



**2013 PERIODIC REVIEW REPORT  
DELPHI HARRISON THERMAL  
SYSTEMS SITE  
SITE NUMBER 932113  
LOCKPORT, NEW YORK**

**PREPARED FOR:**

New York State Department of Environmental Conservation  
Division of Environmental Remediation  
Mr. Glenn May

**PREPARED BY:**

GZA GeoEnvironmental of New York  
Buffalo, New York

January 2014  
Job No. 21.0056546.00

January 9, 2014  
File No. 21.0056546.0



Mr. Glenn May  
New York State Department of Environmental Conservation  
Division of Environmental Remediation  
270 Michigan Avenue  
Buffalo, New York 14203

Re: Periodic Review Report Number 3 – January 2013  
Delphi Harrison Thermal Systems Site  
Lockport, New York  
Registry Site No. 932113

Dear Mr. May:

GZA GeoEnvironmental of New York (GZA) prepared this 2013 Periodic Review Report (PRR) for the Delphi Harrison Thermal Systems Site (Site) as required by the Site Management Plan<sup>1</sup> (SMP) that was approved by the New York State Department of Environmental Conservation (NYSDEC) on October 13, 2011. The implementation of the SMP is a requirement of the Remedial Program Order on Consent and Administrative Settlement (Index #B9-0553-99-06) between GM Components Holdings, LLC (GMCH) and NYSDEC dated November 8, 2011.

GMCH is the current owner and operator of an automotive components manufacturing facility at 200 Upper Mountain Road, Lockport, New York. Delphi Automotive Systems LLC conveyed the facility to GMCH by deed dated October 6, 2009 and recorded in the Niagara County Clerk's Office on October 14, 2009. The Site, as defined by the environmental easement (Instrument # 2011-17072) recorded in the Niagara County Clerk's Office in October 2011, comprises approximately 22.7 acres located in the eastern portion of the facility as shown on Figure 1.

## **REGULATORY HISTORY SUMMARY**

The following is a summary of the regulatory actions at the Site.

- Building 8, located in the northern central portion of the facility, formerly housed degreasing operations that utilized trichloroethylene (TCE). An aboveground storage tank (AST) was formerly located outside the southeastern corner of Building 8 until it was decommissioned in May 1994. NYSDEC became involved in 1994 when Delphi Thermal Systems (Delphi) notified them of TCE detected in soil during an excavation to repair fire protection lines in the vicinity

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<sup>1</sup> "Delphi Harrison Thermal Systems Site, Niagara County, New York, Site Management Plan, NYSDEC Site Number: 9-32-113" dated October 13, 2011

of the former TCE AST. NYSDEC assigned the incident Spill Number 9410972. Delphi removed the TCE-impacted soil from the excavation down to the top of bedrock and provided NYSDEC with a report of this removal action in a letter dated December 22, 1994.

- In March 1999, the Site was added to the NYSDEC Inactive Hazardous Waste Registry, Site Number 932113 as a Class 3 listing (does not present a significant threat to the public health or the environment – action may be deferred).
- Delphi entered into a Remedial Investigation/Feasibility Study Order on Consent, Index #B9-0553-99-06 (RI/FS Order) in 2001 to determine the extent of TCE contamination and complete a Focused Feasibility Study.
- In March 2005, NYSDEC, in consultation with the New York State Department of Health (NYSDOH), issued a Record of Decision (ROD) based on the results of the Focused Remedial Investigation (FRI) and Focused Feasibility Study (FFS). The components of the selected remedy, as defined in the ROD, are as follows.
  - Monitored natural attenuation (MNA) with groundwater monitoring and sampling to ensure the continued effectiveness of the remedy.
  - Development of a contingency plan for groundwater control/treatment if natural attenuation processes can no longer be demonstrated as effective or if significant off-site groundwater contamination is observed.
  - Development of a site management plan to: (a) address residual contaminated soils that may be excavated from the site during future redevelopment, (b) evaluate the potential for vapor intrusion for all current site buildings and any developed on the site in the future, including provision for mitigation of any impacts identified; (c) provide for the operation and maintenance of the components of the remedy; (d) monitor site groundwater; and (e) identify any use restrictions on site development or groundwater use.
  - Imposition of an environmental easement to restrict groundwater use and ensure compliance with the approved site management plan.
  - Certification of the institutional and engineering controls.
- Annual MNA groundwater sampling was completed voluntarily at the Site from October 2006 through April 2011.
- In October 2011, an environmental easement (Instrument # 2011-17072) for the

Site was recorded in the Niagara County Clerk's Office.

- In November 2011, a Remedial Program Order on Consent and Administrative Settlement (Index #B9-0553-99-06) was executed between GMCH and NYSDEC.
- In April 2012, the Site was reclassified on NYSDEC Inactive Hazardous Waste Registry, to a Class 4 listing (site has been properly closed but that requires continued site management consisting of operation, maintenance and/or monitoring).
- Annual MNA groundwater sampling completed at the Site since April 2012 has been in accordance with the Remedial Program Order on Consent and Administrative Settlement (Index #B9-0553-99-06).
- There were no new regulatory actions taken within the reporting period.

## **2013 PERIODIC REVIEW REPORTING PERIOD**

In accordance with Section 5.3 of the SMP, the following constitutes the Calendar Year 2013 PRR.

### **1. Results of the required Site inspections and severe weather condition inspections, if applicable**

A Site inspection was completed on June 26, 2013, by Christopher Boron of GZA. The site inspection form was completed and a copy is included as Appendix A.

No severe weather condition inspections occurred during the reporting period.

### **2. All applicable inspection forms and other records generated for the Site during the reporting period in electronic format**

- (a) A copy of the completed site inspection form from the June 26, 2013 site inspection is included in Appendix A and will be included as part of the electronic format of the PRR to be submitted to NYSDEC's Glenn May and Brian Sadowski (see page 40 of SMP).
- (b) Between late January and early February 2013, Delphi's contractor removed portions of two (2) concrete footers, the support beams and the associated overhead components of the utility trestle from the east end (near Upper Mountain Road) of the environmental easement area. This work was done in conjunction with the removal of the overhead trestle that crossed over and was located on the east side of Upper Mountain Road.



The concrete footers were mechanically broken to a depth of about 18 inches below grade. The concrete was removed and the area of the former footers was backfilled to grade with clean fill. The surface was reseeded and the vegetative cover has been restored. See Figure 2 in Appendix B for the location of the trestle work within the environmental easement area.

- (c) In April 2013, Delphi began the Building 6 utility separation project. The project included the installation of new underground water services, storm sewers, fire protection lines, sanitary force main, an approximate 1,080 square foot building addition, and a new electrical substation. NYSEG also installed six (6) new power poles to bring electricity to the new substation. Of the utility installations completed, the following were completed within the environmental easement area (see Figure C120 in Appendix B):

- Approximately 550 linear feet of sanitary sewer force main;
- Approximately 180 linear feet of new GMCH storm sewer line;
- Approximately 1,150 linear feet of new Delphi storm sewer line;
- Approximately 165 linear feet of fire protection line.

The excavation activities to install the underground water services, storm sewers, fire protection lines and sanitary force main required the removal of overburden soil and, in some intervals, bedrock to achieve the required grades for the utility installations.

GMCH recommended to Delphi that controlled low-strength material (e.g., flowable fill) backfill be used in lieu of traditional compacted stone bedding backfill along intervals where the excavation encountered groundwater and/or bedrock. If the excavation encountered either, controlled low-strength material would be placed to a minimum of 1 foot above the top of pipe or 1 foot above the top of bedrock, whichever was higher. This would reduce the potential for groundwater migration that would likely occur along the pipeline if an open-graded bedding stone was used.

Delphi had its contractor implement GMCH's recommendation for utility work completed within the environmental easement area and east of the environmental easement and GMCH property line along Upper Mountain Road to the sanitary force main tie-in near the southeastern portion of the GMCH property line. We note that groundwater was not observed in open excavations during Site visits completed within the environmental easement. GZA prepared summary emails for GMCH which included photographs from the Site visits. These summaries are included in Appendix B along with a figure identifying the manhole/catch basin structures.

Due to the size of this entire utility project, approximately 1.4 acres, and the fact that the work would disturb more than one acre of land surface, a NYSDEC State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity, Permit No. GP-0-10-001, was obtained by Delphi. According to the General Permit (GP-0-10-001), the project classifies as a project that only requires temporary erosion and sediment controls. A copy of the permit is included in Appendix B. A storm water pollution prevention plan (SWPPP) was prepared by Delphi and implemented during the utility separation work to provide the required documentation for coverage under the permit for stormwater discharges associated with the project.

- (d) On September 9, 2013, GMCH's contractor completed an excavation on the exterior of the southeast corner of Building 8 to repair a fire protection line riser pipe that was leaking. The repair excavation was west and adjacent to an excavation Delphi's contractor had completed to tie the new GMCH fire protection line being installed in this area into the existing fire protection lines. The leak needed to be repaired before the tie in could be completed.

The excavation was completed to a depth of about 8 feet bgs, approximately 1 foot below the riser pipe repair location. Soil removed from the excavation was staged on polyethylene sheeting adjacent to the excavation. The staged soil was covered with polyethylene sheeting overnight and reused to backfill the excavation the following day. See Figure 2 in Appendix B for the location of the fire protection line riser work within the environmental easement area.

GZA field screened the soil being removed from the excavation with an organic vapor meter (OVM). OVM readings ranged from 0 to 0.5 parts per million (ppm). There were no olfactory, visual and/or field screening evidence of impact to the soil excavated during the repair project. A field summary report, including field screening results is included in Appendix C.

No other pertinent records were generated for the Site during the reporting period

**3. A summary of any monitoring data and/or information generated during the Reporting Period with comments and conclusions**

- (a) The most recent MNA groundwater sampling was completed in May 2013. A copy of the report is included with this PRR as Appendix D.

The conclusions of the May 2013 sampling event report were as follows:

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

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

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

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

In addition, given there appears to be a decreasing temporal trend in TOC concentrations across the Site, GZA recommends a treatability study to evaluate whether the addition of an organic carbon amendment might re-stimulate natural attenuation by reductive dechlorination. The study would involve deployment of *in-situ* microcosms (Bio-Trap®, manufactured by Microbial Insights, Inc. of Rockford, Tennessee) “baited” with an organic carbon additive to evaluate whether reductive dechlorination can be re-stimulated. A work plan for the treatability study will be provided to NYSDEC for review and approval prior to

implementation. The methods, results, conclusions, and recommendations of that study would be reported in a letter report to be prepared following conclusion of the treatability study and the 2014 groundwater sampling event.

- (b) In March 2013, prior to the start of the Building 6 utility separation project, Delphi contracted with Op-Tech to complete hand auger borings to collect soil samples for chemical analysis. Hand augers were reportedly completed at nine (9) locations within the environmental easement. A total of nine (9) samples, one (1) composite sample at each location were submitted for analysis. These nine (9) locations, B-1, -2, -3, -4, -5, -7, -8, -22 and -23 are shown on Figure C120 in Appendix B. The purpose of the sampling was to characterize the soil for landfill disposal. The analysis included the following.

- Target Compound Leachate Procedure (TCLP) VOCs;
- TCLP Metals;
- TCLP SVOCs;
- Polychlorinated biphenyls; and
- Flashpoint.

During the utility installations, soil was generated that was not returned to the excavation due to the following.

- Soil was not suitable for reuse as backfill (e.g., contained buried debris (fence post, rebar, clay-tile pipe) or it contained significant amount of top soil) as it could not be compacted to achieve required compaction requirements.
- Soil was not suitable for reuse as backfill as the moisture content was too high and it could not be compacted to achieve required compaction requirements.
- Due to the placement of the utility piping and/or controlled low-strength material within the excavation, excess soil was generated.

