	2000		500	110	ug/L	500		RSK-175	Total/NA
Calcium	476		0.50	0.10	mg/L	1		6010B	Total/NA
Iron	3.1		0.050	0.019	mg/L	1		6010B	Total/NA
Magnesium	138		0.20	0.043	mg/L	1		6010B	Total/NA
Manganese	1.6		0.0030	0.00030	mg/L	1		6010B	Total/NA
Potassium	17.3		0.50	0.20	mg/L	1		6010B	Total/NA
Sodium	1390		5.0	1.6	mg/L	5		6010B	Total/NA
Ammonia	1.9		0.020	0.0090	mg/L	1		350.1	Total/NA
Sulfate	341		50.0	15.0	mg/L	10		9038	Total/NA
Total Organic Carbon	0.54	J	1.0	0.43	mg/L	1		9060	Total/NA
Alkalinity, Total	343		5.0	0.79	mg/L	1		SM 2320B	Total/NA
Chloride	3130		121	55.7	mg/L	121		SM 4500 Cl- E	Total/NA

## Client Sample ID: BLANK

## Lab Sample ID: 480-4134-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	2.5		1.0	0.81	ug/L	1		8260B	Total/NA
Trichloroethene	2.1	B	1.0	0.46	ug/L	1		8260B	Total/NA

# Analytical Data

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

TestAmerica Job ID: 480-3974-1

## Client Sample ID: MW-12

Lab Sample ID: 480-3974-1

Date Collected: 04/20/11 10:00  
 Date Received: 04/20/11 11:45

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	96		1.0	0.81	ug/L			04/21/11 22:16	1
Tetrachloroethene	ND		1.0	0.36	ug/L			04/21/11 22:16	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			04/21/11 22:16	1
Trichloroethene	1.2		1.0	0.46	ug/L			04/21/11 22:16	1
Vinyl chloride	37		1.0	0.90	ug/L			04/21/11 22:16	1
<b>Surrogate</b>	<b>% Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dichloroethane-d4 (Surr)	106		66 - 137					04/21/11 22:16	1
Toluene-d8 (Surr)	103		71 - 126					04/21/11 22:16	1
4-Bromofluorobenzene (Surr)	97		73 - 120					04/21/11 22:16	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	42		20	4.4	ug/L			04/21/11 15:24	20

### Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	227	B	0.50	0.10	mg/L		04/21/11 10:30	04/21/11 18:58	1
Iron	6.6		0.050	0.019	mg/L		04/21/11 10:30	04/21/11 18:58	1
Magnesium	65.1		0.20	0.043	mg/L		04/21/11 10:30	04/21/11 18:58	1
Manganese	7.1		0.0030	0.00030	mg/L		04/21/11 10:30	04/21/11 18:58	1
Potassium	3.7		0.50	0.20	mg/L		04/21/11 10:30	04/21/11 18:58	1
Sodium	958		1.0	0.32	mg/L		04/21/11 10:30	04/21/11 18:58	1

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	1.1		0.020	0.0090	mg/L			04/21/11 13:52	1
Nitrate as N	ND		0.050	0.011	mg/L			04/20/11 20:20	1
Nitrite as N	ND		0.050	0.020	mg/L			04/20/11 20:20	1
Sulfate	108		25.0	7.5	mg/L			04/21/11 14:42	5
Total Organic Carbon	3.3		1.0	0.43	mg/L			05/03/11 21:38	1
Alkalinity, Total	272		5.0	0.79	mg/L			04/25/11 14:27	1
Chloride	1880	B	100	46.0	mg/L			04/21/11 17:47	100
Sulfide	ND		0.10	0.052	mg/L			04/23/11 11:25	1

## Client Sample ID: MW-15

Lab Sample ID: 480-4057-1

Date Collected: 04/21/11 09:10  
 Date Received: 04/21/11 16:45

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			04/23/11 19:04	1
Tetrachloroethene	6.7		1.0	0.36	ug/L			04/23/11 19:04	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			04/23/11 19:04	1
Trichloroethene	0.65	J	1.0	0.46	ug/L			04/23/11 19:04	1
Vinyl chloride	ND		1.0	0.90	ug/L			04/23/11 19:04	1
<b>Surrogate</b>	<b>% Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dichloroethane-d4 (Surr)	106		66 - 137					04/23/11 19:04	1
Toluene-d8 (Surr)	102		71 - 126					04/23/11 19:04	1
4-Bromofluorobenzene (Surr)	97		73 - 120					04/23/11 19:04	1

TestAmerica Buffalo

# Analytical Data

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

TestAmerica Job ID: 480-3974-1

**Client Sample ID: MW-15**

**Lab Sample ID: 480-4057-1**

Date Collected: 04/21/11 09:10

Matrix: Water

Date Received: 04/21/11 16:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		1.0	0.22	ug/L			04/26/11 11:01	1

**Method: 6010B - Metals (ICP)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	217		0.50	0.10	mg/L		04/25/11 09:30	04/25/11 19:57	1
Iron	0.019	J	0.050	0.019	mg/L		04/25/11 09:30	04/25/11 19:57	1
Magnesium	55.5		0.20	0.043	mg/L		04/25/11 09:30	04/25/11 19:57	1
Manganese	0.24	B	0.0030	0.00030	mg/L		04/25/11 09:30	04/25/11 19:57	1
Potassium	3.7		0.50	0.20	mg/L		04/25/11 09:30	04/25/11 19:57	1
Sodium	390		1.0	0.32	mg/L		04/25/11 09:30	04/25/11 19:57	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.020	0.0090	mg/L			04/23/11 14:20	1
Nitrate as N	0.95		0.050	0.011	mg/L			04/22/11 22:16	1
Nitrite as N	ND		0.050	0.020	mg/L			04/22/11 22:32	1
Sulfate	86.7		25.0	7.5	mg/L			04/23/11 13:01	5
Total Organic Carbon	3.5		1.0	0.43	mg/L			05/04/11 00:40	1
Alkalinity, Total	394		5.0	0.79	mg/L			04/23/11 19:11	1
Chloride	895	B	20.0	9.2	mg/L			04/23/11 13:04	20
Sulfide	ND		0.10	0.052	mg/L			04/28/11 14:10	1

**Client Sample ID: MW-11**

**Lab Sample ID: 480-4057-2**

Date Collected: 04/21/11 10:50

Matrix: Water

Date Received: 04/21/11 16:45

**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			04/23/11 19:29	1
Tetrachloroethene	ND		1.0	0.36	ug/L			04/23/11 19:29	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			04/23/11 19:29	1
Trichloroethene	ND		1.0	0.46	ug/L			04/23/11 19:29	1
Vinyl chloride	ND		1.0	0.90	ug/L			04/23/11 19:29	1

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		66 - 137		04/23/11 19:29	1
Toluene-d8 (Surr)	105		71 - 126		04/23/11 19:29	1
4-Bromofluorobenzene (Surr)	98		73 - 120		04/23/11 19:29	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	7.1		1.0	0.22	ug/L			04/26/11 11:14	1

**Method: 6010B - Metals (ICP)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	92.5		0.50	0.10	mg/L		04/25/11 09:30	04/25/11 20:00	1
Iron	0.14		0.050	0.019	mg/L		04/25/11 09:30	04/25/11 20:00	1
Magnesium	30.8		0.20	0.043	mg/L		04/25/11 09:30	04/25/11 20:00	1
Manganese	0.086	B	0.0030	0.00030	mg/L		04/25/11 09:30	04/25/11 20:00	1
Potassium	5.7		0.50	0.20	mg/L		04/25/11 09:30	04/25/11 20:00	1
Sodium	119		1.0	0.32	mg/L		04/25/11 09:30	04/25/11 20:00	1

TestAmerica Buffalo

# Analytical Data

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

TestAmerica Job ID: 480-3974-1

## Client Sample ID: MW-11

Lab Sample ID: 480-4057-2

Matrix: Water

Date Collected: 04/21/11 10:50

Date Received: 04/21/11 16:45

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.038		0.020	0.0090	mg/L			04/23/11 14:23	1
Nitrate as N	0.32		0.050	0.011	mg/L			04/22/11 22:16	1
Nitrite as N	ND		0.050	0.020	mg/L			04/22/11 22:33	1
Sulfate	53.5		25.0	7.5	mg/L			04/23/11 13:01	5
Total Organic Carbon	2.8		1.0	0.43	mg/L			05/04/11 01:08	1
Alkalinity, Total	294		5.0	0.79	mg/L			04/23/11 19:20	1
Chloride	170	B	5.0	2.3	mg/L			04/23/11 12:56	5
Sulfide	ND		0.10	0.052	mg/L			04/28/11 14:10	1

## Client Sample ID: MW-13

Lab Sample ID: 480-4057-3

Matrix: Water

Date Collected: 04/21/11 12:00

Date Received: 04/21/11 16:45

### 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			04/23/11 19:55	1
Tetrachloroethene	ND		1.0	0.36	ug/L			04/23/11 19:55	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			04/23/11 19:55	1
Trichloroethene	ND		1.0	0.46	ug/L			04/23/11 19:55	1
Vinyl chloride	ND		1.0	0.90	ug/L			04/23/11 19:55	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		66 - 137					04/23/11 19:55	1
Toluene-d8 (Surr)	104		71 - 126					04/23/11 19:55	1
4-Bromofluorobenzene (Surr)	100		73 - 120					04/23/11 19:55	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	58		10	2.2	ug/L			04/26/11 13:10	10

### Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	210		0.50	0.10	mg/L			04/25/11 09:30	04/25/11 20:02
Iron	7.4		0.050	0.019	mg/L			04/25/11 09:30	04/25/11 20:02
Magnesium	53.2		0.20	0.043	mg/L			04/25/11 09:30	04/25/11 20:02
Manganese	6.3	B	0.0030	0.00030	mg/L			04/25/11 09:30	04/25/11 20:02
Potassium	8.3		0.50	0.20	mg/L			04/25/11 09:30	04/25/11 20:02
Sodium	1320		5.0	1.6	mg/L			04/25/11 09:30	04/26/11 20:53

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.94		0.020	0.0090	mg/L			04/23/11 14:24	1
Nitrate as N	0.069		0.050	0.011	mg/L			04/22/11 22:16	1
Nitrite as N	ND		0.050	0.020	mg/L			04/22/11 22:34	1
Sulfate	105		25.0	7.5	mg/L			04/23/11 13:01	5
Total Organic Carbon	5.8		1.0	0.43	mg/L			05/04/11 01:37	1
Alkalinity, Total	368		5.0	0.79	mg/L			04/23/11 19:29	1
Chloride	2090	B	50.0	23.0	mg/L			04/23/11 13:48	50
Sulfide	ND		0.10	0.052	mg/L			04/28/11 14:10	1

# Analytical Data

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

TestAmerica Job ID: 480-3974-1

## Client Sample ID: MW-14

Lab Sample ID: 480-4057-4

Matrix: Water

Date Collected: 04/21/11 14:45  
Date Received: 04/21/11 16:45

### 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			04/23/11 21:10	1
Tetrachloroethene	ND		1.0	0.36	ug/L			04/23/11 21:10	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			04/23/11 21:10	1
Trichloroethene	ND		1.0	0.46	ug/L			04/23/11 21:10	1
Vinyl chloride	ND		1.0	0.90	ug/L			04/23/11 21:10	1
<b>Surrogate</b>	<b>% Recovery</b>	<b>Qualifier</b>		<b>Limits</b>			<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dichloroethane-d4 (Surr)	107			66 - 137				04/23/11 21:10	1
Toluene-d8 (Surr)	104			71 - 126				04/23/11 21:10	1
4-Bromofluorobenzene (Surr)	99			73 - 120				04/23/11 21:10	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	16		10	2.2	ug/L			04/26/11 13:52	10

### Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	149		0.50	0.10	mg/L		04/25/11 09:30	04/25/11 20:04	1
Iron	0.052		0.050	0.019	mg/L		04/25/11 09:30	04/25/11 20:04	1
Magnesium	68.0		0.20	0.043	mg/L		04/25/11 09:30	04/25/11 20:04	1
Manganese	0.19	B	0.0030	0.00030	mg/L		04/25/11 09:30	04/25/11 20:04	1
Potassium	5.4		0.50	0.20	mg/L		04/25/11 09:30	04/25/11 20:04	1
Sodium	875		1.0	0.32	mg/L		04/25/11 09:30	04/25/11 20:04	1

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.14		0.020	0.0090	mg/L			04/23/11 14:25	1
Nitrate as N	0.093		0.050	0.011	mg/L			04/22/11 22:16	1
Nitrite as N	ND		0.050	0.020	mg/L			04/22/11 22:35	1
Sulfate	78.2		25.0	7.5	mg/L			04/23/11 13:01	5
Total Organic Carbon	2.8		1.0	0.43	mg/L			05/04/11 02:05	1
Alkalinity, Total	339		5.0	0.79	mg/L			04/23/11 19:37	1
Chloride	1750	B	50.0	23.0	mg/L			04/23/11 13:48	50
Sulfide	ND		0.10	0.052	mg/L			04/28/11 14:10	1

## Client Sample ID: MW-10

Lab Sample ID: 480-4057-5

Matrix: Water

Date Collected: 04/21/11 16:10  
Date Received: 04/21/11 16:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	67		1.0	0.36	ug/L			04/23/11 21:36	1
trans-1,2-Dichloroethene	1.6		1.0	0.90	ug/L			04/23/11 21:36	1
Trichloroethene	88		1.0	0.46	ug/L			04/23/11 21:36	1
Vinyl chloride	27		1.0	0.90	ug/L			04/23/11 21:36	1
<b>Surrogate</b>	<b>% Recovery</b>	<b>Qualifier</b>		<b>Limits</b>			<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dichloroethane-d4 (Surr)	107			66 - 137				04/23/11 21:36	1
Toluene-d8 (Surr)	105			71 - 126				04/23/11 21:36	1
4-Bromofluorobenzene (Surr)	98			73 - 120				04/23/11 21:36	1