Due to these conditions identified above, approximately 4,468 tons of soil was removed from the Site and disposed of at the Modern Landfill in Model City, New York.

A summary table of the analytical results from the hand augers completed within the environmental easement and a figure showing their approximate location is included with this PRR as Appendix E. No compounds or analytes were detected above their respective thresholds.

- (c) On September 9, 2013, GMCH's contractor completed an excavation on the exterior of the southeast corner of Building 8 to repair a fire protection line riser pipe that was leaking. GZA field screened the soil being

removed from the excavation with an organic vapor meter (OVM). OVM readings ranged from 0 to 0.5 parts per million (ppm). There were no olfactory, visual and/or field screening evidence of impact to the soil excavated during the repair project. A field summary report, including field screening results is included in Appendix C.

- 4. Data summary tables and graphical representations of contaminants of concern by media (groundwater, soil vapor), which include a listing of all compounds analyzed, along with the applicable standards, with all exceedances highlighted. These will include a presentation of past data as part of an evaluation of contaminant concentration trends.**

Data summary tables associated with the annual MNA groundwater sampling report are included in Appendix D.

A data summary table associated with the analytical data from the hand augers completed within the environmental easement areas is included in Appendix E.

- 5. Results of all analyses, copies of all laboratory data sheets, and the required laboratory data deliverables for all samples collected during the reporting period will be submitted electronically in a NYSDEC-approved format.**

The electronic submission of the PRR will include the results of analyses, copies of laboratory data sheets, and the required laboratory data deliverables for samples collected during the reporting period for the 2013 MNA groundwater sampling event and the hand auger waste characterization sampling.

- 6. A Site evaluation, which includes the following:**

- Compliance with the requirements of the ROD Site-selected remedy;**
- Any new conclusions or observations regarding site contamination based on inspections or data generated by the Site Monitoring Plan for the media being monitored;**
- Recommendations regarding any necessary changes to the remedy and/or Site Monitoring Plan; and**
- The overall performance and effectiveness of the remedy.**

As discussed in 3(a) above, there appears to be a decreasing temporal trend in TOC concentrations, but the indicator parameters provide evidence that anaerobic biodegradation of the COCs is controlling migration of impacted groundwater downgradient.

At this time, there are no recommendations to change the Site remedy or the Site Monitoring Plan. The Site is in compliance with the ROD, and MNA is still an effective remedy.

**7. Identification, assessment and certification of all ECs/ICs [Engineering Controls/Institutional Controls<sup>2</sup>] required by the Record of Decision Site-selected remedy**

There are no Engineering Controls (ECs) required under the ROD and the Institutional Controls (ICs) that apply to the Site are set forth in the recorded Environmental Easement. The ICs for the Site restrict the use of groundwater and require compliance with the SMP. There have been no changes to the SMP since it was approved by NYSDEC on October 13, 2011.

**Certification of the Institutional and Engineering Controls<sup>3</sup>**

For each institutional or engineering control identified for the Site, I certify<sup>4</sup> that all of the following statements are true:

- The inspection of the Site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under my direction;
- The institutional control and/or engineering controls employed at this Site is unchanged from the date the control was put in place, or last approved by the Department;
- Nothing has occurred that would impair the ability of the control to protect the public health and environment;
- Nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this control;
- Access to the Site will continue to be provided to the Department (with valid Safety Protocol Program Card) to evaluate the remedy, including access to evaluate the continued maintenance of this control;
- If a financial assurance mechanism is required under the oversight document for the Site, the mechanism remains valid and sufficient for the intended purpose under the document<sup>5</sup>;
- Use of the Site is compliant with the Environmental Easement;

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<sup>2</sup> See definition for *Engineering Control* at 6 NYCRR § 375-1.2 (o) and for *Institutional Control* at 6 NYCRR § 375-1.2 (aa).

<sup>3</sup> The required Certification of the Institutional and Engineering Controls is set forth in Section 5.2 of the NYSDEC-approved SMP. It is to be used for the Periodic Review Report in lieu of the certifications noted in DER-10 at section 6.3 (d).

<sup>4</sup> Certify is defined as a statement or declaration of a professional opinion based on the information, data and/or facts known at the time such certification is made.

<sup>5</sup> Note that no financial assurance mechanism is in place for the Site remedial program.

- Any engineering control systems that have been installed as part of the remedial programs for the Site are performing as designed and are effective;
- To the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the ROD Site's selected remedy and generally accepted engineering practices; and
- The information presented in this report is accurate and complete.
- I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. I, Bart A. Klettke, P.E. of GZA GeoEnvironmental of New York, am certifying as Owner's Designated Site Representative for the Site.



A handwritten signature in blue ink that reads "Bart A. Klettke". The signature is fluid and cursive, written over a horizontal line.

Bart A. Klettke, P.E.  
Principal  
GZA GeoEnvironmental of New York

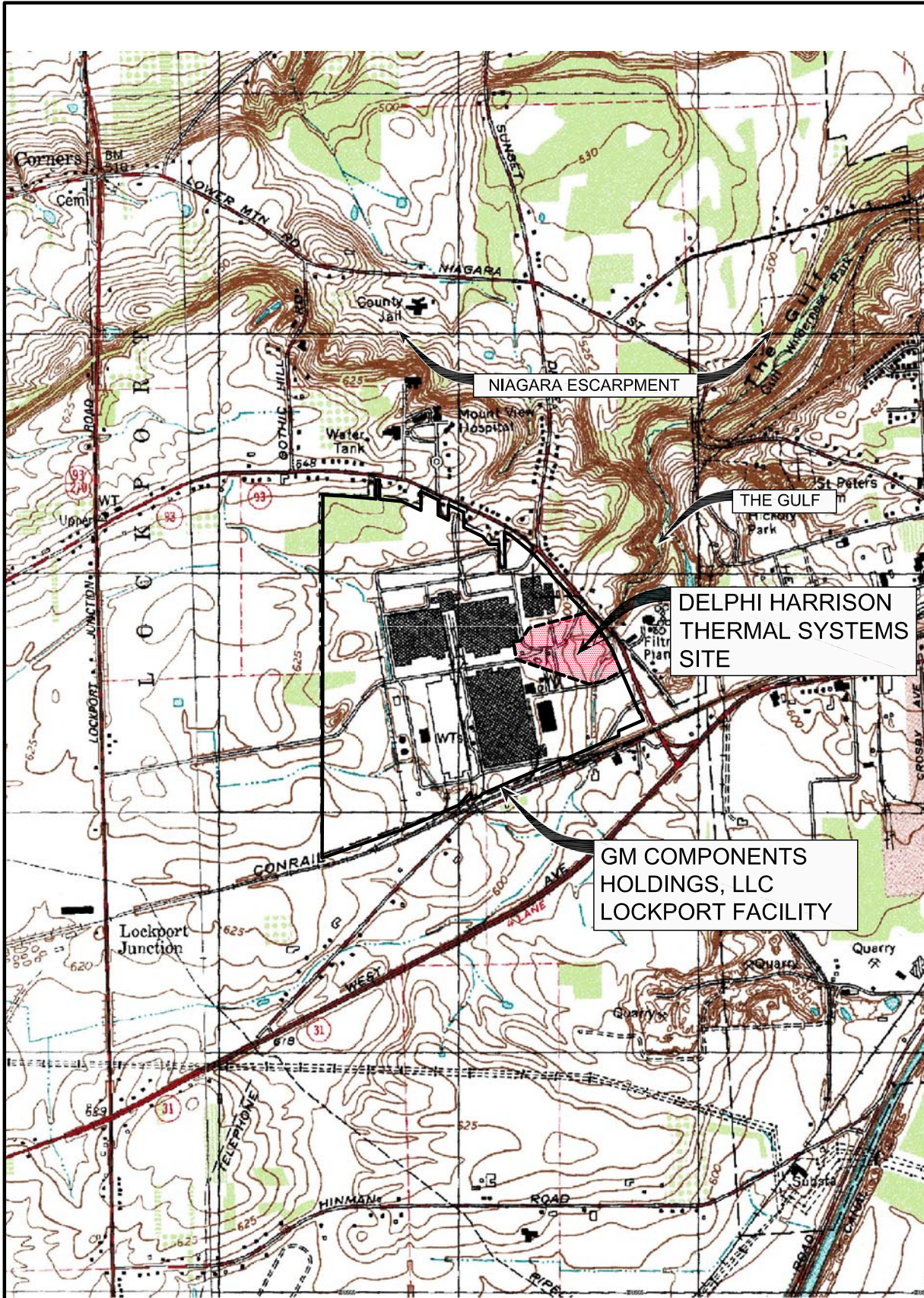
Date: January 9, 2014

- Figure 1: Site Plan  
Appendix A: Site Inspection Form  
Appendix B: Figure C120, Figure 2, NYSDEC SPDES Permit Acknowledgement and Utility Separation Project Summaries & Photos  
Appendix C: Fire Protection Line Riser Field Summary  
Appendix D: May 2013 MNA Groundwater Sampling Report  
Appendix E: Hand Auger Composite Sample Analytical Results Table & Lab Reports

cc: Brian Sadowski (NYSDEC, electronic copy only)  
Jim Hartnett (GM, electronic copy only)  
Roy Knapp (GMCH, electronic copy only)


**FIGURE**





DRAWN BY: DEW

DATE: DECEMBER 2011



GZA GeoEnvironmental of New York

SCALE IN FEET

0

1000

2000

4000

GM COMPONENTS HOLDINGS, LLC

PERIODIC REVIEW REPORT

DELPHI HARRISON THERMAL SYSTEMS SITE

200 UPPER MOUNTAIN ROAD

LOCKPORT, NEW YORK

SITE NUMBER 9-32-113

SITE PLAN

**NOTE:**  
BASE MAP ADAPTED FROM U.S.G.S.  
TOPOGRAPHIC MAPS DOWNLOADED  
FROM TERRASERVER.MICROSOFT.COM



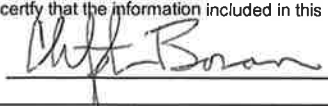
PROJECT No.  
**21.0056546.00**

FIGURE No.  
**1**

## **APPENDIX A**

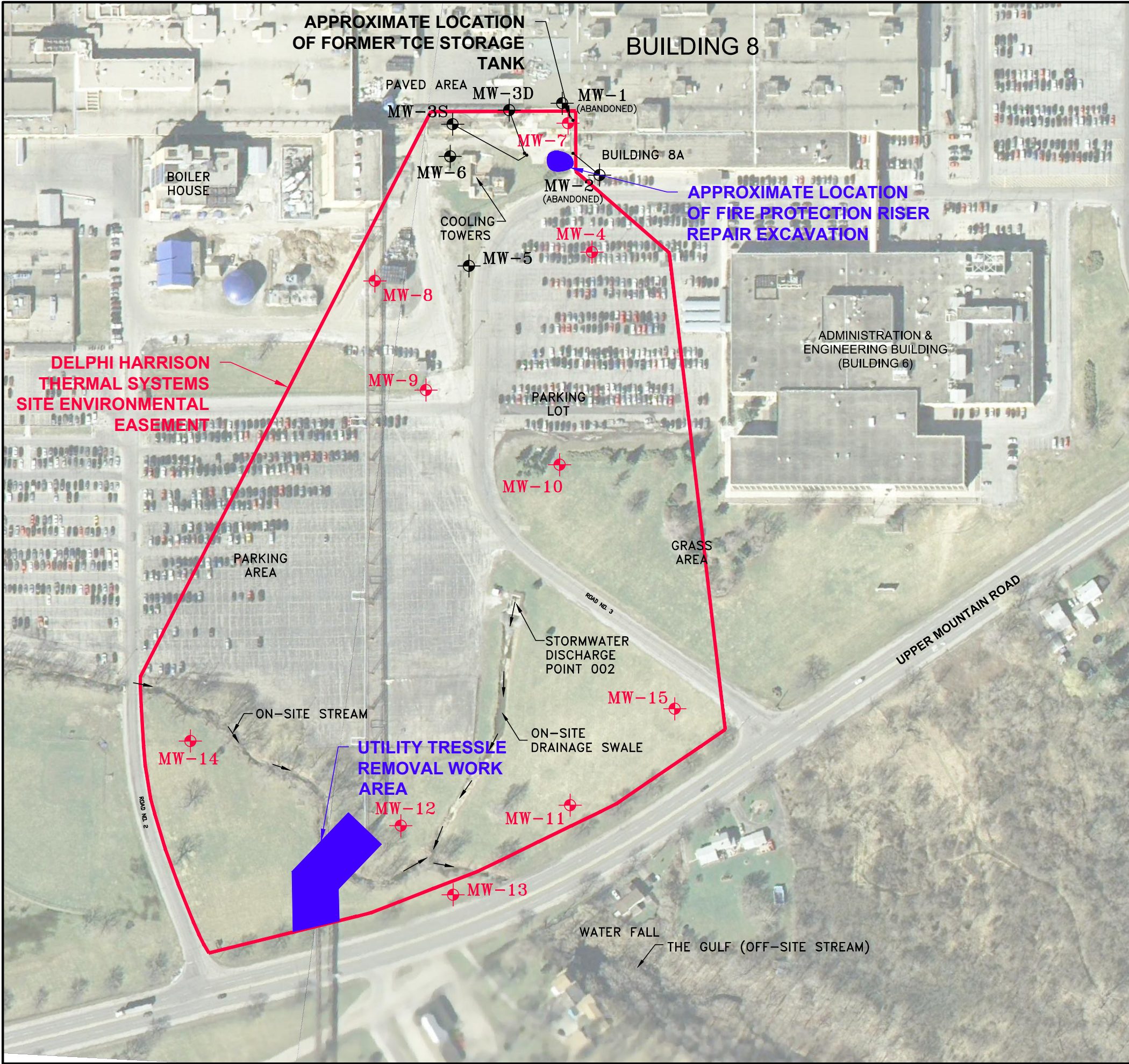


SITE DETAILS			
Site No.:	9-32-113		
Site Name:	Delphi Harrison Thermal Systems Site		
Site Address:	200 Upper Mountain Road, Lockport NY		
PERSON PERFORMING INSPECTION			
NAME:	Christopher Boron	EMAIL:	christopher.boron@gza.com
OTHERS PRESENT:		PHONE NUMBER:	716-844-7046
COMPANY:	GZA GeoEnvironmental of NY		
INSPECTION DATE AND SITE CONDITIONS			
INSPECTION DATE:	6/26/2013	INSPECTION TIME:	1400
WEATHER CONDITIONS:	Sunny mid-70s		
REASON FOR SITE INSPECTION			
Scheduled Annual Inspection:	YES	NO	
Inspection after a Severe Condition that could effect site controls:	YES		NO
<i>describe severe conditions triggering inspection:</i>			
VERIFICATION OF SITE DETAILS			
Current Site Owner:	GM Components Holdings, LLC (GMCH)		
Current Site Operators:	GMCH		
Describe Current Site Use (check all that apply):			
<input checked="" type="checkbox"/> Industrial	<input type="checkbox"/> Commercial	<input type="checkbox"/> Residential	<input type="checkbox"/> Other
<i>briefly describe observed site uses:</i> Area within the environmental easement was being used as greenspace, parking lot, material storage/staging area for the Building 6 utility separation project.			
Has some or all of the Site property been sold, subdivided, merged, or undergone a tax map amendment since the initial/last inspection?			
		YES	NO
If YES, is documentation or evidence of documentation submittal to NYSDEC attached?			YES
Have any federal, state and/or local permits (e.g., building or discharge) been issued for the property since the initial/last inspection?			
		YES	NO
If YES, is documentation or evidence of documentation submittal to NYSDEC attached?			YES
Has a change in Site usage per NYCRR 375-1.11(d) occurred since the last inspection?			
		YES	NO
If YES, is documentation or evidence of documentation submittal to NYSDEC attached?			YES
Has any new information come to your attention to indicate that assumptions made in the qualitative exposure assessment for off-site contamination are no longer valid?			
		YES	NO
If YES, is this information or evidence of submittal to NYSDEC attached?			YES
Note any additional pertinent information to Verification of Site Details (use additional pages if necessary):			

DESCRIPTION OF INSTITUTIONAL/ENGINEERING CONTROLS		
Is Environmental Easement still in place?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
If no, explain:		
Is the Site Management Plan in place?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
If no, explain:		
AREAS IN NEED OF REPAIR OR MAINTENANCE		
<i>Area discussed in this section must be shown on a figure and have photographic documentation.</i> At the time of the inspection, the Building 6 utility separation project was on-going. There are areas within the environmental easement where the ground has been disturbed for the utility installation. As work progresses throughout the environmental easement area, measure are being taken backfill and restore ground surface conditions in those areas (topsoil, asphalt). Appendix B contains a figure of the utility line installed within the environmental easement and photographs from various site visits.		
INTRUSIVE ACTIVITIES PERFORMED AT SITE DURING INSPECTION PERIOD	DATE	LOCATION
Hand Auger Waste Characterization Sampling	March 28 & 29, 2013	Throughout Env Easement
Removal of some Overhead Utility Trestle Lines and Footers	Late Feb - Early March 2013	East end of Env Easement
Excavations for the Building 6 Utility Separation Project	April to Sept. 2013	Throughout Env Easement
Excavation to Repair Leaking Fire Protection Line	Sept. 9 & 10, 2013	SE corner of Bldg 8
REVIEW OF SITE RECORDS		
Are site records being properly generated and maintained? <span style="float: right;"><input checked="" type="checkbox"/> YES <input type="checkbox"/> NO</span> <i>Provide summary of recordkeeping review and adequacy:</i> GMCH Environmental Manager, Roy Knapp, maintains both hard copies and electronic copies of the site records per GM's Information Lifecycle Management system. The records are managed under "Corrective Action and Remediation Project Records", series ENV010. Hard copies are kept in a file cabinet in the Engineering office and electronic copies reside on the environmental . shared ("S") drive		
ADDITIONAL NOTES & COMMENTS		
Please note that figures, photographs and summaries for the various activities that occurred within the environmental easement area are included in Appendix B and C of the 2013 Periodic Review Report.		
INSPECTION CERTIFICATION		
I hereby certify that the information included in this report is complete and accurate to the best of my knowledge.		
Inspector Signature: 	Date: <u>12/5/2013</u>	

## **APPENDIX B**





LEGEND:

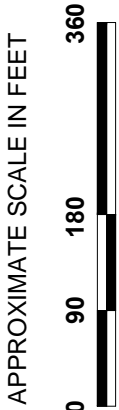
 APPROXIMATE LOCATION AND DESIGNATION OF MONITORING WELL  
MW-8

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

DRAWN BY: DEW

DATE: DECEMBER 2013



GM COMPONENTS HOLDINGS, LLC

PERIODIC REVIEW REPORT

DELPHI HARRISON THERMAL SYSTEMS SITE

200 UPPER MOUNTAIN ROAD, LOCKPORT, NEW YORK

SITE NUMBER 9-32-113

SITE PLAN

PROJECT No.  
**21.0056546.00**

FIGURE No.  
**2**





■ TCE Easement      ■ Revised Delphi Sanitary  
■ Revised GMGH Storm      ■ Revised GMGH Fire Protection  
■ Revised Delphi Storm      ■ Delphi Domestic Water and Fire Protection



**New York State Department of Environmental Conservation**  
**Division of Water**  
**Bureau of Water Permits, 4th Floor**  
625 Broadway, Albany, New York 12233-3505  
**Phone:** (518) 402-8111 • **Fax:** (518) 402-9029  
**Website:** www.dec.ny.gov



4/12/2013

**DELPHI AUTOMOTIVE SYSTEMS LLC**  
**STACEY JENNEVE**  
**200 UPPER MOUNTAIN ROAD**  
**LOCKPORT NY 14094-**

**Re: ACKNOWLEDGMENT of NOTICE of INTENT for**  
**Coverage Under SPDES General Permit for Storm**  
**Water Discharges from CONSTRUCTION**  
**ACTIVITY General Permit No. GP-0-10-001**

Dear Prospective Permittee:

This is to acknowledge that the New York State Department of Environmental Conservation (Department) has received a complete Notice of Intent (NOI) for coverage under General Permit No. GP-0-10-001 for the construction activities located at:

**BUILDING 6 SITE SEPARATION**  
**200 UPPER MOUNTAIN ROAD**  
**LOCKPORT NY 14094-**

**County: NIAGARA**

Pursuant to Environmental Conservation Law (ECL) Article 17, Titles 7 and 8, ECL Article 70, discharges in accordance with GP-0-10-001 from the above construction site will be authorized 5 business days from 2/28/2013 which is the date we received your final NOI, unless notified differently by the Department.

The permit identification number for this site is: NYR 10W425. Be sure to include this permit identification number on any forms or correspondence you send us. When coverage under the permit is no longer needed, you must submit a Notice of Termination to the Department.

This authorization is conditioned upon the following:

1. The information submitted in the NOI received by the Department on 2/28/2013 is accurate and complete.
2. You have developed a Storm Water Pollution Prevention Plan (SWPPP) that complies with GP-0-10-001 which must be implemented as the first element of construction at the above-noted construction site.
3. Activities related to the above construction site comply with all other requirements of GP-0-10-001.

**RECEIVED**

**APR 18 2013**

**WATTS ARCHITECTURE**  
**& ENGINEERING**



4. Payment of the annual \$100 regulatory fee, which is billed separately by the Department in the late fall. The regulatory fee covers a period of one calendar year. In addition, since September 1, 2004, construction stormwater permittees have been assessed an initial authorization fee which is now \$100 per acre of land disturbed and \$600 per acre of future impervious area. The initial authorization fee covers the duration of the authorized disturbance.

5. When applicable, project review pursuant to the State Environmental Quality Review Act (SEQRA) has been satisfied.

6. You have obtained all necessary Department permits subject to the Uniform Procedures Act (UPA). You should check with your Regional Permit Administrator for further information.

\*Note: Construction activities cannot commence until project review pursuant to SEQRA has been satisfied, when SEQRA is applicable; and, where required, all necessary Department permits subject to the UPA have been obtained.

Please be advised that the Department may request a copy of your SWPPP for review.

Should you have any questions regarding any aspect of the requirements specified in GP-0-10-001, please contact Dave Gasper at (518) 402-8114 or the undersigned at (518) 402-8109.