TestAmerica Buffalo

# Analytical Data

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

TestAmerica Job ID: 480-3974-1

**Client Sample ID: MW-10**

**Lab Sample ID: 480-4057-5**

Date Collected: 04/21/11 16:10

Matrix: Water

Date Received: 04/21/11 16:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	230		4.0	3.2	ug/L			04/25/11 12:41	4
<b>Surrogate</b>									
	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		66 - 137					04/25/11 12:41	4
Toluene-d8 (Surr)	104		71 - 126					04/25/11 12:41	4
4-Bromofluorobenzene (Surr)	97		73 - 120					04/25/11 12:41	4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	64		20	4.4	ug/L			04/26/11 14:06	20

## Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	281		0.50	0.10	mg/L		04/25/11 09:30	04/25/11 20:06	1
Iron	0.75		0.050	0.019	mg/L		04/25/11 09:30	04/25/11 20:06	1
Magnesium	77.3		0.20	0.043	mg/L		04/25/11 09:30	04/25/11 20:06	1
Manganese	2.1 B		0.0030	0.00030	mg/L		04/25/11 09:30	04/25/11 20:06	1
Potassium	6.9		0.50	0.20	mg/L		04/25/11 09:30	04/25/11 20:06	1
Sodium	1760		5.0	1.6	mg/L		04/25/11 09:30	04/26/11 20:56	5

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.11		0.020	0.0090	mg/L			04/23/11 14:26	1
Nitrate as N	ND		0.050	0.011	mg/L			04/22/11 22:16	1
Nitrite as N	ND		0.050	0.020	mg/L			04/22/11 22:16	1
Sulfate	175		50.0	15.0	mg/L			04/23/11 13:02	10
Total Organic Carbon	4.1		1.0	0.43	mg/L			05/04/11 02:34	1
Alkalinity, Total	277		5.0	0.79	mg/L			04/23/11 19:46	1
Chloride	3230 B		100	46.0	mg/L			04/23/11 13:15	100
Sulfide	ND		0.10	0.052	mg/L			04/28/11 14:10	1

**Client Sample ID: TRIP BLANK**

**Lab Sample ID: 480-4057-6**

Date Collected: 04/21/11 00:00

Matrix: Water

Date Received: 04/21/11 16:45

## 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			04/23/11 22:01	1
Tetrachloroethene	ND		1.0	0.36	ug/L			04/23/11 22:01	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			04/23/11 22:01	1
Trichloroethene	ND		1.0	0.46	ug/L			04/23/11 22:01	1
Vinyl chloride	ND		1.0	0.90	ug/L			04/23/11 22:01	1
<b>Surrogate</b>									
	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		66 - 137					04/23/11 22:01	1
Toluene-d8 (Surr)	103		71 - 126					04/23/11 22:01	1
4-Bromofluorobenzene (Surr)	99		73 - 120					04/23/11 22:01	1

TestAmerica Buffalo

# Analytical Data

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

TestAmerica Job ID: 480-3974-1

## Client Sample ID: MW-9

Lab Sample ID: 480-4134-1

Matrix: Water

Date Collected: 04/22/11 11:15  
Date Received: 04/22/11 16:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	4.9		1.0	0.90	ug/L			04/29/11 11:43	1
Vinyl chloride	32		1.0	0.90	ug/L			04/29/11 11:43	1
<b>Surrogate</b>									
1,2-Dichloroethane-d4 (Surr)	96	% Recovery	Qualifier	<b>Limits</b>			Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	101			66 - 137				04/29/11 11:43	1
4-Bromofluorobenzene (Surr)	96			71 - 126				04/29/11 11:43	1
				73 - 120				04/29/11 11:43	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1100		40	32	ug/L			05/01/11 15:50	40
Tetrachloroethene	180		40	14	ug/L			05/01/11 15:50	40
Trichloroethene	2300	B	40	18	ug/L			05/01/11 15:50	40
<b>Surrogate</b>									
1,2-Dichloroethane-d4 (Surr)	96	% Recovery	Qualifier	<b>Limits</b>			Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	96			66 - 137				05/01/11 15:50	40
4-Bromofluorobenzene (Surr)	91			71 - 126				05/01/11 15:50	40
				73 - 120				05/01/11 15:50	40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	6.9		1.0	0.22	ug/L			04/28/11 11:22	1

### Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	392		0.50	0.10	mg/L			04/26/11 09:10	04/26/11 19:07
Iron	0.034	J	0.050	0.019	mg/L			04/26/11 09:10	04/26/11 19:07
Magnesium	94.9		0.20	0.043	mg/L			04/26/11 09:10	04/26/11 19:07
Manganese	0.11		0.0030	0.00030	mg/L			04/26/11 09:10	04/26/11 19:07
Potassium	6.9		0.50	0.20	mg/L			04/26/11 09:10	04/26/11 19:07
Sodium	1710		5.0	1.6	mg/L			04/26/11 09:10	04/27/11 17:17

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.11		0.020	0.0090	mg/L			04/25/11 12:24	1
Nitrate as N	0.39		0.050	0.011	mg/L			04/22/11 22:16	1
Nitrite as N	ND		0.050	0.020	mg/L			04/22/11 22:47	1
Sulfate	362		50.0	15.0	mg/L			04/26/11 08:04	10
Total Organic Carbon	ND		1.0	0.43	mg/L			04/29/11 06:45	1
Alkalinity, Total	233		5.0	0.79	mg/L			04/25/11 15:06	1
Chloride	3410		121	55.7	mg/L			04/26/11 15:13	121
Sulfide	ND		0.10	0.052	mg/L			04/28/11 14:10	1

## Client Sample ID: MW-7

Lab Sample ID: 480-4134-2

Matrix: Water

Date Collected: 04/22/11 12:00  
Date Received: 04/22/11 16:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	42000		5000	4100	ug/L			05/01/11 16:15	5000
Tetrachloroethene	ND		5000	1800	ug/L			05/01/11 16:15	5000
trans-1,2-Dichloroethene	ND		5000	4500	ug/L			05/01/11 16:15	5000

TestAmerica Buffalo

# Analytical Data

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

TestAmerica Job ID: 480-3974-1

**Client Sample ID: MW-7**

**Lab Sample ID: 480-4134-2**

Matrix: Water

Date Collected: 04/22/11 12:00  
Date Received: 04/22/11 16:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		5000	4500	ug/L			05/01/11 16:15	5000
<b>Surrogate</b>	<b>% Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dichloroethane-d4 (Surr)	100		66 - 137					05/01/11 16:15	5000
Toluene-d8 (Surr)	99		71 - 126					05/01/11 16:15	5000
4-Bromofluorobenzene (Surr)	92		73 - 120					05/01/11 16:15	5000

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	680000	B	10000	4600	ug/L			05/02/11 12:51	10000
<b>Surrogate</b>	<b>% Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dichloroethane-d4 (Surr)	101		66 - 137					05/02/11 12:51	10000
Toluene-d8 (Surr)	95		71 - 126					05/02/11 12:51	10000
4-Bromofluorobenzene (Surr)	89		73 - 120					05/02/11 12:51	10000

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	15		5.0	1.1	ug/L			04/28/11 13:42	5

## Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	121		0.50	0.10	mg/L			04/26/11 09:10	04/26/11 19:09
Iron	0.20		0.050	0.019	mg/L			04/26/11 09:10	04/26/11 19:09
Magnesium	60.1		0.20	0.043	mg/L			04/26/11 09:10	04/26/11 19:09
Manganese	0.025		0.0030	0.00030	mg/L			04/26/11 09:10	04/26/11 19:09
Potassium	13.8		0.50	0.20	mg/L			04/26/11 09:10	04/26/11 19:09
Sodium	3290		10.0	3.2	mg/L			04/26/11 09:10	04/27/11 17:19

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.53		0.020	0.0090	mg/L			04/25/11 12:25	1
Nitrate as N	ND		0.050	0.011	mg/L			04/22/11 22:16	1
Nitrite as N	ND		0.050	0.020	mg/L			04/22/11 22:16	1
Sulfate	463		125	37.5	mg/L			04/26/11 08:23	25
Total Organic Carbon	9.2		1.0	0.43	mg/L			05/05/11 00:59	1
Alkalinity, Total	223		5.0	0.79	mg/L			04/25/11 15:15	1
Chloride	267		13.0	6.0	mg/L			04/26/11 15:13	13
Sulfide	ND		0.10	0.052	mg/L			04/28/11 14:10	1

**Client Sample ID: MW-8**

**Lab Sample ID: 480-4134-3**

Matrix: Water

Date Collected: 04/22/11 13:30  
Date Received: 04/22/11 16:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	7.7		1.0	0.36	ug/L			05/01/11 16:39	1
trans-1,2-Dichloroethene	2.5		1.0	0.90	ug/L			05/01/11 16:39	1
Trichloroethene	78 B		1.0	0.46	ug/L			05/01/11 16:39	1
<b>Surrogate</b>	<b>% Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dichloroethane-d4 (Surr)	98		66 - 137					05/01/11 16:39	1

TestAmerica Buffalo

# Analytical Data

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

TestAmerica Job ID: 480-3974-1

**Client Sample ID: MW-8**

**Lab Sample ID: 480-4134-3**

Date Collected: 04/22/11 13:30

Matrix: Water

Date Received: 04/22/11 16:25

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

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	96		71 - 126		05/01/11 16:39	1
4-Bromofluorobenzene (Surr)	89		73 - 120		05/01/11 16:39	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	810		25	20	ug/L			05/02/11 13:16	25
Vinyl chloride	120		25	23	ug/L			05/02/11 13:16	25
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		66 - 137					05/02/11 13:16	25
Toluene-d8 (Surr)	97		71 - 126					05/02/11 13:16	25
4-Bromofluorobenzene (Surr)	88		73 - 120					05/02/11 13:16	25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	18		5.0	1.1	ug/L			04/28/11 13:56	5

**Method: 6010B - Metals (ICP)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	220		0.50	0.10	mg/L		04/26/11 09:10	04/26/11 19:14	1
Iron	0.12		0.050	0.019	mg/L		04/26/11 09:10	04/26/11 19:14	1
Magnesium	102		0.20	0.043	mg/L		04/26/11 09:10	04/26/11 19:14	1
Manganese	0.53		0.0030	0.00030	mg/L		04/26/11 09:10	04/26/11 19:14	1
Potassium	7.9		0.50	0.20	mg/L		04/26/11 09:10	04/26/11 19:14	1
Sodium	355		1.0	0.32	mg/L		04/26/11 09:10	04/26/11 19:14	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.30		0.020	0.0090	mg/L			04/25/11 12:26	1
Nitrate as N	ND		0.050	0.011	mg/L			04/22/11 22:16	1
Nitrite as N	ND		0.050	0.020	mg/L			04/22/11 22:16	1
Sulfate	562		125	37.5	mg/L			04/26/11 08:23	25
Total Organic Carbon	ND		1.0	0.43	mg/L			04/29/11 08:03	1
Alkalinity, Total	244		5.0	0.79	mg/L			04/25/11 15:23	1
Chloride	683		21.0	9.7	mg/L			04/26/11 15:13	21
Sulfide	ND		0.10	0.052	mg/L			04/28/11 14:10	1

**Client Sample ID: DUP**

**Lab Sample ID: 480-4134-4**

Date Collected: 04/22/11 12:30

Matrix: Water

Date Received: 04/22/11 16:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	1.8		1.0	0.36	ug/L			04/29/11 12:58	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	90		66 - 137					04/29/11 12:58	1
Toluene-d8 (Surr)	103		71 - 126					04/29/11 12:58	1
4-Bromofluorobenzene (Surr)	105		73 - 120					04/29/11 12:58	1

# Analytical Data

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

TestAmerica Job ID: 480-3974-1

## Client Sample ID: DUP

Lab Sample ID: 480-4134-4

Matrix: Water

Date Collected: 04/22/11 12:30  
Date Received: 04/22/11 16:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	50000		1000	810	ug/L			05/02/11 13:41	1000
trans-1,2-Dichloroethene	ND		1000	900	ug/L			05/02/11 13:41	1000
Trichloroethene	24000	B	1000	460	ug/L			05/02/11 13:41	1000
Vinyl chloride	12000		1000	900	ug/L			05/02/11 13:41	1000

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		66 - 137		05/02/11 13:41	1000
Toluene-d8 (Surr)	98		71 - 126		05/02/11 13:41	1000
4-Bromofluorobenzene (Surr)	89		73 - 120		05/02/11 13:41	1000

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	2000		500	110	ug/L			04/28/11 14:10	500

### Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	493		0.50	0.10	mg/L			04/26/11 09:10	04/26/11 19:16
Iron	3.1		0.050	0.019	mg/L			04/26/11 09:10	04/26/11 19:16
Magnesium	139		0.20	0.043	mg/L			04/26/11 09:10	04/26/11 19:16
Manganese	1.6		0.0030	0.00030	mg/L			04/26/11 09:10	04/26/11 19:16
Potassium	17.8		0.50	0.20	mg/L			04/26/11 09:10	04/26/11 19:16
Sodium	1420		5.0	1.6	mg/L			04/26/11 09:10	04/27/11 17:26