Sincerely,

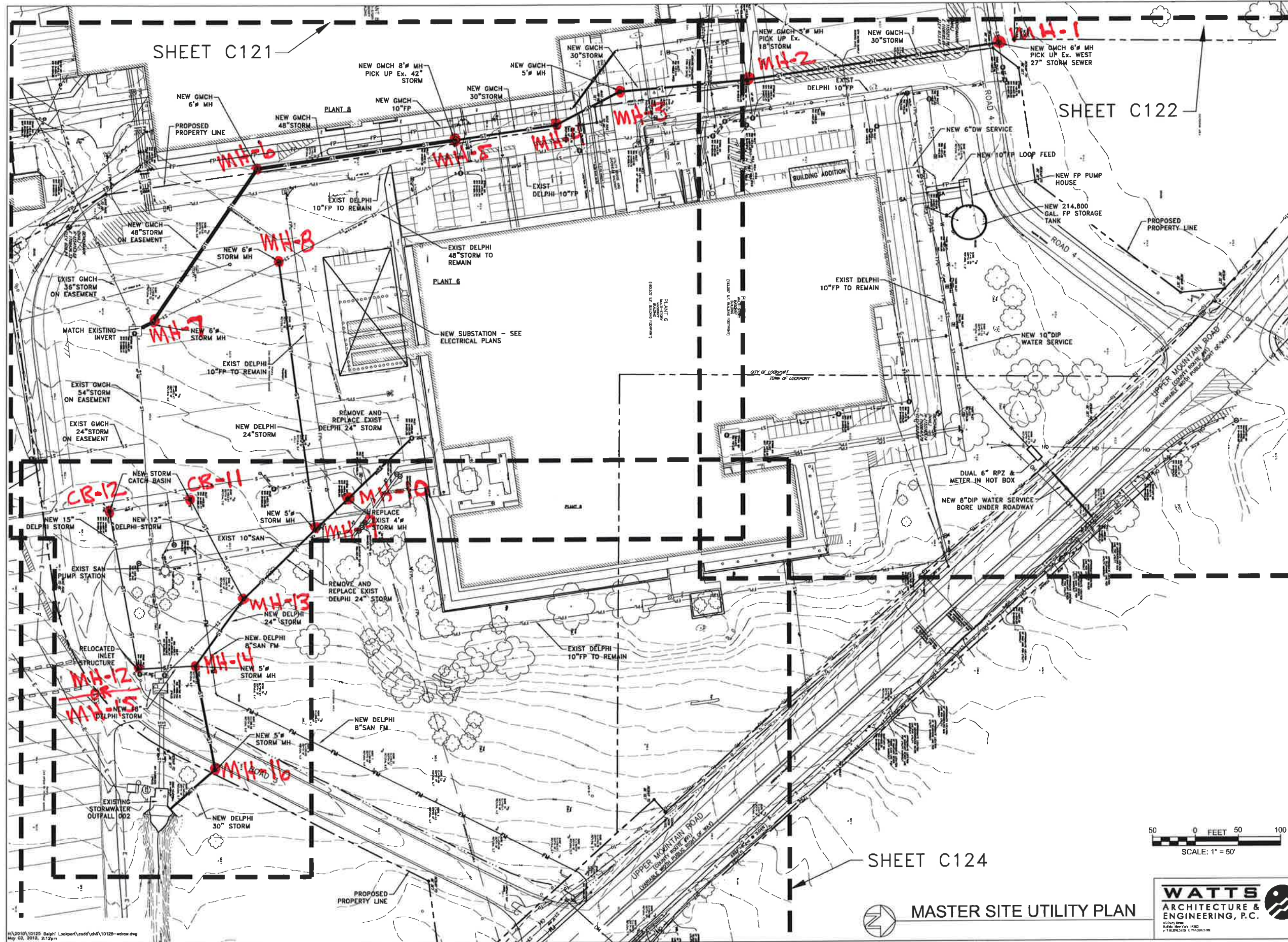


Toni Cioffi  
Environmental Program Specialist 1

cc: RWE - 9  
SWPPP Preparer

WATTS ARCHITECTURE & ENGINEERING  
MATRICARDI ALAN  
95 PERRY STREET, SUITE 300  
BUFFALO NY 14203-





DATE	BY
5/20/12	WATTS
2/7/12	WATTS
1/30/12	WATTS
REV. NO.	REVISIONS
1	FOR CONSTRUCTION
2	ADDENDUM #2
3	ADDENDUM #1

**DELPHI**  
Thermal and Interior



KEY PLAN

PLANT ENGINEERING  
DELPHI  
THERMAL AND INTERIOR SYSTEMS  
LOCKPORT, N.Y.

**BUILDING 6**  
SITE SEPARATION

**MASTER**  
SITE UTILITY  
PLAN

DFT. KTS  
CK. AGM  
APP'D  
DATE MAY, 2012  
SCALE 1" = 50'

DWG. NO.  
**C120**  
SHEET NO. 1 OF 1  
CAD FILE NO.

**WATTS**  
ARCHITECTURE &  
ENGINEERING, P.C.  
15 Park Drive  
Rochester, New York 14623  
P: 716.263.1100 F: 716.263.1106



**MASTER SITE UTILITY PLAN**

50 0 FEET 50 100  
SCALE: 1" = 50'



## Christopher Boron

---

**From:** Christopher Boron  
**Sent:** Wednesday, May 08, 2013 12:58 PM  
**To:** Jim Hartnett; Roy Knapp  
**Cc:** Denis Conley  
**Subject:** Delphi Bldg 6 Separation Project  
**Attachments:** Structure Location Figure.pdf; Elevation difference from MH-12-15 and existing to be abandon.JPG; MH-12 -15 and existing CB to be abandoned looking south.JPG

Hi Jim,

Just want to give you an update on the Bldg 6 Utility Separation project. We have been stopping out to the site on occasion since the start of work. Those dates are as follows: April 16<sup>th</sup>, 24<sup>th</sup>, 26<sup>th</sup>, 29<sup>th</sup>, May 2<sup>nd</sup> and 7<sup>th</sup>. I will send all the pictures we have taken during these visits by date once I have reduced their size (currently 3 MB or larger each).

The work areas during our visits consist of the following. I attached a figure with the structure locations hand written for ease of locating the various structures.

April 16<sup>th</sup>: Work between Outfall D002 and Road 3  
April 24<sup>th</sup>: Asphalt patch of Road 3  
April 26<sup>th</sup>: Work around MH-14 towards MH-13 and MH-12-15  
April 29<sup>th</sup>: Work from MH-14 to MH-13 and MH-12-15 to CB-12.  
May 2<sup>nd</sup>: Work north of MH-13  
May 7<sup>th</sup>: Work north and west of MH-9

The contractor appears to be following the profiles that were provided, identifying the locations and height of CLSM placement. They have been encountering bedrock at heights above what was provided to them by Delphi from the boring that were previously completed. During my site visits, I have not observed anyone from SJB or Delphi onsite.

A concern we brought to their attention during the April 29<sup>th</sup> visit, which was also brought up during the April 30<sup>th</sup> Utility Separation Project conference call, was the height of MH-12-15 (it has two designations #12 or #15 depending on the drawing) relative to the existing catch basin that is going to be replaced. There is approximately 8 to 10 inches difference in elevation between to two structures (see attached photo). The new MH-12-15 will potentially require a slight change in Road 3 grade in order to get water to properly drain from the shoulder of the road in this area to avoid ponding. The top of MH-12-15 elevation is very close to the crown of the Road 3 elevation. Delphi was going to review the situation with the design engineer and assess the concern.

Let me know if you have any questions, comments or would like to discuss.

Thanks.

Chris

**Christopher Boron**  
**Senior Project Manager**  
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[christopher.boron@gza.com](mailto:christopher.boron@gza.com)



4/16/2013: Concrete core from Outfall D002 Headwall



4/16/2013: Excavation north of Outfall D002 looking south



4/16/2013: Outfall D002 headwall pipe penetration



4/24/2013: Road 3 Cut Asphalt Repair



4/26/2013: Installing pipe from MH-14 to MH-12-15 looking east



4/26/2013: MH-14 & 24-inch diameter pipe looking southeast



4/26/2013: MH-14 looking east



4/26/2013: MH-14 looking northwest



4/26/2013: Outfall D002 to MH-16 backfilled looking north



4/29/2013: Backfill around MH-14



4/29/2013: Breaking bedrock near CB-12 looking west



4/29/2013: Elevation difference from MH-12-15 and existing to be abandoned





4/29/2013: Flowable fill around pipe from MH-14 to MH-13 looking northeast



4/29/2013: MH-12-15 and existing catch basin to be abandoned looking south



4/29/2013: MH-12-15 to CB-12 looking west – backfill and stone placement



4/29/2013: MH-13 and pipe to MH-14 with flowable fill around pipe looking southeast



4/29/2013: MH-13



5/2/2013: Backfill around pipe from MH-13 to MH-9



5/2/2013: Backfilling to grade near MH-13



5/2/2013: Excavating north of MH-9



5/2/2013: Excavation north of MH-9 looking south



5/2/2013: MH-9 looking west



5/2/2013: MH-13 looking southeast



5/2/2013: Pipe from MH-9 to MH-13 looking south





5/2/2013: Soil stockpile for excavation near MH-9



5/2/2013: Utility lines encountered south of MH-9



5/2/2013: Excavation north of MH-9 looking south



5/7/2013: Backfill from MH-9 to MH-10 looking north



5/7/2013: Broken bedrock in excavation from MH-9 to MH-8 looking west



5/7/2013: CB-11 looking east towards MH-13





5/7/2013: CB-11 looking west



5/7/2013: Excavation, backfill and pipe from MH-9 to MH-8 looking west



5/7/2013: Flowable fill placement north of MH-10



5/7/2013: Flowable fill placement around MH-9 looking east



5/7/2013: Flowable fill placement north of MH-10 looking northwest



5/7/2013: MH-10 & MH-9 and piping looking southeast



5/7/2013: Pipe north of MH-10 looking southeast



5/7/2013: Piping west of MH-9 looking east

## Christopher Boron

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**From:** Christopher Boron  
**Sent:** Tuesday, May 14, 2013 2:02 PM  
**To:** Jim Hartnett; Roy Knapp  
**Cc:** Denis Conley  
**Subject:** Delphi Bldg 6 Separation Project  
**Attachments:** water divert from MH-B during tie in.JPG; approximate location MH-8 - to be installed looking south.JPG; compacting fine grained soil east of MH-8 looking northeast.JPG; compacting fine grained soil east of MH-8 looking east.JPG; excavation and piping up to MH-8-to be installed, looking west.JPG; excavation to tie into existing MH-B looking north.JPG; excavator over MH-B looking southeast.JPG; existing 48-inch concrete storm sewer in vicinity of MH-8 looking southwest.JPG; fine grain soil pile for backfill from excavation between MH-8 and 9 looking west.JPG; MH-9 looking northwest.JPG; MH-9 looking west.JPG; MH-14 and 13 looking northwest.JPG

Jim/Roy,

I was on-site this morning to observe the Building 6 Utility Separation work. The contractor was working in two area:

- 1) between MHs-8 and 9 and
- 2) north of MH-10 in the vicinity of existing MH-B which will remain in place.

Photographs of the work are appended.

The contractor appears to be following the profiles that were provided, identifying the locations and height of CLSM placement. Bruce Witherel (R&P Oak Hill) indicated that yesterday (5/13/2013) was the first day they encountered fine-grain soil that could be used as backfill while working on the storm line between east of MH-9 towards MH-8. SJB was onsite this morning taking moisture and density tests with a Troxler gauge of the backfilled fine-grain soil after compaction. Material was sent to SJB to establish a proctor for the testing.

Bruce also indicated that they ordered a new concrete top for MH-12-15 which will have a grated top built into the concrete. This will lower the elevation of this structure about 8 inches to address the concern we raised regarding the difference in elevation between the new MH-12-15 installed and the existing to be decommissioned. There will still be a need to raise the grade around the new MH-12-15, but not as much with the new concrete top.

The contractor has mobilized a crusher to the site. The bedrock encountered and removed during the excavations is going to be crushed on-site and reused as the gravel backfill, rather than importing crushed stone from off-site. These activities have yet to begin.

Let me know if you have any questions, comments or would like to discuss.  
Thanks.