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	1.9		0.020	0.0090	mg/L			04/25/11 12:27	1
Nitrate as N	ND		0.050	0.011	mg/L			04/22/11 22:16	1
Nitrite as N	ND		0.050	0.020	mg/L			04/22/11 22:16	1
Sulfate	370		50.0	15.0	mg/L			04/26/11 08:05	10
Total Organic Carbon	0.60	J	1.0	0.43	mg/L			04/29/11 08:42	1
Alkalinity, Total	342		5.0	0.79	mg/L			04/25/11 15:31	1
Chloride	3260		121	55.7	mg/L			04/26/11 15:10	121
Sulfide	ND		0.10	0.052	mg/L			04/28/11 14:10	1

## Client Sample ID: MW-4

Lab Sample ID: 480-4134-5

Matrix: Water

Date Collected: 04/22/11 15:50  
Date Received: 04/22/11 16:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	1.5		1.0	0.36	ug/L			04/29/11 13:23	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		66 - 137					04/29/11 13:23	1
Toluene-d8 (Surr)	100		71 - 126					04/29/11 13:23	1
4-Bromofluorobenzene (Surr)	103		73 - 120					04/29/11 13:23	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	45000		1000	810	ug/L			05/02/11 14:06	1000
trans-1,2-Dichloroethene	ND		1000	900	ug/L			05/02/11 14:06	1000
Trichloroethene	21000	B	1000	460	ug/L			05/02/11 14:06	1000

TestAmerica Buffalo

# Analytical Data

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

TestAmerica Job ID: 480-3974-1

**Client Sample ID: MW-4**

**Lab Sample ID: 480-4134-5**

Date Collected: 04/22/11 15:50

Matrix: Water

Date Received: 04/22/11 16:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	10000		1000	900	ug/L			05/02/11 14:06	1000
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		66 - 137					05/02/11 14:06	1000
Toluene-d8 (Surr)	93		71 - 126					05/02/11 14:06	1000
4-Bromofluorobenzene (Surr)	84		73 - 120					05/02/11 14:06	1000

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	2000		500	110	ug/L			04/28/11 14:24	500

## Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	476		0.50	0.10	mg/L		04/26/11 09:10	04/26/11 19:18	1
Iron	3.1		0.050	0.019	mg/L		04/26/11 09:10	04/26/11 19:18	1
Magnesium	138		0.20	0.043	mg/L		04/26/11 09:10	04/26/11 19:18	1
Manganese	1.6		0.0030	0.00030	mg/L		04/26/11 09:10	04/26/11 19:18	1
Potassium	17.3		0.50	0.20	mg/L		04/26/11 09:10	04/26/11 19:18	1
Sodium	1390		5.0	1.6	mg/L		04/26/11 09:10	04/27/11 17:28	5

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	1.9		0.020	0.0090	mg/L			04/25/11 12:28	1
Nitrate as N	ND		0.050	0.011	mg/L			04/22/11 22:16	1
Nitrite as N	ND		0.050	0.020	mg/L			04/22/11 22:16	1
Sulfate	341		50.0	15.0	mg/L			04/26/11 08:10	10
Total Organic Carbon	0.54	J	1.0	0.43	mg/L			04/29/11 11:58	1
Alkalinity, Total	343		5.0	0.79	mg/L			04/25/11 15:41	1
Chloride	3130		121	55.7	mg/L			04/26/11 15:10	121
Sulfide	ND		0.10	0.052	mg/L			04/28/11 14:55	1

**Client Sample ID: BLANK**

**Lab Sample ID: 480-4134-6**

Date Collected: 04/22/11 00:00

Matrix: Water

Date Received: 04/22/11 16:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	2.5		1.0	0.81	ug/L			05/02/11 14:30	1
Tetrachloroethene	ND		1.0	0.36	ug/L			05/02/11 14:30	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			05/02/11 14:30	1
Trichloroethene	2.1	B	1.0	0.46	ug/L			05/02/11 14:30	1
Vinyl chloride	ND		1.0	0.90	ug/L			05/02/11 14:30	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		66 - 137					05/02/11 14:30	1
Toluene-d8 (Surr)	94		71 - 126					05/02/11 14:30	1
4-Bromofluorobenzene (Surr)	86		73 - 120					05/02/11 14:30	1

TestAmerica Buffalo

# Surrogate Summary

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

TestAmerica Job ID: 480-3974-1

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		12DCE (66-137)	TOL (71-126)	BFB (73-120)
480-3974-1	MW-12	106	103	97
480-4057-1	MW-15	106	102	97
480-4057-2	MW-11	109	105	98
480-4057-3	MW-13	106	104	100
480-4057-3 MS	MW-13	103	104	102
480-4057-3 MSD	MW-13	104	103	103
480-4057-4	MW-14	107	104	99
480-4057-5	MW-10	107	105	98
480-4057-5 - DL	MW-10	109	104	97
480-4057-5 MS	MW-10	108	100	98
480-4057-5 MSD	MW-10	108	101	99
480-4057-6	TRIP BLANK	110	103	99
480-4134-1	MW-9	96	101	96
480-4134-1 - DL	MW-9	96	96	91
480-4134-2	MW-7	100	99	92
480-4134-2 - DL	MW-7	101	95	89
480-4134-3	MW-8	98	96	89
480-4134-3 - DL	MW-8	105	97	88
480-4134-4	DUP	90	103	105
480-4134-4 - DL	DUP	104	98	89
480-4134-5	MW-4	87	100	103
480-4134-5 - DL	MW-4	99	93	84
480-4134-6	BLANK	103	94	86
LCS 480-13096/4	LCS 480-13096/4	100	107	104
LCS 480-13396/4	LCS 480-13396/4	103	106	106
LCS 480-13484/4	LCS 480-13484/4	104	103	103
LCS 480-14166/3	LCS 480-14166/3	89	101	106
LCS 480-14403/3	LCS 480-14403/3	93	97	95
LCS 480-14429/4	LCS 480-14429/4	94	95	93
MB 480-13096/5	MB 480-13096/5	102	105	100
MB 480-13396/5	MB 480-13396/5	108	104	100
MB 480-13484/5	MB 480-13484/5	114	107	102
MB 480-14166/4	MB 480-14166/4	94	102	101
MB 480-14403/4	MB 480-14403/4	96	96	91
MB 480-14429/5	MB 480-14429/5	97	94	90

### Surrogate Legend

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

TOL = Toluene-d8 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

# Quality Control Data

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

TestAmerica Job ID: 480-3974-1

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

**Lab Sample ID: MB 480-13096/5**

**Matrix: Water**

**Analysis Batch: 13096**

**Client Sample ID: MB 480-13096/5**

**Prep Type: Total/NA**

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			04/21/11 14:04	1
Tetrachloroethene	ND		1.0	0.36	ug/L			04/21/11 14:04	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			04/21/11 14:04	1
Trichloroethene	ND		1.0	0.46	ug/L			04/21/11 14:04	1
Vinyl chloride	ND		1.0	0.90	ug/L			04/21/11 14:04	1

Surrogate	MB		Limits	Prepared	Analyzed	Dil Fac
	% Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	102		66 - 137		04/21/11 14:04	1
Toluene-d8 (Surr)	105		71 - 126		04/21/11 14:04	1
4-Bromofluorobenzene (Surr)	100		73 - 120		04/21/11 14:04	1

**Lab Sample ID: LCS 480-13096/4**

**Matrix: Water**

**Analysis Batch: 13096**

**Client Sample ID: LCS 480-13096/4**

**Prep Type: Total/NA**

Analyte	Spike		Added	Result	LCS	LCS	D	% Rec	% Rec.
	Added	Result		Qualifier	Unit				
cis-1,2-Dichloroethene	25.0	23.9	ug/L	96	74 - 124				
Tetrachloroethene	25.0	23.5	ug/L	94	74 - 122				
trans-1,2-Dichloroethene	25.0	23.3	ug/L	93	73 - 127				
Trichloroethene	25.0	23.7	ug/L	95	74 - 123				

Surrogate	LCS		Limits	Prepared	Analyzed	Dil Fac
	% Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	100		66 - 137			
Toluene-d8 (Surr)	107		71 - 126			
4-Bromofluorobenzene (Surr)	104		73 - 120			

**Lab Sample ID: MB 480-13396/5**

**Matrix: Water**

**Analysis Batch: 13396**

**Client Sample ID: MB 480-13396/5**

**Prep Type: Total/NA**

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			04/23/11 15:08	1
Tetrachloroethene	ND		1.0	0.36	ug/L			04/23/11 15:08	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			04/23/11 15:08	1
Trichloroethene	ND		1.0	0.46	ug/L			04/23/11 15:08	1
Vinyl chloride	ND		1.0	0.90	ug/L			04/23/11 15:08	1

Surrogate	MB		Limits	Prepared	Analyzed	Dil Fac
	% Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	108		66 - 137		04/23/11 15:08	1
Toluene-d8 (Surr)	104		71 - 126		04/23/11 15:08	1
4-Bromofluorobenzene (Surr)	100		73 - 120		04/23/11 15:08	1

**Lab Sample ID: LCS 480-13396/4**

**Matrix: Water**

**Analysis Batch: 13396**

**Client Sample ID: LCS 480-13396/4**

**Prep Type: Total/NA**

Analyte	Spike		Added	Result	LCS	LCS	D	% Rec	% Rec.
	Added	Result		Qualifier	Unit				
cis-1,2-Dichloroethene	25.0	23.9	ug/L	95	74 - 124				
Tetrachloroethene	25.0	24.9	ug/L	100	74 - 122				

TestAmerica Buffalo

# Quality Control Data

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

TestAmerica Job ID: 480-3974-1

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

**Lab Sample ID: LCS 480-13396/4**

**Matrix: Water**

**Analysis Batch: 13396**

**Client Sample ID: LCS 480-13396/4**

**Prep Type: Total/NA**

Analyte		Spike	LCS	LCS	Unit	D	% Rec.	% Rec.
		Added	Result	Qualifier				
trans-1,2-Dichloroethene		25.0	24.0		ug/L		96	73 - 127
Trichloroethene		25.0	24.1		ug/L		97	74 - 123
<b>Surrogate</b>								
		LCS	LCS					
		% Recovery	Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)		103		66 - 137				
Toluene-d8 (Surr)		106		71 - 126				
4-Bromofluorobenzene (Surr)		106		73 - 120				

**Lab Sample ID: 480-4057-3 MS**

**Matrix: Water**

**Analysis Batch: 13396**

**Client Sample ID: MW-13**

**Prep Type: Total/NA**

Analyte		Sample	Sample	Spike	MS	MS	Unit	D	% Rec.	% Rec.
		Result	Qualifier	Added	Result	Qualifier				
cis-1,2-Dichloroethene		ND		25.0	24.8		ug/L		99	74 - 124
Tetrachloroethene		ND		25.0	24.5		ug/L		98	74 - 122
trans-1,2-Dichloroethene		ND		25.0	25.3		ug/L		101	73 - 127
Trichloroethene		ND		25.0	25.9		ug/L		103	74 - 123
<b>Surrogate</b>										
		MS	MS							
		% Recovery	Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)		103		66 - 137						
Toluene-d8 (Surr)		104		71 - 126						
4-Bromofluorobenzene (Surr)		102		73 - 120						

**Lab Sample ID: 480-4057-3 MSD**

**Matrix: Water**

**Analysis Batch: 13396**

**Client Sample ID: MW-13**

**Prep Type: Total/NA**

Analyte		Sample	Sample	Spike	MSD	MSD	Unit	D	% Rec.	RPD	RPD Limit	
		Result	Qualifier	Added	Result	Qualifier						
cis-1,2-Dichloroethene		ND		25.0	26.0		ug/L		104	74 - 124	4	15
Tetrachloroethene		ND		25.0	25.7		ug/L		103	74 - 122	5	20
trans-1,2-Dichloroethene		ND		25.0	26.6		ug/L		107	73 - 127	5	20
Trichloroethene		ND		25.0	27.0		ug/L		108	74 - 123	4	16
<b>Surrogate</b>												
		MSD	MSD									
		% Recovery	Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)		104		66 - 137								
Toluene-d8 (Surr)		103		71 - 126								
4-Bromofluorobenzene (Surr)		103		73 - 120								

**Lab Sample ID: MB 480-13484/5**

**Matrix: Water**

**Analysis Batch: 13484**

**Client Sample ID: MB 480-13484/5**

**Prep Type: Total/NA**

Analyte		MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
		Result	Qualifier							
cis-1,2-Dichloroethene		ND		1.0	0.81	ug/L			04/25/11 12:03	1
Tetrachloroethene		ND		1.0	0.36	ug/L			04/25/11 12:03	1
trans-1,2-Dichloroethene		ND		1.0	0.90	ug/L			04/25/11 12:03	1
Trichloroethene		ND		1.0	0.46	ug/L			04/25/11 12:03	1
Vinyl chloride		ND		1.0	0.90	ug/L			04/25/11 12:03	1

TestAmerica Buffalo

# Quality Control Data

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

TestAmerica Job ID: 480-3974-1

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

**Lab Sample ID: MB 480-13484/5**

**Matrix: Water**

**Analysis Batch: 13484**

**Client Sample ID: MB 480-13484/5**

**Prep Type: Total/NA**

Surrogate	MB		Limits	Prepared	Analyzed	Dil Fac
	% Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	114		66 - 137			
Toluene-d8 (Surr)	107		71 - 126			
4-Bromofluorobenzene (Surr)	102		73 - 120			

**Lab Sample ID: LCS 480-13484/4**

**Matrix: Water**

**Analysis Batch: 13484**

**Client Sample ID: LCS 480-13484/4**

**Prep Type: Total/NA**

Analyte	Spike		LCS Result	LCS Qualifier	Unit	D	% Rec	Limits
	Added							
cis-1,2-Dichloroethene	25.0		22.4		ug/L		89	74 - 124
Tetrachloroethene	25.0		23.5		ug/L		94	74 - 122
trans-1,2-Dichloroethene	25.0		23.4		ug/L		94	73 - 127
Trichloroethene	25.0		23.7		ug/L		95	74 - 123