Chris

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5/14/2013: Approximate location of MH-8 – to be installed looking south



5/14/2013: Compacting fine grained soil east of MH-8 looking northeast



5/14/2013: Compacting fine grained soil east of MH-8 looking east



5/14/2013: Excavation and piping up to MH-8 – to be installed looking west



5/14/2013: Excavation to tie into existing MH-B looking north



5/14/2013: Excavator over MH-B looking southeast



5/14/2013: Existing 48" concrete storm sewer in vicinity of MH-8 looking SW



5/14/2013: Fine grain soil pile for backfill from excavation between MH-8 and MH-9 looking west



5/14/2013: MH-9 looking northwest



5/14/2013: MH-9 looking west



5/14/2013: MH-14 and MH-13 looking northwest



5/14/2013: Water divert form MH-B during tie-in

## Christopher Boron

---

**From:** Christopher Boron  
**Sent:** Tuesday, May 21, 2013 9:58 AM  
**To:** Jim Hartnett; Roy Knapp  
**Cc:** Denis Conley  
**Subject:** Delphi Bldg 6 Separation Project  
**Attachments:** Processed bedrock pile looking east.JPG; Area view of MH-12-15 looking NE.JPG; crushed bedrock pile between MH-8 and MH-9 looking NE.JPG; crushed concrete and backfilled storm line from MH-8 towards MH-9 looking east.JPG; Existing MH-B towards MH-10 looking SE.JPG; Fire Suppression line encountered and repaired during work near MH-8 looking west.JPG; MH-8 and 42-inch concrete line looking east.JPG; MH-8 and connection to existing 42-inch diameter concrete storm line looking west.JPG; MH-8 and existing 42-inch diameter line looking west.JPG; New grated top for MH-12-15 looking NE.JPG

Jim/Roy,

I was on-site Thursday, May 16th to observe the Building 6 Utility Separation work. The contractor was working on the storm water line in the vicinity of MH-8. They had tied into the existing 42-inch diameter concrete line, which now is connected to MH-8. The encountered a fire suppression line which was damaged and repaired while working in the vicinity of MH-8. The line was orientated in a north-south direction. Photographs of the work are appended.

They were going to finish up the work around MH-8 on Friday and begin work on MH-7 and the new GMCH store line on Monday (May 20<sup>th</sup>).

The new concrete top for MH-12-15 was delivered and installed, which lowered the elevation of this structure.

The contractor had crushed bedrock removed from the excavations. Piles were stockpile on the asphalt between MH-8 and MH-9. Bruce Witherel (R&P Oak Hill) indicated that this material will be used backfill excavation to within 1 to 2 feet of ground surface and runner crush stone will be brought in to finish grades before surface restoration.

Let me know if you have any questions, comments or would like to discuss.

Thanks.

Chris

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[christopher.boron@gza.com](mailto:christopher.boron@gza.com)







5/16/2013: Area view of MH-12-15 looking northeast



5/16/2013: Crushed bedrock pile between MH-8 and MH-9 looking northeast



5/16/2013: Crushed concrete and backfilled storm line from MH-8 towards MH-9 looking east



5/16/2013: Existing MH-B towards MH-10 looking southeast



5/16/2013: Fire suppression line encountered and repaired during work near MH-8 looking west



5/16/2013: MH-8 and 42-inch concrete line looking east



5/16/2013: MH-8 and connection to existing 42-inch diameter concrete storm line looking west



5/16/2013: MH-8 and existing 42-inch diameter line looking west



5/16/2013: New grated top for MH-12-15 looking northeast



5/16/2013: Processed bedrock pile looking east



## Christopher Boron

---

**From:** Christopher Boron  
**Sent:** Wednesday, May 22, 2013 11:43 AM  
**To:** Jim Hartnett; Roy Knapp  
**Cc:** Denis Conley  
**Subject:** Delphi Bldg 6 Separation Project  
**Attachments:** Existing storm structure MH-A that was tied into with 48-inch storm line looking SW.JPG; fire Supression line encountered in excavation between MH-7 and MH-6 looking west.JPG; flowable fill backfill between MH-6 and MH-7 looking SE.JPG; Gravel layer encountered near location of MH-6 looking west.JPG; Monitoring Well MW-4 looking NW.JPG; NYSEG pole and work near well G-1 looking NW.JPG; NYSEG work along Upper Mountain Road east of MW-14 looking NE.JPG; NYSEG work near monitoring well G-1 looking north.JPG; NYSEG work near monitoring well MW-15 looking SE.JPG; NYSEG work on east side of Upper Mountain Road looking east.JPG; placing trench box in excavation in vicinity of MH-6 looking NW.JPG; profile of excavation adjacent to MW-4 looking NW.JPG; Soil being loaded out for landfill from excavation between MH-6 and MH-7 looking west.JPG; Soil pile from excavation between MH-6 and MH-7 looking SE.JPG; Varios soil types encountered in excavation between MH-7 and MH-6 looking south.JPG; 48-inch storm line and fire supression line within excavation between MH-6 and MH-7 looking SE.JPG; 48-inch storm lines entering and exiting MH-7.JPG; Backfill arounf MH-8 looking east.JPG; Backfilling excavation near MW-4 looking SE.JPG; compating backfill in vicinity of MH-7 looking SE.JPG; Delphi storm sewer discharge at headwall of Outfall D002 looking north.JPG; Density testing by SJB on backfill in vicinity of MH-7 looking south.JPG; Excavation backfill from MH-7 looking SE.JPG; Excavation between MH-6 and MH-7 looking NW.JPG; Excavation markout for storm line from MH-6 to MH-5 looking south.JPG

Hi Jim,

I visited the site this morning to observe the Building 6 Utility Separation work. The contractor was working on the new GMCH 48-inch storm water line between MH 7 and MH-6. They had tied into the existing structure, MH-A, and installed MH-7 on May 20<sup>th</sup> and 21<sup>st</sup>. They encountered a fire suppression line (orientated in a north-south direction) which crossed the excavation south of where MH-6 is to be installed. Water was observed leaking into the excavation from the backfill around the fire suppression line.

Bruce Witherel (R&P Oak Hill) indicated that the soil material being excavated between MH-7 and MH-6 was not going to be used for backfill. The fill material was non-cohesive soil containing random debris (topsoil, gravels, wire, wood, etc.) or in the case of the fine grained clayey soil encountered nears MH-6, they were too wet. The soil was being taken to Modern Disposal facility.

I observed some water entering the excavation from some gravelly soils encountered in the vicinity where MH-6 is to be installed. The fine grained clayey soil encountered nears MH-6, which were stockpile outside the excavation appeared to have a high moisture content. A trench box was installed by the contractor in this location because the side walls of the excavation were sliding into the excavation.

NYSEG were also on-site installing electric poles; in the vicinity of monitoring well G-1 (near Bldg 6), along Upper Mountain Road, east of MW-14, and the east side of Upper Mountain Road (across the street from the facility).

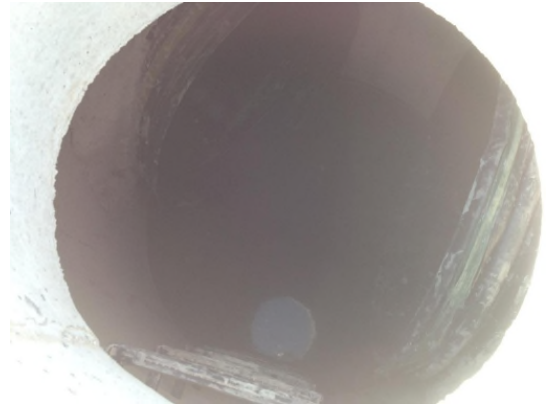
Photographs of the work are appended.

Let me know if you have any questions, comments or would like to discuss.  
Thanks.

Chris



5/22/2013: 48-inch storm line and fire suppression line within excavation between MH- and MH-7 looking SE



5/22/2013: 48-inch storm lines entering and exiting MH-7



5/22/2013: Backfill around MH-8 looking east



5/22/2013: Backfilling excavation near MW-4 looking southeast



5/22/2013: Compacting backfill in vicinity of MH-7 looking southeast



5/22/2013: Density testing by SJB on backfill in vicinity of MH-7 looking south





5/22/2013: Excavation backfill from MH-7 looking southeast



5/22/2013: Excavation between MH-6 and MH-7 looking northwest



5/22/2013: Excavation markout for storm line from MH-6 to MH-5 looking south



5/22/2013: Excavation profile near location of MH-6 looking west



5/22/2013: Existing storm structure MH-A that was tied into with 48-inch storm line looking southwest



5/22/2013: Fire suppression line encountered in excavation between MH-7 and MH-6 looking west





5/22/2013: Flowable fill backfill between MH-6 and MH-7 looking south



5/22/2013: Gravel layer encountered near location of MH-6 looking west



5/22/2013: Monitoring well MW-4 looking northwest



5/22/2013: NYSEG pole and work near well G-1 looking northwest



5/22/2013: NYSEG work along Upper Mountain Road east of MW-14 looking northeast



5/22/2013: NYSEG work near monitoring well G-1 looking north





5/22/2013: NYSEG work near monitoring well MW-15 looking southeast



5/22/2013: Placement of trench box in excavation in vicinity of MH-6 looking northwest



5/22/2013: Profile of excavation adjacent to MW-4 looking northwest



5/22/2013: Soil being loaded out for landfill from excavation between MH-6 and MH-7 looking west



5/22/2013: Soil pile from excavation between MH-6 and MH-7 looking southeast



5/22/2013: Various soil types encountered in excavation between MH-7 and MH-6 looking south

## Christopher Boron

---

**From:** Christopher Boron  
**Sent:** Thursday, May 30, 2013 4:58 PM  
**To:** Jim Hartnett; Roy Knapp  
**Cc:** Denis Conley  
**Subject:** Delphi Bldg 6 Separation Project  
**Attachments:** substation electrical trench to pole south of Bldg 6 looking east.JPG; 48-inch storm sewer piping in storage area.JPG; Backfill around MH-7 looking northwest.JPG; barricaded storm sewer excavation north of MH-6 looking south.JPG; electrical conduit trench to new substation from power pole south of Bldg 6 looking east.JPG; Electrical conduit trench from pole to new substation south of Bldg 6 looking west.JPG; force main excavation northwest of existing pump station looking south.JPG; force main excavation northwest of MW-10 crossing under electrical conduit to pump station looking east .JPG; force main pipe placement north of pump station looking west.JPG; Guide wires installed to secure electric pole installed south of MW-15.JPG; New substation excavation by Schuler Haas south of Bldg 6 looking north.JPG; storm sewer excavation and MH-6 looking south.JPG; storm sewer excavation north of MH-6 looking north.JPG

Hi Jim,

I visited the site yesterday afternoon to observe the Building 6 Utility Separation work. The contractor had stopped work for the day on the new GMCH 48-inch storm sewer line north of MH-6. They had encountered some gravelly soils near Bldg 8 which were caving into the excavation. Due to the depth of the excavation and the gravelly soil conditions, they were waiting on some additional trench boxes before continuing the work in this area.

Steve Stang (foreman for Zoladz) indicated the soil encountered earlier in the day, north of MH-6, near the top of bedrock interface contained topsoil, barbed wire and other debris. He also indicated that the soil, near the bedrock, had an odor to it. He could not identify what the odor resembled but felt it was not a petroleum-type. I asked if the odor was sweet (similar to chlorinated solvents), he was certain it was not. There was none of this soil onsite at the time of my visit and it was difficult to see into the excavation with the trench box in place.

Because the excavation activities on the storm sewer had stopped, they began to work on the force main excavation in the area northeast of monitoring well, MW-10, and north of the existing pump station.

Schuler Haas had excavated in the vicinity of the new substation to be installed and the electrical conduit trench from the electric pole to the substation, south of Bldg 6. These activities were not ongoing at the time of my visit.

NYSEG has installed the support wires on the electrical poles at the site. These activities were not ongoing at the time of my visit.

Photographs of the work are appended.

Let me know if you have any questions, comments or would like to discuss.  
Thanks.

Chris

**Christopher Boron**  
**Senior Project Manager**  
GZA GeoEnvironmental of NY  
535 Washington Street  
11th Floor





5/29/2013: 48-inch storm piping in storage area



5/29/2013: Backfill around MH-7 looking northwest



5/29/2013: Barricaded storm sewer excavation north of MH-6 looking south



5/29/2013: Electrical conduit trench to new substation form power pole south of Bldg 6 looking east



5/29/2013: Electrical conduit trench from pole to new substation south of Bldg 6 looking west



5/29/2013: Force main excavation northwest of existing pump station looking south





5/29/2013: Force main excavation northwest of MW-10 crossing under electrical conduit to pump station looking east



5/29/2013: Guide wires installed to secure electric pole installed south of MW-15



5/29/2013: Force main excavation northwest of MW-10 crossing under electrical conduit to pump station looking east



5/29/2013: New substation excavation by Schuler Haas south of Bldg 6 looking north



5/29/2013: Storm sewer excavation north of MH-6 looking north



5/29/2013: Substation electrical trench to pole south of Bldg 6 looking east



## Christopher Boron

---

**From:** Christopher Boron  
**Sent:** Monday, June 10, 2013 9:35 AM  
**To:** Jim Hartnett; Roy Knapp  
**Cc:** Denis Conley  
**Subject:** Delphi Bldg 6 Separation Project  
**Attachments:** asphalt and concrete cut looking south.JPG; Asphalt and concrete removed and replaced with crushed bedrock to prevent ponding looking north.JPG; backfill along force main excavation looking east.JPG; backfill of force main excavation at Road 3 and Upper Mountain Road looking south.JPG; backfill of force main excavation at Road 3 and Upper Mountain Road looking north.JPG; backfilled force main area and silt fence looking west.JPG; backfilling electrical conduit for light pole looking south.JPG; backfilling force main area looking west .JPG; cleanout for force main near MH-10 looking east.JPG; electrical conduit trench for light pole crossing over electrical conduit from pole to new substation looking east.JPG; electrical conduit placement and backfill looking south.JPG; force main excavation and lift station looking east.JPG; force main pipe to be tied into lift station looking south.JPG; MH-12-15 with elevated grades looking northeast.JPG; MW-8-4 near asphalt and concrete cut looking east.JPG; New GMCH 48-inch pipe between MH-5 and MH-6 looking south.JPG; powerline to pole installed & force main area looking east.JPG; Road sweeper Road 3 looking northwest.JPG; storm water swale south of Road 3 looking south.JPG; subsab preparation at new substation looking east.JPG; temporary silt dams in swale along Upper Mountain Road looking south.JPG; temporary stormwater drainage in swale along Upper Mountain Road looking southwest.JPG

Hi Jim,

I visited the site on Friday morning to observe the Building 6 Utility Separation work.

No excavation activities had occurred on the new GMCH 48-inch storm sewer line north of MH-6 since my last visit on May 29th. The contractor is still waiting on stackable trench boxes before proceeding. However, they did remove the asphalt and concrete present at ground surface for the 48-inch storm sewer line excavation. After, the asphalt and concrete were removed it was backfilled with crushed bedrock to prevent ponding of storm water.

The contractor continued to work on the force main line installation while waiting for the trench boxes. The force main line from the lift station (in the general vicinity of MW-10) east to Upper Mountain Road had been installed and backfilled. When I was onsite, they were finishing the backfill of the force main line that went under Road 3.

The contractor was also backfilling an electrical conduit line that went from the south side of Building 6 to a light pole in the central portion of the parking lot, south of Building 6. Work continues on the preparation of the sub-base of the new substation. NYSEG has installed the electrical line to the new electrical poles that have been installed.

Photographs of the work are appended.

Let me know if you have any questions, comments or would like to discuss.

Thanks.

Chris

**Christopher Boron**  
**Senior Project Manager**  
GZA GeoEnvironmental of NY  
535 Washington Street  
11th Floor  
Buffalo, New York 14203



6/7/2013: Asphalt and concrete removed and replaced with crushed bedrock to prevent ponding looking north



6/7/2013: Backfill of force main excavation at Road 3 and Upper Mountain Road looking south



6/7/2013: Backfilling electrical conduit for light pole looking south



6/7/2013: Force main pipe to be tied into lift station looking south



6/7/2013: New GMCH 48-inch pipe between MH-5 and MH-6 looking south



6/7/2013: Sub-slab preparation at new substation location looking east

## Christopher Boron

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**From:** Christopher Boron  
**Sent:** Thursday, June 27, 2013 2:02 PM  
**To:** Jim Hartnett; Roy Knapp  
**Cc:** Denis Conley  
**Subject:** Delphi Bldg 6 Separation Project  
**Attachments:** Asphalt patch on Road 3 looking north.JPG; Backfill along Upper Mountain Road looking north.JPG; backfilled force main excavation along Upper Mountain Rd looking south.JPG; covering force main excavation with plates, end of day, looking south near Road 2.JPG; Flowable fill backfill in excavation along Upper Mountain Road between Roads 2 & 3 looking north.JPG; Force main installation along Upper Mountain Rd between Roads 2 & 3 looking south.JPG; MW-13 in vicinity of force main looking south.JPG; Site prep work at substation looking east.JPG; soil stockpile south of Bldg 6 looking east.JPG; stockpile staging area south of Bldg 6 looking southeast.JPG

Jim, Roy & Denis,

Please delete the last email and photo update I sent you earlier today. Some of the photographs and roads identified were mislabeled.

The attached photographs have been revised along with the text below. Sorry about that.

I visited the site on Tuesday, June 18<sup>th</sup> to observe the Building 6 Utility Separation work.

No additional excavation activities have occurred on the new GMCH 48-inch storm sewer line north of MH-6 since my last visit on May 29th. The contractor continued to work on the force main line installation between Roads 2 and 3. The excavation activities at the time of my visit were just north of Road 2. The contractor shifted the location of the force main line and avoided monitoring well, MW-13. When I was onsite, they were beginning to cleanup for the day and were covering the open excavation along Upper Mountain Road with steel plates.

Work continues on the preparation of the sub-base of the new substation. However, no activities were ongoing while I was on-site. Photographs of the work are appended.

Let me know if you have any questions, comments or would like to discuss.

Thanks.

Chris

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**Senior Project Manager**  
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716-570-5990 (Cell)  
716-685-3629 (Fax)  
[christopher.boron@gza.com](mailto:christopher.boron@gza.com)







6/18/2013: Asphalt patch on Road 3 looking north



6/18/2013: Backfilled force main excavation along Upper Mountain Rd looking south



6/18/2013: Covering force main excavation with plates, end of work day, looking south near Road 2



6/18/2013: Flowable fill backfill in excavation along Upper Mountain Road between Roads 2 & 3 looking north



6/18/2013: MW-13 in vicinity of force main looking south



6/18/2013: Site preparation work at substation looking east

## Christopher Boron

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**From:** Christopher Boron  
**Sent:** Thursday, June 27, 2013 2:14 PM  
**To:** Jim Hartnett; Roy Knapp  
**Cc:** Denis Conley  
**Subject:** Delphi Bldg 6 Separation Project  
**Attachments:** Stone subbase installed in roadway cut at Road 1 looking south.JPG; Asphalt patch at Road 2 looking north.JPG; Breaking bedrock south of Road 1.JPG; Cleanout pipe installed north of Road 2 looking south.JPG; concrete pads and conduits installed in substation area looking northwest.JPG; Excavation backfill along Upper Mountain Road south of Road 2 looking south.JPG; Force main backfill and swale south of Road 1 looking south.JPG; force main installation, flowable fill and soil removal in excavation along Upper Mountain Rd south of Road 1 looking south.JPG; Ground cover restoration near electric pole within Env Easement area near Upper Mountain Rd looking east.JPG; Ground cover, tree removal within Env Easement Area looking north along Upper Mountain Rd.JPG; Large bedrock pieces removed from excavation along Upper Mountain Rd north of Road 1.JPG; Sediment traps installed in swale along Upper Mountain Rd south of Road 1 looking south.JPG

Hi Jim,

I visited the site on Wednesday, June 26<sup>th</sup> to observe the Building 6 Utility Separation work.

No additional excavation activities have occurred on the new GMCH 48-inch storm sewer line north of MH-6 since my last visit on May 29th. The contractor continued to work on the force main line installation south of Road 1. The excavation activities at the time of my visit were just south of Road 1 approximately 200 feet from the tie-in location. The contractor indicated that the bedrock was about 18-inches higher and much harder in the area south of where the stream leaving the site goes under Upper Mountain Rd to the area they are working in south of Road 1.

Work continues on the preparation of the sub-base of the new substation. However, no activities were ongoing while I was on-site. Photographs of the work are appended.

Let me know if you have any questions, comments or would like to discuss.

Thanks.

Chris

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6/26/2013: Breaking bedrock south of Road 1



6/26/2013: Concrete pads and conduits installed in substation area looking northwest



6/26/2013: Force main backfill and swale south of Road 1 looking south



6/26/2013: Force main installation, flowable fill and soil removal in excavation at Upper Mountain Rd. south of Road 1 looking south



6/26/2013: Sediment traps installed in swale along Upper Mountain Rd. south of Road 1 looking south



6/26/2013: Stone subbase installed in roadway cut at Road 1 looking south



## Christopher Boron

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**From:** Christopher Boron  
**Sent:** Monday, July 01, 2013 4:32 PM  
**To:** Jim Hartnett; Roy Knapp  
**Cc:** Denis Conley  
**Subject:** Delphi Bldg 6 Separation Project  
**Attachments:** top of GMCH sanitary sewer looking west.JPG; flowable fill placement in force main excavation south of Road 1 looking northwest.JPG; force main excavation broken and competent bedrock south of Road 1 looking east.JPG; force main installation south of Road 1 looking north.JPG; force main installation south of Road 1 looking southeast.JPG; GMCH sanitary sewer line and gas line exposed along Upper Mountain Rd looking east.JPG; hole observed on top of GMCH sanitary sewer line.JPG; looking into sanitary MH-1 looking west.JPG; pipe clamp used to connect corrugated pipe on GMCH sanitary sewer line.JPG; Placing Sanitary MH-1 over GMCH sanitary line south of Road 1 looking south.JPG; removing fractured bedrock in vicinity of GMCH sanitary line looking south.JPG; removing MH-1 cover over top of GMCH sanitary sewer looking north.JPG; sand, gravel & fractured bedrock backfill around GMCH sanitary sewer .JPG; Sanitary MH-1 excavation final grade around GMCH sanitary sewer looking south.JPG

Hi Jim,

I visited the site on Monday, July 1<sup>st</sup> to observe the Building 6 Utility Separation work.

No additional excavation activities have occurred on the new GMCH 48-inch storm sewer line north of MH-6 since my last visit on May 29th. The contractor continued to work on the force main line installation south of Road 1. The excavation activities at the time of my visit were at two locations; 1) approximately 100 feet from the sanitary tie-in location and 2) at the actual tie-in location. The contractors excavated to grade around the existing GMCH sanitary sewer line and placed MH#1 over the top in preparation for the tie-in.

A hole was observed on the top of the GMCH sanitary sewer line. It is pointed out in the photograph title "hole observed on top of GMCH sanitary sewer line". The contractor did not know if the hole was caused by the excavation activities to expose the line. The contractor use shovels to remove excess dirt from around the GMCH sanitary pipe. I spoke with the two gentlemen that removed the excess soil and they did not see any other holes or perforations in the GMCH sanitary line. I did not observe any others from the top of the excavation. The top portion of the pipe where the hole was observed will be removed to complete the tie-in, so it was not repaired.

The previous backfill around the existing GMCH sanitary sewer appeared to be a little sand and gravel type material and fractured bedrock. No odors or staining were observed in the area of this pipe.

Photographs of the activities are attached.