**LCS LCS**

Surrogate	% Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	104		66 - 137
Toluene-d8 (Surr)	103		71 - 126
4-Bromofluorobenzene (Surr)	103		73 - 120

**Lab Sample ID: 480-4057-5 MS**

**Matrix: Water**

**Analysis Batch: 13484**

**Client Sample ID: MW-10**

**Prep Type: Total/NA**

Analyte	Sample	Sample	Spike	MS		Unit	D	% Rec	Limits
	Result	Qualifier	Added	Result	Qualifier				
cis-1,2-Dichloroethene	230		100	295	F	ug/L		67	74 - 124
Tetrachloroethene	67		100	152		ug/L		85	74 - 122
trans-1,2-Dichloroethene	ND		100	98.4		ug/L		98	73 - 127
Trichloroethene	88		100	175		ug/L		87	74 - 123

**MS MS**

Surrogate	% Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	108		66 - 137
Toluene-d8 (Surr)	100		71 - 126
4-Bromofluorobenzene (Surr)	98		73 - 120

**Lab Sample ID: 480-4057-5 MSD**

**Matrix: Water**

**Analysis Batch: 13484**

**Client Sample ID: MW-10**

**Prep Type: Total/NA**

Analyte	Sample	Sample	Spike	MSD		Unit	D	% Rec	Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier						
cis-1,2-Dichloroethene	230		100	280	F	ug/L		53	74 - 124	5	15
Tetrachloroethene	67		100	146		ug/L		79	74 - 122	4	20
trans-1,2-Dichloroethene	ND		100	93.5		ug/L		93	73 - 127	5	20
Trichloroethene	88		100	168		ug/L		80	74 - 123	4	16

**MSD MSD**

Surrogate	% Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	108		66 - 137
Toluene-d8 (Surr)	101		71 - 126
4-Bromofluorobenzene (Surr)	99		73 - 120

TestAmerica Buffalo

# Quality Control Data

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

TestAmerica Job ID: 480-3974-1

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

**Lab Sample ID: MB 480-14166/4**

**Matrix: Water**

**Analysis Batch: 14166**

**Client Sample ID: MB 480-14166/4**

**Prep Type: Total/NA**

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			04/29/11 10:39	1
Tetrachloroethene	ND		1.0	0.36	ug/L			04/29/11 10:39	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			04/29/11 10:39	1
Trichloroethene	ND		1.0	0.46	ug/L			04/29/11 10:39	1
Vinyl chloride	ND		1.0	0.90	ug/L			04/29/11 10:39	1

Surrogate	MB		Limits	Prepared	Analyzed	Dil Fac
	% Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	94		66 - 137		04/29/11 10:39	1
Toluene-d8 (Surr)	102		71 - 126		04/29/11 10:39	1
4-Bromofluorobenzene (Surr)	101		73 - 120		04/29/11 10:39	1

**Lab Sample ID: LCS 480-14166/3**

**Matrix: Water**

**Analysis Batch: 14166**

**Client Sample ID: LCS 480-14166/3**

**Prep Type: Total/NA**

Analyte	Spike		Added	Result	LCS	LCS	D	% Rec	% Rec.
	Added	Result			Qualifier	Unit			
cis-1,2-Dichloroethene		25.0		20.1		ug/L		80	74 - 124
Tetrachloroethene		25.0		22.1		ug/L		88	74 - 122
trans-1,2-Dichloroethene		25.0		20.1		ug/L		81	73 - 127
Trichloroethene		25.0		20.8		ug/L		83	74 - 123

Surrogate	LCS		Limits	Prepared	Analyzed	Dil Fac
	% Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	89		66 - 137			
Toluene-d8 (Surr)	101		71 - 126			
4-Bromofluorobenzene (Surr)	106		73 - 120			

**Lab Sample ID: MB 480-14403/4**

**Matrix: Water**

**Analysis Batch: 14403**

**Client Sample ID: MB 480-14403/4**

**Prep Type: Total/NA**

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			05/01/11 14:44	1
Tetrachloroethene	ND		1.0	0.36	ug/L			05/01/11 14:44	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			05/01/11 14:44	1
Trichloroethene	0.999	J	1.0	0.46	ug/L			05/01/11 14:44	1
Vinyl chloride	ND		1.0	0.90	ug/L			05/01/11 14:44	1

Surrogate	MB		Limits	Prepared	Analyzed	Dil Fac
	% Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	96		66 - 137		05/01/11 14:44	1
Toluene-d8 (Surr)	96		71 - 126		05/01/11 14:44	1
4-Bromofluorobenzene (Surr)	91		73 - 120		05/01/11 14:44	1

**Lab Sample ID: LCS 480-14403/3**

**Matrix: Water**

**Analysis Batch: 14403**

**Client Sample ID: LCS 480-14403/3**

**Prep Type: Total/NA**

Analyte	Spike		Added	Result	LCS	LCS	D	% Rec	Limits
	Added	Result			Qualifier	Unit			
cis-1,2-Dichloroethene		25.0		25.0		ug/L		100	74 - 124
Tetrachloroethene		25.0		26.0		ug/L		104	74 - 122

TestAmerica Buffalo

# Quality Control Data

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

TestAmerica Job ID: 480-3974-1

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

**Lab Sample ID: LCS 480-14403/3**

**Client Sample ID: LCS 480-14403/3**

**Matrix: Water**

**Prep Type: Total/NA**

**Analysis Batch: 14403**

Analyte		Spike	LCS	LCS	Unit	D	% Rec.	Limits
		Added	Result	Qualifier				
trans-1,2-Dichloroethene		25.0	26.8		ug/L		107	73 - 127
Trichloroethene		25.0	27.7		ug/L		111	74 - 123

**LCS LCS**

Surrogate	% Recovery	LCS	Limits
	Qualifier		
1,2-Dichloroethane-d4 (Surr)	93	66 - 137	
Toluene-d8 (Surr)	97	71 - 126	
4-Bromofluorobenzene (Surr)	95	73 - 120	

**Lab Sample ID: MB 480-14429/5**

**Client Sample ID: MB 480-14429/5**

**Matrix: Water**

**Prep Type: Total/NA**

**Analysis Batch: 14429**

Analyte	Result	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
		Qualifier								
cis-1,2-Dichloroethene	ND			1.0	0.81	ug/L			05/02/11 11:21	1
Tetrachloroethene	ND			1.0	0.36	ug/L			05/02/11 11:21	1
trans-1,2-Dichloroethene	ND			1.0	0.90	ug/L			05/02/11 11:21	1
Trichloroethene	0.984	J		1.0	0.46	ug/L			05/02/11 11:21	1
Vinyl chloride	ND			1.0	0.90	ug/L			05/02/11 11:21	1

**MB MB**

Surrogate	% Recovery	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	Qualifier						
1,2-Dichloroethane-d4 (Surr)	97	66 - 137				05/02/11 11:21	1
Toluene-d8 (Surr)	94	71 - 126				05/02/11 11:21	1
4-Bromofluorobenzene (Surr)	90	73 - 120				05/02/11 11:21	1

**Lab Sample ID: LCS 480-14429/4**

**Client Sample ID: LCS 480-14429/4**

**Matrix: Water**

**Prep Type: Total/NA**

**Analysis Batch: 14429**

Analyte		Spike	LCS	LCS	Unit	D	% Rec.	Limits
		Added	Result	Qualifier				
cis-1,2-Dichloroethene		25.0	25.9		ug/L		103	74 - 124
Tetrachloroethene		25.0	25.9		ug/L		104	74 - 122
trans-1,2-Dichloroethene		25.0	27.7		ug/L		111	73 - 127
Trichloroethene		25.0	28.8		ug/L		115	74 - 123

**LCS LCS**

Surrogate	% Recovery	LCS	Limits
	Qualifier		
1,2-Dichloroethane-d4 (Surr)	94	66 - 137	
Toluene-d8 (Surr)	95	71 - 126	
4-Bromofluorobenzene (Surr)	93	73 - 120	

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

**Lab Sample ID: MB 480-13134/2**

**Client Sample ID: MB 480-13134/2**

**Matrix: Water**

**Prep Type: Total/NA**

**Analysis Batch: 13134**

Analyte	Result	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
		Qualifier								
Methane	ND			1.0	0.22	ug/L			04/21/11 13:27	1

TestAmerica Buffalo

# Quality Control Data

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

TestAmerica Job ID: 480-3974-1

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

**Lab Sample ID: LCS 480-13134/3**

**Matrix: Water**

**Analysis Batch: 13134**

Analyte		Spike	LCS	LCS	Unit	D	% Rec.	
		Added	Result	Qualifier			% Rec.	Limits
Methane		3.86	3.91		ug/L	101	67 - 140	

**Lab Sample ID: MB 480-13662/3**

**Matrix: Water**

**Analysis Batch: 13662**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Methane	ND		1.0	0.22	ug/L			04/26/11 09:52	1

**Lab Sample ID: LCS 480-13662/4**

**Matrix: Water**

**Analysis Batch: 13662**

Analyte	Spike	LCS	LCS	Unit	D	% Rec.	
	Added	Result	Qualifier			% Rec.	Limits
Methane	3.86	2.81		ug/L	73	67 - 140	

**Lab Sample ID: 480-4057-3 MS**

**Matrix: Water**

**Analysis Batch: 13662**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	% Rec.	
	Result	Qualifier	Added	Result	Qualifier			% Rec.	Limits
Methane	58		38.6	98.0		ug/L	103	37 - 168	

**Lab Sample ID: MB 480-13993/2**

**Matrix: Water**

**Analysis Batch: 13993**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Methane	ND		1.0	0.22	ug/L			04/28/11 09:26	1

**Lab Sample ID: LCS 480-13993/3**

**Matrix: Water**

**Analysis Batch: 13993**

Analyte	Spike	LCS	LCS	Unit	D	% Rec.	
	Added	Result	Qualifier			% Rec.	Limits
Methane	3.86	3.64		ug/L	94	67 - 140	

**Lab Sample ID: LCSD 480-13993/4**

**Matrix: Water**

**Analysis Batch: 13993**

Analyte	Spike	LCSD	LCSD	Unit	D	% Rec.		RPD	Limit
	Added	Result	Qualifier			% Rec.	Limits		
Methane	3.86	4.13		ug/L	107	67 - 140	13	13	50

TestAmerica Buffalo

# Quality Control Data

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

TestAmerica Job ID: 480-3974-1

## Method: 6010B - Metals (ICP)

**Lab Sample ID: MB 480-13057/1-A**

**Matrix: Water**

**Analysis Batch: 13232**

**Client Sample ID: MB 480-13057/1-A**

**Prep Type: Total/NA**

**Prep Batch: 13057**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Calcium	0.110	J	0.50	0.10	mg/L		04/21/11 10:30	04/21/11 18:09	1
Iron	ND		0.050	0.019	mg/L		04/21/11 10:30	04/21/11 18:09	1
Magnesium	ND		0.20	0.043	mg/L		04/21/11 10:30	04/21/11 18:09	1
Manganese	ND		0.0030	0.00030	mg/L		04/21/11 10:30	04/21/11 18:09	1
Potassium	ND		0.50	0.20	mg/L		04/21/11 10:30	04/21/11 18:09	1
Sodium	ND		1.0	0.32	mg/L		04/21/11 10:30	04/21/11 18:09	1

**Lab Sample ID: LCS 480-13057/2-A**

**Matrix: Water**

**Analysis Batch: 13232**

**Client Sample ID: LCS 480-13057/2-A**

**Prep Type: Total/NA**

**Prep Batch: 13057**

Analyte	MB	MB	Spike	LCS	LCS	Unit	D	% Rec	Limits
	Result	Qualifier	Added	Result	Qualifier				
Calcium			10.0	10.15		mg/L	101	80 - 120	
Iron			10.0	9.88		mg/L	99	80 - 120	
Magnesium			10.0	10.37		mg/L	104	80 - 120	
Manganese			0.200	0.204		mg/L	102	80 - 120	
Potassium			10.0	10.07		mg/L	101	80 - 120	
Sodium			10.0	9.89		mg/L	99	80 - 120	

**Lab Sample ID: MB 480-13489/1-A**

**Matrix: Water**

**Analysis Batch: 13647**

**Client Sample ID: MB 480-13489/1-A**

**Prep Type: Total/NA**

**Prep Batch: 13489**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Calcium	ND		0.50	0.10	mg/L		04/25/11 09:30	04/25/11 19:06	1
Iron	ND		0.050	0.019	mg/L		04/25/11 09:30	04/25/11 19:06	1
Magnesium	ND		0.20	0.043	mg/L		04/25/11 09:30	04/25/11 19:06	1
Manganese	0.000420	J	0.0030	0.00030	mg/L		04/25/11 09:30	04/25/11 19:06	1
Potassium	ND		0.50	0.20	mg/L		04/25/11 09:30	04/25/11 19:06	1
Sodium	ND		1.0	0.32	mg/L		04/25/11 09:30	04/25/11 19:06	1

**Lab Sample ID: LCS 480-13489/2-A**

**Matrix: Water**

**Analysis Batch: 13647**

**Client Sample ID: LCS 480-13489/2-A**

**Prep Type: Total/NA**

**Prep Batch: 13489**

Analyte	MB	MB	Spike	LCS	LCS	Unit	D	% Rec	Limits
	Result	Qualifier	Added	Result	Qualifier				
Calcium			10.0	10.11		mg/L	101	80 - 120	
Iron			10.0	9.88		mg/L	99	80 - 120	
Magnesium			10.0	10.21		mg/L	102	80 - 120	
Manganese			0.200	0.211		mg/L	106	80 - 120	
Potassium			10.0	9.85		mg/L	99	80 - 120	
Sodium			10.0	9.98		mg/L	100	80 - 120	