Let me know if you have any questions, comments or would like to discuss.  
Thanks.

Chris

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7/1/2013: Force main installation south of Road 1 looking southeast



7/1/2013: GMCH sanitary sewer line and gas line exposed along Upper Mountain Rd. looking east



7/1/2013: Hole observed on top of GMCH sanitary sewer line



7/1/2013: Removing fractured bedrock in vicinity of GMCH sanitary line looking south



7/1/2013: Sand, gravel & fractured bedrock backfill around GMCH sanitary sewer line



7/1/2013: Placing sanitary MH-1 over GMCH sanitary line south of Road 1 looking south

## Christopher Boron

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**From:** Christopher Boron  
**Sent:** Wednesday, July 10, 2013 1:37 PM  
**To:** Jim Hartnett; Roy Knapp  
**Cc:** Denis Conley  
**Subject:** Delphi Bldg 6 Separation Project  
**Attachments:** substation area looking northeast.JPG; asphalt patch across Road 1 looking south.JPG; drainage swale after force main backfill south of Road 1 looking south.JPG; drainage swale and top of swale south of Road 1 looking south.JPG; flowable fill placement around GMCH New 48-inch Storm sewer line looking south.JPG; force main new MH-1 (doghouse) south of Road 1 looking north.JPG; GMCH sanitary manhole near Upper Mountain Rd south of Road 1 looking east.JPG; MW-7-4 in vicinity of force main work area looking southeast.JPG; New GMCH 48-inch storm sewer line excavation looking north.JPG; processed and bedrock piles from force main excavation work looking southeast.JPG; Soil pile for disposal at Modern Landfill looking south.JPG; storm drain in swale south of Road 1 .JPG; substation area looking east.JPG

Hi Jim,

I visited the site on Tuesday, July 9<sup>th</sup> to observe the Building 6 Utility Separation work.

Excavation activities have restarted on the new GMCH 48-inch storm sewer line north of MH-6, as the contractor had completed the force main installation along Upper Mountain Road. The excavation activities at the time of my visit were between MHs 5 & 6, east of Building 8 (in the vicinity of the entrance canopy). Flowable fill was being placed around the new 48-inch diameter pipe during the visit. Soil was also being loaded for disposal at Modern Landfill.

No activities were ongoing in the vicinity of the new substation while I was on-site, but it appears the pad preparation is near complete.

Photographs of the activities are attached.

Let me know if you have any questions, comments or would like to discuss.

Thanks.

Chris

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7/9/2013: Flowable fill placement around GMCH new 48-inch storm sewer line looking south



7/9/2013: New GMCH 48-inch storm sewer line excavation looking north



7/9/2013: Soil pile for disposal at Modern Landfill looking south



7/9/2013: Substation area looking east



7/9/2013: Force main new MH-1 (doghouse) south of Road 1 looking south



7/9/2013: Drainage swale and top of swale south of Road 1 looking south



## Christopher Boron

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**From:** Christopher Boron  
**Sent:** Friday, July 12, 2013 4:27 PM  
**To:** Jim Hartnett; Roy Knapp  
**Cc:** Denis Conley  
**Subject:** Delphi Bldg 6 Separation Project  
**Attachments:** welded steel pipe to be used for on-site stream crossing for force main pipe looking north.JPG; backfilled excavation for GMCH 48-inch storm sewer line between Bldgs 6 and 8 looking north.JPG; breaking bedrock for GMCH 48-inch storm sewer line looking north.JPG; flowable fill and broken bedrock in excavation for GMCH 48-inch storm sewer line looking southeast.JPG; flowable fill around force main at Upper Mountain Road near on-site stream crossing looking east.JPG; MW-8-4 in vicinity of pavement cut for 48-inch GMCH storm sewer looking south.JPG; sheepsfoot compacting GMCH 48-inch excavation backfill looking northeast.JPG; trench box and flowable fill in GMCH 48-inch storm sewer excavation looking north.JPG

Hi Jim,

I visited the site today, Friday, July 12<sup>th</sup> to observe the Building 6 Utility Separation work.

Excavation activities continued on the new GMCH 48-inch storm sewer line north of MH-6. The excavation activities at the time of my visit were between MHs 5 & 6, east of Building 8 (approximately 25 to 30 feet south of MH-5). Bedrock was being jack-hammered and removed from the excavation and previously placed pipe was being backfilled and compacted. Flowable fill is still being placed around the new 48-inch diameter pipe.

No activities were ongoing in the vicinity of the new substation while I was on-site.

The supervisor from Zoladz indicated that the storm manhole cover at MH-1 associated with the force main would be replaced by the end of day today. The a sanitary marked cover was on-site.

Photographs of the activities are attached.

Let me know if you have any questions, comments or would like to discuss.

Thanks.

Chris

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7/12/2013: Backfilled excavation for GMCH 48-inch storm sewer line between Bldgs 6 and 8 looking north



7/12/2013: Breaking bedrock for GMCH 48-inch storm sewer line looking north



7/12/2013: Flowable fill and broken bedrock in excavation for GMCH 48-inch storm sewer line looking southeast



7/12/2013: Flowable fill around force main at Upper Mountain Road near on-site stream crossing looking east



7/12/2013: Trench box and flowable fill in GMCH 48-inch storm sewer excavation looking north



7/12/2013: Welded steel pipe to be used for on-site stream crossing for force main pipe looking north

## Christopher Boron

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**From:** Christopher Boron  
**Sent:** Wednesday, July 17, 2013 1:00 PM  
**To:** Jim Hartnett; Roy Knapp  
**Cc:** Hillie Ladue (hillie.ladue@gmch.com)  
**Subject:** Delphi Bldg 6 Separation Project  
**Attachments:** sanitary sewer cover placed on MH-1 on force main .JPG; surface restoration north of Road 2 along Upper Mountain Rd looking west.JPG; surface restoration north of Road 2 looking north.JPG; 48-inch pipe, backfill and trench box south of MH-5 looking south.JPG; Installation of MH-5 on the 48-inch GMCH Storm sewer looking southwest.JPG; MH-5 looking south.JPG; sanitary MH-1 looking north.JPG

Hi Jim,

I visited the site today, Wednesday, July 17<sup>th</sup> to observe the Building 6 Utility Separation work.

Excavation activities continued on the new GMCH 48-inch storm sewer line at MH-5. No excavation activities were ongoing at the time of my visit. Zoladz was working on installing MH-5.

No activities were ongoing in the vicinity of the new substation while I was on-site.

The manhole cover on the force main sanitary MH-1 was replaced with a proper sanitary sewer labeled cover.

Photographs of the activities are attached.

Let me know if you have any questions, comments or would like to discuss.

Thanks.

Chris

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7/17/2013: 48-inch pipe, backfill and trench box south of MH-5 looking south



7/17/2013: Installation of MH-5 on the 48-inch GMCH storm sewer looking southwest



7/17/2013: Sanitary MH-1 looking north



7/17/2013: Sanitary sewer cover placed on MH-1 on force main



7/17/2013: Surface restoration north of Road 2 along Upper Mountain Rd. looking west



7/17/2013: Surface restoration north of Road 2 looking north

## Christopher Boron

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**From:** Christopher Boron  
**Sent:** Tuesday, July 30, 2013 10:05 AM  
**To:** Jim Hartnett; Roy Knapp  
**Cc:** Denis Conley  
**Subject:** Delphi Bldg 6 Separation Project  
**Attachments:** utility lines encountered north of MH-4 looking south.JPG; 48-inch storm sewer line and trench box looking north.JPG; flowable fill placement south of MH-4 looking north.JPG; GMCH 48-inch storm sewer installation north of MH-4 looking north.JPG; GMCH 48-inch storm sewer installation north of MH-4 looking south.JPG; MH-4 looking west.JPG; MW-6-F-8 looking north.JPG; MW-6-F-8 looking northwest.JPG; MW-6-F-8 with GMCH storm sewer excavation centerline markout looking south.JPG; MW-8-4 looking north.JPG; New GMCH 48-inch storm sewer excavation backfilled between MH-4 and MH-5 looking north.JPG; Separation Project Staging Area looking northwest.JPG; utility lines encountered north of MH-4 looking northwest.JPG

Hi Jim,

I visited the site on Tuesday, July 23rd to observe the Building 6 Utility Separation work

Excavation activities continued on the new GMCH 48-inch storm sewer line north of MH-4. MH-4 was also being installed at the time of the visit. Utility lines were encountered north of MH-4 at an elevation above the 48-inch storm sewer line. The new GMCH storm sewer line was to be installed under the utilities.

No activities were ongoing in the vicinity of the new substation while I was on-site.

Photographs of the activities are attached.

Let me know if you have any questions, comments or would like to discuss.

Thanks.

Chris

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7/23/2013: Flowable fill placement south of MH-4 looking north



7/23/2013: GMCH 48-inch storm sewer installation north of MH-4 looking south



7/23/2013: MH-4 looking west



7/23/2013: New GMCH 48-inch storm sewer excavation backfilled between MH-4 and MH-5 looking north



7/23/2013: Utility lines encountered north of MH-4 looking northwest



7/23/2013: Utility lines encountered north of MH-4 looking south



## Christopher Boron

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**From:** Christopher Boron  
**Sent:** Tuesday, July 30, 2013 10:19 AM  
**To:** Jim Hartnett; Roy Knapp  
**Cc:** Denis Conley  
**Subject:** Delphi Bldg 6 Separation Project  
**Attachments:** 48-inch storm sewer line looking south in excavation.JPG; 48-inch storm line within excavation.JPG; excavation side wall north of MH-3 looking north east.JPG; GMCH 48-inch storm sewer line excavation area north of MH-3 looking south.JPG; storm sewer excavation backfilled north of MH-3 and 4 looking north.JPG; storm sewer excavation backfilled north of MH-4 looking south.JPG; FW: GMCH 48-inch storm sewer excavation and monitoring well

Hi Jim,

I visited the site on Friday, July 26rd to observe the Building 6 Utility Separation work.

Excavation activities continued on the new GMCH 48-inch storm sewer line north of MH-3. The work was being completed just south of monitoring well MW-6-F-8. The excavator operator from Zoladz indicated he was going to be able to excavate around the monitoring well. However, before getting to the monitoring well location and after I had left the Site, electrical lines were encountered at a depth that is in line with the storm sewer line depth. Roy sent out an email regarding this on July 27<sup>th</sup> (it has been attached). Excavation activities north of MH-3 have stopped.

No activities were ongoing in the vicinity of the new substation while I was on-site.

Photographs of the activities are attached.

Let me know if you have any questions, comments or would like to discuss.

Thanks.

Chris

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7/26/2013: 48-inch storm sewer line looking south in excavation



7/26/2013: 48-inch storm line within excavation



7/26/2013: Excavation side wall north of MH-3 looking northeast



7/26/2013: GMCH 48-inch storm sewer line excavation area north of MH-3 looking south



7/26/2013: Storm sewer excavation backfilled north of MH-3 and 4 looking north



7/26/2013: Storm sewer excavation backfilled north of MH-4 looking south

## Christopher Boron

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**From:** Christopher Boron  
**Sent:** Tuesday, July 30, 2013 10:33 AM  
**To:** Jim Hartnett; Roy Knapp  
**Cc:** Denis Conley  
**Subject:** Delphi Bldg 6 Separation Project  
**Attachments:** top soil placed south on Road 3 looking north west.JPG; concrete form and steel pipe for creek crossing along Upper Mountain Rd looking north.JPG; spreading top soil along Upper Mountain Road south of Road 3 looking south west.JPG; stell pipe for force main crossing of creek in place looking north.JPG

Hi Jim,

I stopped by the site on Monday, July 29<sup>th</sup> after collecting Bldg 10 SVE air samples to observe the Building 6 Utility Separation work.