**Lab Sample ID: MB 480-13639/1-A**

**Matrix: Water**

**Analysis Batch: 13814**

**Client Sample ID: MB 480-13639/1-A**

**Prep Type: Total/NA**

**Prep Batch: 13639**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Calcium	ND		0.50	0.10	mg/L		04/26/11 09:10	04/26/11 18:42	1
Iron	ND		0.050	0.019	mg/L		04/26/11 09:10	04/26/11 18:42	1

TestAmerica Buffalo

# Quality Control Data

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

TestAmerica Job ID: 480-3974-1

## Method: 6010B - Metals (ICP) (Continued)

**Lab Sample ID: MB 480-13639/1-A**

**Matrix: Water**

**Analysis Batch: 13814**

**Client Sample ID: MB 480-13639/1-A**

**Prep Type: Total/NA**

**Prep Batch: 13639**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	ND		0.20	0.043	mg/L		04/26/11 09:10	04/26/11 18:42	1
Manganese	ND		0.0030	0.00030	mg/L		04/26/11 09:10	04/26/11 18:42	1
Potassium	ND		0.50	0.20	mg/L		04/26/11 09:10	04/26/11 18:42	1
Sodium	ND		1.0	0.32	mg/L		04/26/11 09:10	04/26/11 18:42	1

**Lab Sample ID: LCS 480-13639/2-A**

**Matrix: Water**

**Analysis Batch: 13814**

**Client Sample ID: LCS 480-13639/2-A**

**Prep Type: Total/NA**

**Prep Batch: 13639**

Analyte	Spike Added	LCS			D	% Rec.	Limits
		Result	Qualifier	Unit			
Calcium	10.0	10.34		mg/L		103	80 - 120
Iron	10.0	10.14		mg/L		101	80 - 120
Magnesium	10.0	10.42		mg/L		104	80 - 120
Manganese	0.200	0.207		mg/L		104	80 - 120
Potassium	10.0	10.38		mg/L		104	80 - 120
Sodium	10.0	10.31		mg/L		103	80 - 120

## Method: 350.1 - Nitrogen, Ammonia

**Lab Sample ID: MB 480-13139/152**

**Matrix: Water**

**Analysis Batch: 13139**

**Client Sample ID: MB 480-13139/152**

**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			04/21/11 13:40	1

**Lab Sample ID: LCS 480-13139/153**

**Matrix: Water**

**Analysis Batch: 13139**

**Client Sample ID: LCS 480-13139/153**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS			% Rec.
		Result	Qualifier	Unit	Limits
Ammonia	1.00	0.996		mg/L	100 / 90 - 110

**Lab Sample ID: MB 480-13464/4**

**Matrix: Water**

**Analysis Batch: 13464**

**Client Sample ID: MB 480-13464/4**

**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			04/23/11 14:12	1

**Lab Sample ID: LCS 480-13464/3**

**Matrix: Water**

**Analysis Batch: 13464**

**Client Sample ID: LCS 480-13464/3**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS			% Rec.
		Result	Qualifier	Unit	Limits
Ammonia	1.00	0.921		mg/L	92 / 90 - 110

# Quality Control Data

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

TestAmerica Job ID: 480-3974-1

## Method: 350.1 - Nitrogen, Ammonia (Continued)

**Lab Sample ID:** MB 480-13590/147

**Matrix:** Water

**Analysis Batch:** 13590

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.020	0.0090	mg/L			04/25/11 12:19	1

**Lab Sample ID:** LCS 480-13590/148

**Matrix:** Water

**Analysis Batch:** 13590

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec.	Limits
Ammonia	1.00	1.07		mg/L		107	90 - 110

## Method: 353.2 - Nitrogen, Nitrite

**Lab Sample ID:** MB 480-13377/3

**Matrix:** Water

**Analysis Batch:** 13377

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	ND		0.050	0.020	mg/L			04/22/11 22:18	1

**Lab Sample ID:** LCS 480-13377/4

**Matrix:** Water

**Analysis Batch:** 13377

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec.	Limits
Nitrite as N	1.50	1.53		mg/L		102	90 - 110

## Method: 9038 - Sulfate, Turbidimetric

**Lab Sample ID:** MB 480-13192/67

**Matrix:** Water

**Analysis Batch:** 13192

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		5.0	1.5	mg/L			04/21/11 14:42	1

**Lab Sample ID:** LCS 480-13192/66

**Matrix:** Water

**Analysis Batch:** 13192

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec.	Limits
Sulfate	30.0	32.78		mg/L		109	90 - 110

**Lab Sample ID:** MB 480-13465/17

**Matrix:** Water

**Analysis Batch:** 13465

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		5.0	1.5	mg/L			04/23/11 12:04	1

# Quality Control Data

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

TestAmerica Job ID: 480-3974-1

## Method: 9038 - Sulfate, Turbidimetric (Continued)

**Lab Sample ID: LCS 480-13465/16**

**Matrix: Water**

**Analysis Batch: 13465**

Analyte		Spike	LCS	LCS	Unit	D	% Rec.	
		Added	Result	Qualifier			% Rec.	Limits
Sulfate		30.0	31.12		mg/L	104	90 - 110	

**Lab Sample ID: MB 480-13657/5**

**Matrix: Water**

**Analysis Batch: 13657**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Sulfate	ND		5.0	1.5	mg/L			04/25/11 12:36	1

**Lab Sample ID: LCS 480-13657/4**

**Matrix: Water**

**Analysis Batch: 13657**

Analyte	Spike	LCS	LCS	Unit	D	% Rec.	
	Added	Result	Qualifier			% Rec.	Limits
Sulfate	30.0	31.21		mg/L	104	90 - 110	

## Method: 9060 - Organic Carbon, Total (TOC)

**Lab Sample ID: MB 480-14626/16**

**Matrix: Water**

**Analysis Batch: 14626**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Total Organic Carbon	ND		1.0	0.43	mg/L			04/29/11 11:19	1

**Lab Sample ID: MB 480-14626/4**

**Matrix: Water**

**Analysis Batch: 14626**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Total Organic Carbon	ND		1.0	0.43	mg/L			04/28/11 23:30	1

**Lab Sample ID: LCS 480-14626/15**

**Matrix: Water**

**Analysis Batch: 14626**

Analyte	Spike	LCS	LCS	Unit	D	% Rec.	
	Added	Result	Qualifier			% Rec.	Limits
Total Organic Carbon	30.0	30.02		mg/L	100	90 - 110	

**Lab Sample ID: LCS 480-14626/3**

**Matrix: Water**

**Analysis Batch: 14626**

Analyte	Spike	LCS	LCS	Unit	D	% Rec.	
	Added	Result	Qualifier			% Rec.	Limits
Total Organic Carbon	30.0	29.39		mg/L	98	90 - 110	

# Quality Control Data

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

TestAmerica Job ID: 480-3974-1

## Method: 9060 - Organic Carbon, Total (TOC) (Continued)

**Lab Sample ID: MB 480-15100/3**

**Matrix: Water**

**Analysis Batch: 15100**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		1.0	0.43	mg/L			05/03/11 18:38	1

**Lab Sample ID: MB 480-15100/51**

**Matrix: Water**

**Analysis Batch: 15100**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		1.0	0.43	mg/L			05/04/11 18:58	1

**Lab Sample ID: LCS 480-15100/4**

**Matrix: Water**

**Analysis Batch: 15100**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec.	Limits
Total Organic Carbon	60.0	54.25		mg/L		90	90 - 110

**Lab Sample ID: LCS 480-15100/52**

**Matrix: Water**

**Analysis Batch: 15100**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec.	Limits
Total Organic Carbon	60.0	59.00		mg/L		98	90 - 110

**Lab Sample ID: 480-3974-1 DU**

**Matrix: Water**

**Analysis Batch: 15100**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Organic Carbon	3.3		3.20		mg/L		2	20

## Method: SM 2320B - Alkalinity

**Lab Sample ID: MB 480-13572/27**

**Matrix: Water**

**Analysis Batch: 13572**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity, Total	ND		5.0	0.79	mg/L			04/23/11 18:52	1

**Lab Sample ID: LCS 480-13572/28**

**Matrix: Water**

**Analysis Batch: 13572**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec.	Limits
Alkalinity, Total	100	95.48		mg/L		95	90 - 110

TestAmerica Buffalo

05/12/2011

# Quality Control Data

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

TestAmerica Job ID: 480-3974-1

## Method: SM 2320B - Alkalinity (Continued)

**Lab Sample ID:** MB 480-13660/4

**Matrix:** Water

**Analysis Batch:** 13660

**Client Sample ID:** MB 480-13660/4

**Prep Type:** Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity, Total	ND		5.0	0.79	mg/L			04/25/11 13:29	1

**Lab Sample ID:** LCS 480-13660/3

**Matrix:** Water

**Analysis Batch:** 13660

**Client Sample ID:** LCS 480-13660/3

**Prep Type:** Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec.	Limits
Alkalinity, Total	100	95.60		mg/L		96	90 - 110

## Method: SM 4500 Cl- E - Chloride, Total

**Lab Sample ID:** MB 480-13193/53

**Matrix:** Water

**Analysis Batch:** 13193

**Client Sample ID:** MB 480-13193/53

**Prep Type:** Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.657	J	1.0	0.46	mg/L			04/21/11 12:50	1

**Lab Sample ID:** LCS 480-13193/52

**Matrix:** Water

**Analysis Batch:** 13193

**Client Sample ID:** LCS 480-13193/52

**Prep Type:** Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec.	Limits
Chloride	25.0	26.60		mg/L		106	90 - 110

**Lab Sample ID:** MB 480-13466/62

**Matrix:** Water

**Analysis Batch:** 13466

**Client Sample ID:** MB 480-13466/62

**Prep Type:** Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.720	J	1.0	0.46	mg/L			04/23/11 12:48	1

**Lab Sample ID:** LCS 480-13466/61

**Matrix:** Water

**Analysis Batch:** 13466

**Client Sample ID:** LCS 480-13466/61

**Prep Type:** Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec.	Limits
Chloride	25.0	26.73		mg/L		107	90 - 110

**Lab Sample ID:** MB 480-13801/7

**Matrix:** Water

**Analysis Batch:** 13801

**Client Sample ID:** MB 480-13801/7

**Prep Type:** Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0	0.46	mg/L			04/26/11 12:03	1

# Quality Control Data

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

TestAmerica Job ID: 480-3974-1

## Method: SM 4500 Cl- E - Chloride, Total (Continued)

**Lab Sample ID: LCS 480-13801/6**

**Matrix: Water**

**Analysis Batch: 13801**

Analyte		Spike Added	LCS	LCS	Unit	D	% Rec.	Limits
			Result	Qualifier			% Rec	
Chloride		25.0	26.92		mg/L	D	108	90 - 110

**Lab Sample ID: 480-4134-3 MS**

**Matrix: Water**

**Analysis Batch: 13801**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	% Rec.	Limits
	Result	Qualifier	Added	Result	Qualifier			% Rec	
Chloride	683		20.0	685.9	4	mg/L	D	13	74 - 131

**Lab Sample ID: 480-4134-3 DU**

**Matrix: Water**

**Analysis Batch: 13801**

Analyte	Sample	Sample	Spike	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				
Chloride	683			674.6		mg/L	D	1	20

## Method: SM 4500 S2 D - Sulfide, Total

**Lab Sample ID: MB 480-13434/3**

**Matrix: Water**

**Analysis Batch: 13434**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Sulfide	ND		0.10	0.052	mg/L	D		04/23/11 11:25	1

**Lab Sample ID: LCS 480-13434/4**

**Matrix: Water**

**Analysis Batch: 13434**

Analyte	Spike	LCS	LCS	Unit	D	% Rec.	Limits
	Added	Result	Qualifier			% Rec	
Sulfide	0.750	0.752		mg/L	D	100	90 - 110

**Lab Sample ID: 480-3974-1 DU**

**Matrix: Water**

**Analysis Batch: 13434**

Analyte	Sample	Sample	Spike	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				
Sulfide	ND			ND		mg/L	D	NC	20

**Lab Sample ID: MB 480-14084/3**

**Matrix: Water**

**Analysis Batch: 14084**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Sulfide	ND		0.10	0.052	mg/L	D		04/28/11 14:10	1

# Quality Control Data

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

TestAmerica Job ID: 480-3974-1

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

Lab Sample ID: LCS 480-14084/4

Client Sample ID: LCS 480-14084/4

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 14084

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec.	% Rec.
Sulfide	0.750	0.681		mg/L	91	90 - 110	

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# QC Association Summary

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

TestAmerica Job ID: 480-3974-1

## GC/MS VOA

### Analysis Batch: 13096

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 480-13096/4	LCS 480-13096/4	Total/NA	Water	8260B	
MB 480-13096/5	MB 480-13096/5	Total/NA	Water	8260B	
480-3974-1	MW-12	Total/NA	Water	8260B	

### Analysis Batch: 13396

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 480-13396/4	LCS 480-13396/4	Total/NA	Water	8260B	
MB 480-13396/5	MB 480-13396/5	Total/NA	Water	8260B	
480-4057-1	MW-15	Total/NA	Water	8260B	
480-4057-2	MW-11	Total/NA	Water	8260B	
480-4057-3	MW-13	Total/NA	Water	8260B	
480-4057-3 MS	MW-13	Total/NA	Water	8260B	
480-4057-3 MSD	MW-13	Total/NA	Water	8260B	
480-4057-4	MW-14	Total/NA	Water	8260B	
480-4057-5	MW-10	Total/NA	Water	8260B	
480-4057-6	TRIP BLANK	Total/NA	Water	8260B	

### Analysis Batch: 13484

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 480-13484/4	LCS 480-13484/4	Total/NA	Water	8260B	
MB 480-13484/5	MB 480-13484/5	Total/NA	Water	8260B	
480-4057-5 - DL	MW-10	Total/NA	Water	8260B	
480-4057-5 MS	MW-10	Total/NA	Water	8260B	
480-4057-5 MSD	MW-10	Total/NA	Water	8260B	

### Analysis Batch: 14166

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 480-14166/3	LCS 480-14166/3	Total/NA	Water	8260B	
MB 480-14166/4	MB 480-14166/4	Total/NA	Water	8260B	
480-4134-1	MW-9	Total/NA	Water	8260B	
480-4134-4	DUP	Total/NA	Water	8260B	
480-4134-5	MW-4	Total/NA	Water	8260B	

### Analysis Batch: 14403

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 480-14403/3	LCS 480-14403/3	Total/NA	Water	8260B	
MB 480-14403/4	MB 480-14403/4	Total/NA	Water	8260B	
480-4134-1 - DL	MW-9	Total/NA	Water	8260B	
480-4134-2	MW-7	Total/NA	Water	8260B	
480-4134-3	MW-8	Total/NA	Water	8260B	

### Analysis Batch: 14429

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 480-14429/4	LCS 480-14429/4	Total/NA	Water	8260B	
MB 480-14429/5	MB 480-14429/5	Total/NA	Water	8260B	
480-4134-2 - DL	MW-7	Total/NA	Water	8260B	
480-4134-3 - DL	MW-8	Total/NA	Water	8260B	
480-4134-4 - DL	DUP	Total/NA	Water	8260B	
480-4134-5 - DL	MW-4	Total/NA	Water	8260B	
480-4134-6	BLANK	Total/NA	Water	8260B	

# QC Association Summary

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

TestAmerica Job ID: 480-3974-1

## GC VOA

### Analysis Batch: 13134

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 480-13134/2	MB 480-13134/2	Total/NA	Water	RSK-175	
LCS 480-13134/3	LCS 480-13134/3	Total/NA	Water	RSK-175	
480-3974-1	MW-12	Total/NA	Water	RSK-175	

### Analysis Batch: 13662

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 480-13662/3	MB 480-13662/3	Total/NA	Water	RSK-175	
LCS 480-13662/4	LCS 480-13662/4	Total/NA	Water	RSK-175	
480-4057-1	MW-15	Total/NA	Water	RSK-175	
480-4057-2	MW-11	Total/NA	Water	RSK-175	
480-4057-3	MW-13	Total/NA	Water	RSK-175	
480-4057-3 MS	MW-13	Total/NA	Water	RSK-175	
480-4057-4	MW-14	Total/NA	Water	RSK-175	
480-4057-5	MW-10	Total/NA	Water	RSK-175	

### Analysis Batch: 13993

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 480-13993/2	MB 480-13993/2	Total/NA	Water	RSK-175	
LCS 480-13993/3	LCS 480-13993/3	Total/NA	Water	RSK-175	
LCSD 480-13993/4	LCSD 480-13993/4	Total/NA	Water	RSK-175	
480-4134-1	MW-9	Total/NA	Water	RSK-175	
480-4134-2	MW-7	Total/NA	Water	RSK-175	
480-4134-3	MW-8	Total/NA	Water	RSK-175	
480-4134-4	DUP	Total/NA	Water	RSK-175	
480-4134-5	MW-4	Total/NA	Water	RSK-175	

## Metals

### Prep Batch: 13057

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 480-13057/1-A	MB 480-13057/1-A	Total/NA	Water	3005A	
LCS 480-13057/2-A	LCS 480-13057/2-A	Total/NA	Water	3005A	
480-3974-1	MW-12	Total/NA	Water	3005A	

### Analysis Batch: 13232

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 480-13057/1-A	MB 480-13057/1-A	Total/NA	Water	6010B	
LCS 480-13057/2-A	LCS 480-13057/2-A	Total/NA	Water	6010B	
480-3974-1	MW-12	Total/NA	Water	6010B	

### Prep Batch: 13489

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 480-13489/1-A	MB 480-13489/1-A	Total/NA	Water	3005A	
LCS 480-13489/2-A	LCS 480-13489/2-A	Total/NA	Water	3005A	
480-4057-1	MW-15	Total/NA	Water	3005A	
480-4057-2	MW-11	Total/NA	Water	3005A	
480-4057-3	MW-13	Total/NA	Water	3005A	
480-4057-3	MW-13	Total/NA	Water	3005A	
480-4057-4	MW-14	Total/NA	Water	3005A	
480-4057-5	MW-10	Total/NA	Water	3005A	
480-4057-5	MW-10	Total/NA	Water	3005A	

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# QC Association Summary

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

TestAmerica Job ID: 480-3974-1

## Metals (Continued)

### Prep Batch: 13639

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 480-13639/1-A	MB 480-13639/1-A	Total/NA	Water	3005A	
LCS 480-13639/2-A	LCS 480-13639/2-A	Total/NA	Water	3005A	
480-4134-1	MW-9	Total/NA	Water	3005A	
480-4134-1	MW-9	Total/NA	Water	3005A	
480-4134-2	MW-7	Total/NA	Water	3005A	
480-4134-2	MW-7	Total/NA	Water	3005A	
480-4134-3	MW-8	Total/NA	Water	3005A	
480-4134-4	DUP	Total/NA	Water	3005A	
480-4134-4	DUP	Total/NA	Water	3005A	
480-4134-5	MW-4	Total/NA	Water	3005A	
480-4134-5	MW-4	Total/NA	Water	3005A	

### Analysis Batch: 13647

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 480-13489/1-A	MB 480-13489/1-A	Total/NA	Water	6010B	13489
LCS 480-13489/2-A	LCS 480-13489/2-A	Total/NA	Water	6010B	13489
480-4057-1	MW-15	Total/NA	Water	6010B	13489
480-4057-2	MW-11	Total/NA	Water	6010B	13489
480-4057-3	MW-13	Total/NA	Water	6010B	13489
480-4057-4	MW-14	Total/NA	Water	6010B	13489
480-4057-5	MW-10	Total/NA	Water	6010B	13489

### Analysis Batch: 13814

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 480-13639/1-A	MB 480-13639/1-A	Total/NA	Water	6010B	13639
LCS 480-13639/2-A	LCS 480-13639/2-A	Total/NA	Water	6010B	13639
480-4134-1	MW-9	Total/NA	Water	6010B	13639
480-4134-2	MW-7	Total/NA	Water	6010B	13639
480-4134-3	MW-8	Total/NA	Water	6010B	13639
480-4134-4	DUP	Total/NA	Water	6010B	13639
480-4134-5	MW-4	Total/NA	Water	6010B	13639

### Analysis Batch: 13816

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-4057-3	MW-13	Total/NA	Water	6010B	13489
480-4057-5	MW-10	Total/NA	Water	6010B	13489

### Analysis Batch: 13986

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-4134-1	MW-9	Total/NA	Water	6010B	13639
480-4134-2	MW-7	Total/NA	Water	6010B	13639
480-4134-4	DUP	Total/NA	Water	6010B	13639
480-4134-5	MW-4	Total/NA	Water	6010B	13639

## General Chemistry

### Analysis Batch: 13039

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-3974-1	MW-12	Total/NA	Water	353.2	

# QC Association Summary

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

TestAmerica Job ID: 480-3974-1

## General Chemistry (Continued)

### Analysis Batch: 13040

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-3974-1	MW-12	Total/NA	Water	353.2	

### Analysis Batch: 13139

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 480-13139/152	MB 480-13139/152	Total/NA	Water	350.1	
LCS 480-13139/153	LCS 480-13139/153	Total/NA	Water	350.1	
480-3974-1	MW-12	Total/NA	Water	350.1	

### Analysis Batch: 13192

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 480-13192/66	LCS 480-13192/66	Total/NA	Water	9038	
MB 480-13192/67	MB 480-13192/67	Total/NA	Water	9038	
480-3974-1	MW-12	Total/NA	Water	9038	

### Analysis Batch: 13193

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 480-13193/52	LCS 480-13193/52	Total/NA	Water	SM 4500 Cl- E	
MB 480-13193/53	MB 480-13193/53	Total/NA	Water	SM 4500 Cl- E	
480-3974-1	MW-12	Total/NA	Water	SM 4500 Cl- E	

### Analysis Batch: 13377

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 480-13377/3	MB 480-13377/3	Total/NA	Water	353.2	
LCS 480-13377/4	LCS 480-13377/4	Total/NA	Water	353.2	
480-4057-1	MW-15	Total/NA	Water	353.2	
480-4057-2	MW-11	Total/NA	Water	353.2	
480-4057-3	MW-13	Total/NA	Water	353.2	
480-4057-4	MW-14	Total/NA	Water	353.2	
480-4134-1	MW-9	Total/NA	Water	353.2	

### Analysis Batch: 13434

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 480-13434/3	MB 480-13434/3	Total/NA	Water	SM 4500 S2 D	
LCS 480-13434/4	LCS 480-13434/4	Total/NA	Water	SM 4500 S2 D	
480-3974-1	MW-12	Total/NA	Water	SM 4500 S2 D	
480-3974-1 DU	MW-12	Total/NA	Water	SM 4500 S2 D	

### Analysis Batch: 13464

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 480-13464/3	LCS 480-13464/3	Total/NA	Water	350.1	
MB 480-13464/4	MB 480-13464/4	Total/NA	Water	350.1	
480-4057-1	MW-15	Total/NA	Water	350.1	
480-4057-2	MW-11	Total/NA	Water	350.1	
480-4057-3	MW-13	Total/NA	Water	350.1	
480-4057-4	MW-14	Total/NA	Water	350.1	
480-4057-5	MW-10	Total/NA	Water	350.1	

### Analysis Batch: 13465

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 480-13465/16	LCS 480-13465/16	Total/NA	Water	9038	
MB 480-13465/17	MB 480-13465/17	Total/NA	Water	9038	
480-4057-1	MW-15	Total/NA	Water	9038	

# QC Association Summary

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

TestAmerica Job ID: 480-3974-1

## General Chemistry (Continued)

### Analysis Batch: 13465 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-4057-2	MW-11	Total/NA	Water	9038	
480-4057-3	MW-13	Total/NA	Water	9038	
480-4057-4	MW-14	Total/NA	Water	9038	
480-4057-5	MW-10	Total/NA	Water	9038	

### Analysis Batch: 13466

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 480-13466/61	LCS 480-13466/61	Total/NA	Water	SM 4500 Cl- E	
MB 480-13466/62	MB 480-13466/62	Total/NA	Water	SM 4500 Cl- E	
480-4057-2	MW-11	Total/NA	Water	SM 4500 Cl- E	
480-4057-1	MW-15	Total/NA	Water	SM 4500 Cl- E	
480-4057-5	MW-10	Total/NA	Water	SM 4500 Cl- E	
480-4057-3	MW-13	Total/NA	Water	SM 4500 Cl- E	
480-4057-4	MW-14	Total/NA	Water	SM 4500 Cl- E	

### Analysis Batch: 13572

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 480-13572/27	MB 480-13572/27	Total/NA	Water	SM 2320B	
LCS 480-13572/28	LCS 480-13572/28	Total/NA	Water	SM 2320B	
480-4057-1	MW-15	Total/NA	Water	SM 2320B	
480-4057-2	MW-11	Total/NA	Water	SM 2320B	
480-4057-3	MW-13	Total/NA	Water	SM 2320B	
480-4057-4	MW-14	Total/NA	Water	SM 2320B	
480-4057-5	MW-10	Total/NA	Water	SM 2320B	

### Analysis Batch: 13590

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 480-13590/147	MB 480-13590/147	Total/NA	Water	350.1	
LCS 480-13590/148	LCS 480-13590/148	Total/NA	Water	350.1	
480-4134-1	MW-9	Total/NA	Water	350.1	
480-4134-2	MW-7	Total/NA	Water	350.1	
480-4134-3	MW-8	Total/NA	Water	350.1	
480-4134-4	DUP	Total/NA	Water	350.1	
480-4134-5	MW-4	Total/NA	Water	350.1	

### Analysis Batch: 13657

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 480-13657/4	LCS 480-13657/4	Total/NA	Water	9038	
MB 480-13657/5	MB 480-13657/5	Total/NA	Water	9038	
480-4134-1	MW-9	Total/NA	Water	9038	
480-4134-4	DUP	Total/NA	Water	9038	
480-4134-5	MW-4	Total/NA	Water	9038	
480-4134-2	MW-7	Total/NA	Water	9038	
480-4134-3	MW-8	Total/NA	Water	9038	

### Analysis Batch: 13660

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 480-13660/3	LCS 480-13660/3	Total/NA	Water	SM 2320B	
MB 480-13660/4	MB 480-13660/4	Total/NA	Water	SM 2320B	
480-3974-1	MW-12	Total/NA	Water	SM 2320B	
480-4134-1	MW-9	Total/NA	Water	SM 2320B	
480-4134-2	MW-7	Total/NA	Water	SM 2320B	

# QC Association Summary

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

TestAmerica Job ID: 480-3974-1

## General Chemistry (Continued)

### Analysis Batch: 13660 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-4134-3	MW-8	Total/NA	Water	SM 2320B	
480-4134-4	DUP	Total/NA	Water	SM 2320B	
480-4134-5	MW-4	Total/NA	Water	SM 2320B	

### Analysis Batch: 13793

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-4057-5	MW-10	Total/NA	Water	353.2	
480-4134-2	MW-7	Total/NA	Water	353.2	
480-4134-3	MW-8	Total/NA	Water	353.2	
480-4134-4	DUP	Total/NA	Water	353.2	
480-4134-5	MW-4	Total/NA	Water	353.2	

### Analysis Batch: 13794

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-4057-1	MW-15	Total/NA	Water	353.2	
480-4057-2	MW-11	Total/NA	Water	353.2	
480-4057-3	MW-13	Total/NA	Water	353.2	
480-4057-4	MW-14	Total/NA	Water	353.2	
480-4057-5	MW-10	Total/NA	Water	353.2	
480-4134-1	MW-9	Total/NA	Water	353.2	
480-4134-2	MW-7	Total/NA	Water	353.2	
480-4134-3	MW-8	Total/NA	Water	353.2	
480-4134-4	DUP	Total/NA	Water	353.2	
480-4134-5	MW-4	Total/NA	Water	353.2	

### Analysis Batch: 13801

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 480-13801/6	LCS 480-13801/6	Total/NA	Water	SM 4500 Cl- E	
MB 480-13801/7	MB 480-13801/7	Total/NA	Water	SM 4500 Cl- E	
480-4134-4	DUP	Total/NA	Water	SM 4500 Cl- E	
480-4134-5	MW-4	Total/NA	Water	SM 4500 Cl- E	
480-4134-1	MW-9	Total/NA	Water	SM 4500 Cl- E	
480-4134-2	MW-7	Total/NA	Water	SM 4500 Cl- E	
480-4134-3	MW-8	Total/NA	Water	SM 4500 Cl- E	
480-4134-3 DU	MW-8	Total/NA	Water	SM 4500 Cl- E	
480-4134-3 MS	MW-8	Total/NA	Water	SM 4500 Cl- E	

### Analysis Batch: 14084

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 480-14084/3	MB 480-14084/3	Total/NA	Water	SM 4500 S2 D	
LCS 480-14084/4	LCS 480-14084/4	Total/NA	Water	SM 4500 S2 D	
480-4057-1	MW-15	Total/NA	Water	SM 4500 S2 D	
480-4057-2	MW-11	Total/NA	Water	SM 4500 S2 D	
480-4057-3	MW-13	Total/NA	Water	SM 4500 S2 D	
480-4057-4	MW-14	Total/NA	Water	SM 4500 S2 D	
480-4057-5	MW-10	Total/NA	Water	SM 4500 S2 D	
480-4134-1	MW-9	Total/NA	Water	SM 4500 S2 D	
480-4134-2	MW-7	Total/NA	Water	SM 4500 S2 D	
480-4134-3	MW-8	Total/NA	Water	SM 4500 S2 D	
480-4134-4	DUP	Total/NA	Water	SM 4500 S2 D	
480-4134-5	MW-4	Total/NA	Water	SM 4500 S2 D	

# QC Association Summary

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

TestAmerica Job ID: 480-3974-1

## General Chemistry (Continued)

### Analysis Batch: 14626

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 480-14626/3	LCS 480-14626/3	Total/NA	Water	9060	
MB 480-14626/4	MB 480-14626/4	Total/NA	Water	9060	
480-4134-1	MW-9	Total/NA	Water	9060	
480-4134-3	MW-8	Total/NA	Water	9060	
480-4134-4	DUP	Total/NA	Water	9060	
LCS 480-14626/15	LCS 480-14626/15	Total/NA	Water	9060	
MB 480-14626/16	MB 480-14626/16	Total/NA	Water	9060	
480-4134-5	MW-4	Total/NA	Water	9060	

### Analysis Batch: 15100

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 480-15100/3	MB 480-15100/3	Total/NA	Water	9060	
LCS 480-15100/4	LCS 480-15100/4	Total/NA	Water	9060	
480-3974-1	MW-12	Total/NA	Water	9060	
480-3974-1 DU	MW-12	Total/NA	Water	9060	
480-4057-1	MW-15	Total/NA	Water	9060	
480-4057-2	MW-11	Total/NA	Water	9060	
480-4057-3	MW-13	Total/NA	Water	9060	
480-4057-4	MW-14	Total/NA	Water	9060	
480-4057-5	MW-10	Total/NA	Water	9060	
MB 480-15100/51	MB 480-15100/51	Total/NA	Water	9060	
LCS 480-15100/52	LCS 480-15100/52	Total/NA	Water	9060	
480-4134-2	MW-7	Total/NA	Water	9060	

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# Lab Chronicle

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

TestAmerica Job ID: 480-3974-1

**Client Sample ID: MW-12**

**Lab Sample ID: 480-3974-1**

Date Collected: 04/20/11 10:00

Matrix: Water

Date Received: 04/20/11 11:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	13096	04/21/11 22:16	DC	TAL BUF
Total/NA	Analysis	RSK-175		20	13134	04/21/11 15:24	JM	TAL BUF
Total/NA	Prep	3005A			13057	04/21/11 10:30	MM	TAL BUF
Total/NA	Analysis	6010B		1	13232	04/21/11 18:58	LH	TAL BUF
Total/NA	Analysis	353.2		1	13039	04/20/11 20:20	RL	TAL BUF
Total/NA	Analysis	353.2		1	13040	04/20/11 20:20	RL	TAL BUF
Total/NA	Analysis	350.1		1	13139	04/21/11 13:52	JM	TAL BUF
Total/NA	Analysis	9038		5	13192	04/21/11 14:42		TAL BUF
Total/NA	Analysis	SM 4500 Cl- E		100	13193	04/21/11 17:47		TAL BUF
Total/NA	Analysis	SM 4500 S2 D		1	13434	04/23/11 11:25	AP	TAL BUF
Total/NA	Analysis	SM 2320B		1	13660	04/25/11 14:27	KP	TAL BUF
Total/NA	Analysis	9060		1	15100	05/03/11 21:38	KP	TAL BUF

**Client Sample ID: MW-15**

**Lab Sample ID: 480-4057-1**

Date Collected: 04/21/11 09:10

Matrix: Water

Date Received: 04/21/11 16:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	13396	04/23/11 19:04	LH	TAL BUF
Total/NA	Analysis	RSK-175		1	13662	04/26/11 11:01	JM	TAL BUF
Total/NA	Prep	3005A			13489	04/25/11 09:30	MM	TAL BUF
Total/NA	Analysis	6010B		1	13647	04/25/11 19:57	AH	TAL BUF
Total/NA	Analysis	353.2		1	13377	04/22/11 22:32	RL	TAL BUF
Total/NA	Analysis	350.1		1	13464	04/23/11 14:20	JR	TAL BUF
Total/NA	Analysis	9038		5	13465	04/23/11 13:01		TAL BUF
Total/NA	Analysis	SM 4500 Cl- E		20	13466	04/23/11 13:04		TAL BUF
Total/NA	Analysis	SM 2320B		1	13572	04/23/11 19:11	KP	TAL BUF
Total/NA	Analysis	353.2		1	13794	04/22/11 22:16	RL	TAL BUF
Total/NA	Analysis	SM 4500 S2 D		1	14084	04/28/11 14:10	AP	TAL BUF
Total/NA	Analysis	9060		1	15100	05/04/11 00:40	KP	TAL BUF

**Client Sample ID: MW-11**

**Lab Sample ID: 480-4057-2**

Date Collected: 04/21/11 10:50

Matrix: Water

Date Received: 04/21/11 16:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	13396	04/23/11 19:29	LH	TAL BUF
Total/NA	Analysis	RSK-175		1	13662	04/26/11 11:14	JM	TAL BUF
Total/NA	Prep	3005A			13489	04/25/11 09:30	MM	TAL BUF
Total/NA	Analysis	6010B		1	13647	04/25/11 20:00	AH	TAL BUF
Total/NA	Analysis	353.2		1	13377	04/22/11 22:33	RL	TAL BUF
Total/NA	Analysis	350.1		1	13464	04/23/11 14:23	JR	TAL BUF

TestAmerica Buffalo

## Lab Chronicle

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

TestAmerica Job ID: 480-3974-1

**Client Sample ID: MW-11**

**Lab Sample ID: 480-4057-2**

Matrix: Water

Date Collected: 04/21/11 10:50

Date Received: 04/21/11 16:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	9038		5	13465	04/23/11 13:01		TAL BUF
Total/NA	Analysis	SM 4500 Cl- E		5	13466	04/23/11 12:56		TAL BUF
Total/NA	Analysis	SM 2320B		1	13572	04/23/11 19:20	KP	TAL BUF
Total/NA	Analysis	353.2		1	13794	04/22/11 22:16	RL	TAL BUF
Total/NA	Analysis	SM 4500 S2 D		1	14084	04/28/11 14:10	AP	TAL BUF
Total/NA	Analysis	9060		1	15100	05/04/11 01:08	KP	TAL BUF

**Client Sample ID: MW-13**

**Lab Sample ID: 480-4057-3**

Matrix: Water

Date Collected: 04/21/11 12:00

Date Received: 04/21/11 16:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	13396	04/23/11 19:55	LH	TAL BUF
Total/NA	Analysis	RSK-175		10	13662	04/26/11 13:10	JM	TAL BUF
Total/NA	Prep	3005A			13489	04/25/11 09:30	MM	TAL BUF
Total/NA	Analysis	6010B		1	13647	04/25/11 20:02	AH	TAL BUF
Total/NA	Analysis	6010B		5	13816	04/26/11 20:53	AH	TAL BUF
Total/NA	Analysis	353.2		1	13377	04/22/11 22:34	RL	TAL BUF
Total/NA	Analysis	350.1		1	13464	04/23/11 14:24	JR	TAL BUF
Total/NA	Analysis	9038		5	13465	04/23/11 13:01		TAL BUF
Total/NA	Analysis	SM 4500 Cl- E		50	13466	04/23/11 13:48		TAL BUF
Total/NA	Analysis	SM 2320B		1	13572	04/23/11 19:29	KP	TAL BUF
Total/NA	Analysis	353.2		1	13794	04/22/11 22:16	RL	TAL BUF
Total/NA	Analysis	SM 4500 S2 D		1	14084	04/28/11 14:10	AP	TAL BUF
Total/NA	Analysis	9060		1	15100	05/04/11 01:37	KP	TAL BUF

**Client Sample ID: MW-14**

**Lab Sample ID: 480-4057-4**

Matrix: Water

Date Collected: 04/21/11 14:45

Date Received: 04/21/11 16:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	13396	04/23/11 21:10	LH	TAL BUF
Total/NA	Analysis	RSK-175		10	13662	04/26/11 13:52	JM	TAL BUF
Total/NA	Prep	3005A			13489	04/25/11 09:30	MM	TAL BUF
Total/NA	Analysis	6010B		1	13647	04/25/11 20:04	AH	TAL BUF
Total/NA	Analysis	353.2		1	13377	04/22/11 22:35	RL	TAL BUF
Total/NA	Analysis	350.1		1	13464	04/23/11 14:25	JR	TAL BUF
Total/NA	Analysis	9038		5	13465	04/23/11 13:01		TAL BUF
Total/NA	Analysis	SM 4500 Cl- E		50	13466	04/23/11 13:48		TAL BUF
Total/NA	Analysis	SM 2320B		1	13572	04/23/11 19:37	KP	TAL BUF
Total/NA	Analysis	353.2		1	13794	04/22/11 22:16	RL	TAL BUF
Total/NA	Analysis	SM 4500 S2 D		1	14084	04/28/11 14:10	AP	TAL BUF

TestAmerica Buffalo

# Lab Chronicle

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

TestAmerica Job ID: 480-3974-1

**Client Sample ID: MW-14**

Date Collected: 04/21/11 14:45

Date Received: 04/21/11 16:45

**Lab Sample ID: 480-4057-4**

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	9060		1	15100	05/04/11 02:05	KP	TAL BUF

**Client Sample ID: MW-10**

Date Collected: 04/21/11 16:10

Date Received: 04/21/11 16:45

**Lab Sample ID: 480-4057-5**

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	13396	04/23/11 21:36	LH	TAL BUF
Total/NA	Analysis	8260B	DL	4	13484	04/25/11 12:41	CDC	TAL BUF
Total/NA	Analysis	RSK-175		20	13662	04/26/11 14:06	JM	TAL BUF
Total/NA	Prep	3005A			13489	04/25/11 09:30	MM	TAL BUF
Total/NA	Analysis	6010B		1	13647	04/25/11 20:06	AH	TAL BUF
Total/NA	Analysis	6010B		5	13816	04/26/11 20:56	AH	TAL BUF
Total/NA	Analysis	350.1		1	13464	04/23/11 14:26	JR	TAL BUF
Total/NA	Analysis	9038		10	13465	04/23/11 13:02		TAL BUF
Total/NA	Analysis	SM 4500 Cl- E		100	13466	04/23/11 13:15		TAL BUF
Total/NA	Analysis	SM 2320B		1	13572	04/23/11 19:46	KP	TAL BUF
Total/NA	Analysis	353.2		1	13793	04/22/11 22:16	RL	TAL BUF
Total/NA	Analysis	353.2		1	13794	04/22/11 22:16	RL	TAL BUF
Total/NA	Analysis	SM 4500 S2 D		1	14084	04/28/11 14:10	AP	TAL BUF
Total/NA	Analysis	9060		1	15100	05/04/11 02:34	KP	TAL BUF

**Client Sample ID: TRIP BLANK**

Date Collected: 04/21/11 00:00

Date Received: 04/21/11 16:45

**Lab Sample ID: 480-4057-6**

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	13396	04/23/11 22:01	LH	TAL BUF

**Client Sample ID: MW-9**

Date Collected: 04/22/11 11:15

Date Received: 04/22/11 16:25

**Lab Sample ID: 480-4134-1**

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	14166	04/29/11 11:43	JS	TAL BUF
Total/NA	Analysis	8260B	DL	40	14403	05/01/11 15:50	TRB	TAL BUF
Total/NA	Analysis	RSK-175		1	13993	04/28/11 11:22	MN	TAL BUF
Total/NA	Prep	3005A			13639	04/26/11 09:10	MM	TAL BUF
Total/NA	Analysis	6010B		1	13814	04/26/11 19:07	AH	TAL BUF
Total/NA	Analysis	6010B		5	13986	04/27/11 17:17	AH	TAL BUF
Total/NA	Analysis	353.2		1	13377	04/22/11 22:47	RL	TAL BUF
Total/NA	Analysis	350.1		1	13590	04/25/11 12:24	JM	TAL BUF
Total/NA	Analysis	9038		10	13657	04/26/11 08:04	KP	TAL BUF

TestAmerica Buffalo

# Lab Chronicle

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

TestAmerica Job ID: 480-3974-1

## Client Sample ID: MW-9

Date Collected: 04/22/11 11:15

Date Received: 04/22/11 16:25

## Lab Sample ID: 480-4134-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2320B		1	13660	04/25/11 15:06	KP	TAL BUF
Total/NA	Analysis	353.2		1	13794	04/22/11 22:16	RL	TAL BUF
Total/NA	Analysis	SM 4500 Cl- E		121	13801	04/26/11 15:13	JR	TAL BUF
Total/NA	Analysis	SM 4500 S2 D		1	14084	04/28/11 14:10	AP	TAL BUF
Total/NA	Analysis	9060		1	14626	04/29/11 06:45	KP	TAL BUF

## Client Sample ID: MW-7

Date Collected: 04/22/11 12:00

Date Received: 04/22/11 16:25

## Lab Sample ID: 480-4134-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		5000	14403	05/01/11 16:15	TRB	TAL BUF
Total/NA	Analysis	8260B	DL	10000	14429	05/02/11 12:51	CDC	TAL BUF
Total/NA	Analysis	RSK-175		5	13993	04/28/11 13:42	MN	TAL BUF
Total/NA	Prep	3005A			13639	04/26/11 09:10	MM	TAL BUF
Total/NA	Analysis	6010B		1	13814	04/26/11 19:09	AH	TAL BUF
Total/NA	Analysis	6010B		10	13986	04/27/11 17:19	AH	TAL BUF
Total/NA	Analysis	350.1		1	13590	04/25/11 12:25	JM	TAL BUF
Total/NA	Analysis	9038		25	13657	04/26/11 08:23	KP	TAL BUF
Total/NA	Analysis	SM 2320B		1	13660	04/25/11 15:15	KP	TAL BUF
Total/NA	Analysis	353.2		1	13793	04/22/11 22:16	RL	TAL BUF
Total/NA	Analysis	353.2		1	13794	04/22/11 22:16	RL	TAL BUF
Total/NA	Analysis	SM 4500 Cl- E		13	13801	04/26/11 15:13	JR	TAL BUF
Total/NA	Analysis	SM 4500 S2 D		1	14084	04/28/11 14:10	AP	TAL BUF
Total/NA	Analysis	9060		1	15100	05/05/11 00:59	KP	TAL BUF

## Client Sample ID: MW-8

Date Collected: 04/22/11 13:30

Date Received: 04/22/11 16:25

## Lab Sample ID: 480-4134-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	14403	05/01/11 16:39	TRB	TAL BUF
Total/NA	Analysis	8260B	DL	25	14429	05/02/11 13:16	CDC	TAL BUF
Total/NA	Analysis	RSK-175		5	13993	04/28/11 13:56	MN	TAL BUF
Total/NA	Prep	3005A			13639	04/26/11 09:10	MM	TAL BUF
Total/NA	Analysis	6010B		1	13814	04/26/11 19:14	AH	TAL BUF
Total/NA	Analysis	350.1		1	13590	04/25/11 12:26	JM	TAL BUF
Total/NA	Analysis	9038		25	13657	04/26/11 08:23	KP	TAL BUF
Total/NA	Analysis	SM 2320B		1	13660	04/25/11 15:23	KP	TAL BUF
Total/NA	Analysis	353.2		1	13793	04/22/11 22:16	RL	TAL BUF
Total/NA	Analysis	353.2		1	13794	04/22/11 22:16	RL	TAL BUF
Total/NA	Analysis	SM 4500 Cl- E		21	13801	04/26/11 15:13	JR	TAL BUF

TestAmerica Buffalo

# Lab Chronicle

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

TestAmerica Job ID: 480-3974-1

## Client Sample ID: MW-8

Date Collected: 04/22/11 13:30

Date Received: 04/22/11 16:25

## Lab Sample ID: 480-4134-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 S2 D		1	14084	04/28/11 14:10	AP	TAL BUF
Total/NA	Analysis	9060		1	14626	04/29/11 08:03	KP	TAL BUF

## Client Sample ID: DUP

Date Collected: 04/22/11 12:30

Date Received: 04/22/11 16:25

## Lab Sample ID: 480-4134-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	14166	04/29/11 12:58	JS	TAL BUF
Total/NA	Analysis	8260B	DL	1000	14429	05/02/11 13:41	CDC	TAL BUF
Total/NA	Analysis	RSK-175		500	13993	04/28/11 14:10	MN	TAL BUF
Total/NA	Prep	3005A			13639	04/26/11 09:10	MM	TAL BUF
Total/NA	Analysis	6010B		1	13814	04/26/11 19:16	AH	TAL BUF
Total/NA	Analysis	6010B		5	13986	04/27/11 17:26	AH	TAL BUF
Total/NA	Analysis	350.1		1	13590	04/25/11 12:27	JM	TAL BUF
Total/NA	Analysis	9038		10	13657	04/26/11 08:05	KP	TAL BUF
Total/NA	Analysis	SM 2320B		1	13660	04/25/11 15:31	KP	TAL BUF
Total/NA	Analysis	353.2		1	13793	04/22/11 22:16	RL	TAL BUF
Total/NA	Analysis	353.2		1	13794	04/22/11 22:16	RL	TAL BUF
Total/NA	Analysis	SM 4500 Cl- E		121	13801	04/26/11 15:10	JR	TAL BUF
Total/NA	Analysis	SM 4500 S2 D		1	14084	04/28/11 14:10	AP	TAL BUF
Total/NA	Analysis	9060		1	14626	04/29/11 08:42	KP	TAL BUF

## Client Sample ID: MW-4

Date Collected: 04/22/11 15:50

Date Received: 04/22/11 16:25

## Lab Sample ID: 480-4134-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	14166	04/29/11 13:23	JS	TAL BUF
Total/NA	Analysis	8260B	DL	1000	14429	05/02/11 14:06	CDC	TAL BUF
Total/NA	Analysis	RSK-175		500	13993	04/28/11 14:24	MN	TAL BUF
Total/NA	Prep	3005A			13639	04/26/11 09:10	MM	TAL BUF
Total/NA	Analysis	6010B		1	13814	04/26/11 19:18	AH	TAL BUF
Total/NA	Analysis	6010B		5	13986	04/27/11 17:28	AH	TAL BUF
Total/NA	Analysis	350.1		1	13590	04/25/11 12:28	JM	TAL BUF
Total/NA	Analysis	9038		10	13657	04/26/11 08:10	KP	TAL BUF
Total/NA	Analysis	SM 2320B		1	13660	04/25/11 15:41	KP	TAL BUF
Total/NA	Analysis	353.2		1	13793	04/22/11 22:16	RL	TAL BUF
Total/NA	Analysis	353.2		1	13794	04/22/11 22:16	RL	TAL BUF
Total/NA	Analysis	SM 4500 Cl- E		121	13801	04/26/11 15:10	JR	TAL BUF
Total/NA	Analysis	SM 4500 S2 D		1	14084	04/28/11 14:55	AP	TAL BUF
Total/NA	Analysis	9060		1	14626	04/29/11 11:58	KP	TAL BUF

TestAmerica Buffalo

# Lab Chronicle

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

TestAmerica Job ID: 480-3974-1

**Client Sample ID: BLANK**

**Lab Sample ID: 480-4134-6**

**Matrix: Water**

**Date Collected: 04/22/11 00:00**

**Date Received: 04/22/11 16:25**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	14429	05/02/11 14:30	CDC	TAL BUF

**Laboratory References:**

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

# Certification Summary

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

TestAmerica Job ID: 480-3974-1

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Buffalo		USDA		P330-08-00242
TestAmerica Buffalo	Arkansas	State Program	6	88-0686
TestAmerica Buffalo	California	NELAC	9	1169CA
TestAmerica Buffalo	Connecticut	State Program	1	PH-0568
TestAmerica Buffalo	Florida	NELAC	4	E87672
TestAmerica Buffalo	Georgia	Georgia EPD	4	N/A
TestAmerica Buffalo	Georgia	State Program	4	956
TestAmerica Buffalo	Illinois	NELAC	5	100325 / 200003
TestAmerica Buffalo	Iowa	State Program	7	374
TestAmerica Buffalo	Kansas	NELAC	7	E-10187
TestAmerica Buffalo	Kentucky	Kentucky UST	4	30
TestAmerica Buffalo	Kentucky	State Program	4	90029
TestAmerica Buffalo	Louisiana	NELAC	6	02031
TestAmerica Buffalo	Maine	State Program	1	NY0044
TestAmerica Buffalo	Maryland	State Program	3	294
TestAmerica Buffalo	Massachusetts	State Program	1	M-NY044
TestAmerica Buffalo	Michigan	State Program	5	9937
TestAmerica Buffalo	Minnesota	NELAC	5	036-999-337
TestAmerica Buffalo	New Hampshire	NELAC	1	68-00281
TestAmerica Buffalo	New Hampshire	NELAC	1	2337
TestAmerica Buffalo	New Jersey	NELAC	2	NY455
TestAmerica Buffalo	New York	NELAC	2	10026
TestAmerica Buffalo	North Dakota	State Program	8	R-176
TestAmerica Buffalo	Oklahoma	State Program	6	9421
TestAmerica Buffalo	Oregon	NELAC	10	NY200003
TestAmerica Buffalo	Pennsylvania	NELAC	3	68-00281
TestAmerica Buffalo	Tennessee	State Program	4	TN02970
TestAmerica Buffalo	Texas	NELAC	6	T104704412-08-TX
TestAmerica Buffalo	Virginia	State Program	3	278
TestAmerica Buffalo	Washington	State Program	10	C1677
TestAmerica Buffalo	West Virginia	West Virginia DEP	3	252
TestAmerica Buffalo	Wisconsin	State Program	5	998310390

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

## Method Summary

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

TestAmerica Job ID: 480-3974-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL BUF
RSK-175	Dissolved Gases (GC)	RSK	TAL BUF
6010B	Metals (ICP)	SW846	TAL BUF
350.1	Nitrogen, Ammonia	MCAWW	TAL BUF
353.2	Nitrogen, Nitrite	MCAWW	TAL BUF
353.2	Nitrate	EPA	TAL BUF
9038	Sulfate, Turbidimetric	SW846	TAL BUF
9060	Organic Carbon, Total (TOC)	SW846	TAL BUF
SM 2320B	Alkalinity	SM	TAL BUF
SM 4500 Cl- E	Chloride, Total	SM	TAL BUF
SM 4500 S2 D	Sulfide, Total	SM	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.

### Laboratory References:

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

## Sample Summary

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

TestAmerica Job ID: 480-3974-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-3974-1	MW-12	Water	04/20/11 10:00	04/20/11 11:45
480-4057-1	MW-15	Water	04/21/11 09:10	04/21/11 16:45
480-4057-2	MW-11	Water	04/21/11 10:50	04/21/11 16:45
480-4057-3	MW-13	Water	04/21/11 12:00	04/21/11 16:45
480-4057-4	MW-14	Water	04/21/11 14:45	04/21/11 16:45
480-4057-5	MW-10	Water	04/21/11 16:10	04/21/11 16:45
480-4057-6	TRIP BLANK	Water	04/21/11 00:00	04/21/11 16:45
480-4134-1	MW-9	Water	04/22/11 11:15	04/22/11 16:25
480-4134-2	MW-7	Water	04/22/11 12:00	04/22/11 16:25
480-4134-3	MW-8	Water	04/22/11 13:30	04/22/11 16:25
480-4134-4	DUP	Water	04/22/11 12:30	04/22/11 16:25
480-4134-5	MW-4	Water	04/22/11 15:50	04/22/11 16:25
480-4134-6	BLANK	Water	04/22/11 00:00	04/22/11 16:25

### **Chain of Custody Record**

Amherst, NY 14228-2238  
Phone (716) 691-2570 Fax (716) 691-7601

- 4 -

10 Hubbardwood Drive  
Amherst, NY 14226-2298  
Phone (716) 691-2800 Fax (716)

### **Chain of Custody Record**

TestAmerica



## Login Sample Receipt Checklist

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 480-3974-1

**Login Number:** 3974

**List Source:** TestAmerica Buffalo

**List Number:** 1

**Creator:** Rabb, Mike

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.	False	
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	CRA
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: 480-3974-1

**Login Number: 4057**

**List Source: TestAmerica Buffalo**

**List Number: 1**

**Creator: Szymanski, Andrew**

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: 480-3974-1

**Login Number:** 4134

**List Source:** TestAmerica Buffalo

**List Number:** 1

**Creator:** Rabb, Mike

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	