Zoladz was placing top soil along upper Mountain Road south of Road 3. Excavation activities associated with the GMCH 48-inch storm sewer line north of MH-3 have stopped. Zoladz was planning to work on restoration activities along Upper Mountain Rd for the remainder of the week.

The concrete forms and steel pipe for the force main crossing of the creek at the east end of the property have been installed. Zoladz is waiting on a subcontractor to install the pipe and fill the annulus space before connecting to the force main pipe previously installed in the ground. Fire suppression line work may begin early next week according to Zoladz.

Photographs of the activities are attached.

Let me know if you have any questions, comments or would like to discuss.  
Thanks.

Chris

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7/29/2013: Concrete form and steel pipe for creek crossing along Upper Mountain Rd. looking north



7/29/2013: Spreading topsoil along Upper Mountain Road south of Road 3 looking southwest



7/29/2013: Steel pipe for force main crossing of creek in place looking north



7/29/2013: Topsoil placed south on Road 3 looking northwest

## Christopher Boron

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**From:** Christopher Boron  
**Sent:** Friday, August 09, 2013 11:29 AM  
**To:** Jim Hartnett; Roy Knapp  
**Cc:** Denis Conley  
**Subject:** Delphi Bldg 6 Separation Project  
**Attachments:** surface restoration and hydroseed along Upper Mountain Rd north of Road 2 looking south.JPG; compacting backfill over fire suppression line east of Bldg 8 looking south.JPG; crushed concrete and bedrock being used for fire suppression line excavation backfill looking south .JPG; crushed concrete and bedrock for use a excavation backfill in construction yard east of Bldg 8 looking east.JPG; discharge from Delphi stormwater system at Outfall D002 at time of site visit.JPG; drainage swale and hydroseed along Upper Mountain Rd south of Road 3 looking south.JPG; excavation soil stockpile to be taken to Modern Landfill within construction yard east of Bldg 8 looking south.JPG; fire suppression line pipe end east of Bldg 8 looking west.JPG; MW-8-4 east of fire suppression line installation east of Bldg 8 looking west.JPG; placing crushed concrete and bedrock in fire suppression excavation east of Bldg 8 looking south.JPG; placing crushed stone beneath fire suppression line east of Bldg 8 looking south.JPG; placing water on stone backfill over fire suppression line excavation to help with compaction requirements looking north.JPG; silt fencing along Road 3 looking east.JPG; start of fire suppression line excavation near pedestrian bridge looking southeast.JPG; start of fire suppression line excavation near pedestrian bridge east of Bldg 8 looking northwest.JPG

Hi Jim,

I stopped by the site on the afternoon of Wednesday, August 8th to observe the Building 6 Utility Separation work. Since my last visit July 29<sup>th</sup>, Zoladz had worked on the surface restoration of the drainage swales/ground surfaces along Upper Mountain Road and placed hydro seed on the ground surface. Grass was beginning to grow in some spots. Zoladz had also done some exploratory test pits associated with the fire suppression line.

They began the actual excavation work and installation of the fire suppression line east of Building 8 on August 8<sup>th</sup>. They started on the vicinity of the pedestrian bridge that goes from Building 8 to Building 6. The excavations are approximately 4 to 5 feet below ground surface and above the top of bedrock. Flowable fill was not required for backfill around these pipes.

Zoladz was using purchased crushed stone for placement under and adjacent to the fire suppression lines. Once the pipe was covered, they were using concrete and bedrock from the site excavation that they crushed on-Site. Bruce Witherel (R&P Oak-Hill) indicated that after the concrete and bedrock was crushed and mixed, SJB Services collected samples to provide them a proctor for compacting the material after placement. While on-site, water was being added to the material, as they could not achieve 95% compaction requirements. The moisture content at placement was around 3%. I do not know what is the optimum moisture content was from the testing SJB completed.

Zoladz is still waiting on a subcontractor to install the pipe and fill the annulus space for the force main crossing of the creek at the east end of the property before connecting to the force main piping previously installed along Upper Mountain Road.

Photographs of the activities are attached.

Let me know if you have any questions, comments or would like to discuss.  
Thanks.

Chris

**Christopher Boron, CPG**  
**Senior Project Manager**  
GZA GeoEnvironmental of NY





8/8/2013: Compacting backfill over fire suppression line east of Bldg 8 looking south



8/8/2013: Placing crushed concrete and bedrock in fire suppression excavation east of Bldg 8 looking south



8/8/2013: Drainage swale and hydroseed alone Upper Mountain Rd south of Road 3 looking south



8/8/2013: Fire suppression line pipe end east of Bldg 8 looking west



8/8/2013: Placing water on stone backfill over fire suppression line excavation to help with compaction requirements looking north



8/8/2013: Start of fire suppression line excavation near pedestrian bridge east of Bldg 8 looking northwest



## Christopher Boron

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**From:** Christopher Boron  
**Sent:** Friday, August 16, 2013 9:24 AM  
**To:** Jim Hartnett; Roy Knapp  
**Cc:** Denis Conley  
**Subject:** Delphi Bldg 6 Separation Project  
**Attachments:** water leak at fire suppression line risers at southeast corner of Bldg 8 looking west.JPG; Area of former soil stockpile for disposal at Modern Landfill looking east.JPG; backfilled fire suppression line east of Bldg 8 looking south 2.JPG; backfilled fire suppression line east of Bldg 8 looking south.JPG; backfilled fire suppression line excavation east of Bldg 8 looking north.JPG; electrical equipment at new substation area looking north west.JPG; electrical equipment within new substation area looking northeast.JPG; grass beginning to grow along northside of Road 3 within Environmental Easement Area looking east.JPG; termination of water from fire suppression leak at cooling towers looking west .JPG; water from fire suppression line leak located between SE corner of Bldg 8 and cooling towers looking south.JPG

Hi Jim,

I stopped by the site yesterday afternoon, Thursday, August 15th to observe the Building 6 Utility Separation work. There were no on-going activities at the time of my visit. I spoke with Bruce Witherel (R&P Oak-Hill) and he indicated that Zoladz sent the crew to another site for Thursday (15<sup>th</sup>) and Friday (16<sup>th</sup>) as they were waiting on gaskets for the fire suppression system and there was not much else they could do in the meantime. There is about 110 feet of fire suppression line to be installed and they are anticipating starting back up on Monday, August 19<sup>th</sup>. The gaskets should be received today.

Some equipment has been installed at the new substation area by Schuler-Haas. Bruce Witherel indicated he spoke with Schuler-Haas and they thought the new substation would not be up and running until at least mid-September.

While walking the work area, I noticed water ponding in the vicinity of some existing fire suppression system risers near the southeast corner of Bldg 8. Bruce Witherel indicated it was not related to construction activities and he spoke to John Frandina about it on August 8<sup>th</sup>. John was going to speak to GMCH about the issue.

Photographs of the activities are attached.

Let me know if you have any questions, comments or would like to discuss.

Thanks.

Chris

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8/15/2013: Backfilled fire suppression line east of Bldg 8 looking south



8/15/2013: Backfilled fire suppression line excavation east of Bldg 8 looking north



8/15/2013: Electrical equipment at new substation area looking northwest



8/15/2013: Grass beginning to grow along north side of Road 3 within Environmental Easement Area looking east



8/15/2013: Termination of water from fire suppression leak at cooling towers looking west



8/15/2013: Area of former soil stockpile for disposal at Modern Landfill looking east

## Christopher Boron

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**From:** Christopher Boron  
**Sent:** Wednesday, October 23, 2013 10:23 AM  
**To:** Jim Hartnett  
**Cc:** Roy Knapp; Denis Conley  
**Subject:** Delphi Bldg 6 Separation Project  
**Attachments:** asphalt cut in vicinity of MH-12-15 looking north.JPG; asphalt subbase around new GMCH MH-6 looking east.JPG; asphalt subbase placed east of Bldg 8 looking north.JPG; asphalt subbase placed east of Bldg 8 looking south.JPG; concrete island in Delphi parking lot looking east.JPG; MW-8-4.JPG; vegetative cover along Upper Mountain Road north of Road 2 looking north.JPG; vegetative cover along Upper Mountain Road south of Road 2 looking south.JPG; vegetative cover along Upper Mountain Road south of Road 3 looking south.JPG; vegetative cover north of Road 3 looking east.JPG

Hi Jim,

I stopped by the site yesterday afternoon, Tuesday, October 22<sup>nd</sup>. There were no on-going activities at the time of my visit.

I took some photographs of the asphalt parking lot work completed to date and areas previously restored along Road 3 and Upper Mountain Road. It appears the vegetation is returning nicely. Note that the road box at MW-8-4 has been ruined during the asphalt stripping process and needs to be replaced.

Photographs are attached.

Let me know if you have any questions, comments or would like to discuss.

Thanks.

Regards,

Chris

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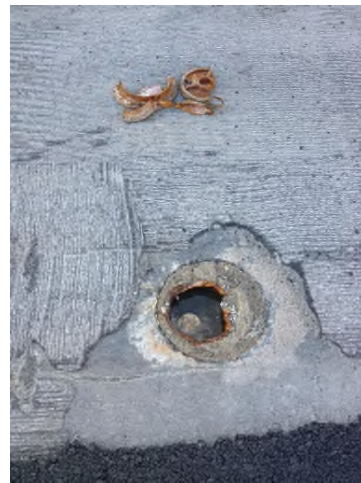
10/22/2013: Asphalt subbase around new GMCH MH-6 looking east



10/22/2013: Asphalt subbase placed east of Bldg 8 looking north



10/22/2013: Concrete island in Delphi parking lot looking east



10/22/2013: MW-8-4



10/22/2013: Vegetative cover along Upper Mountain Road south of Road 3 looking south



10/22/2013: Vegetative cover along Upper Mountain Road south of Road 2 looking south

## **APPENDIX C**



# DAILY FIELD SUMMARY

SHEET 1 OF 1

**DATE:** 9-9-2013 **FILE NO:** 21.0056546.0 **REPORT No:** 1  
**PROJECT:** Bldg 8 Fire Riser **LOCATION:** GMCH Lockport Facility  
Excavation  
**CONTRACTOR:** CCI **WEATHER:** Sunny 70 degrees

**SITE ACTIVITIES:** GZA was on-site to field screen, with an organic vapor meter (OVM), soils excavated to expose the fire suppression lines that were leaking at the southeast exterior corner of Building 8. GMCH contractor CCI was performing the excavation work. Soil removed from the excavation was stockpiled on polyethylene sheeting adjacent to the excavation. The excavation was completed to a depth of approximately 8 feet bgs. Once the required depth of excavation was reached and no additional soil was to be removed from the excavation, GZA left the Site.

## **HEALTH & SAFETY:**

**Health & Safety Briefing:** Chris Boron discussed GZA's role with Rick Haas (CCI Superintendent). GZA was on-site to field screen soils for organic vapors due to the requirements of the environmental easement associated with the Delphi Harrison Thermal System Site. CCI was responsible for monitoring the air quality conditions for its own employees, as the work required a confined space permit issued by GMCH. CCI did have a multi gas meter present and CCI employees wore confined space retrieval harnesses while inside the excavation.

**Issues:** None were noted.

**Incidents:** None were observed.

**Near Misses:** None were observed.

**AIR MONITORING SUMMARY:** GZA field screened the soil being removed from the excavation as it was being placed on the polyethylene sheeting, and the top of excavation work area (i.e. worker's breathing zone) with an OVM. Background concentrations prior to the start of work were 0 ppm. A summary of the readings as the excavations advanced with depth were as follows.

Ground surface to 3 feet below ground surface (bgs): 0 to 0.3 parts per million (ppm)

3 feet bgs to 6 feet bgs: 0 to 0.4 ppm

3 feet bgs to 6 feet bgs: 0 to 0.5 ppm

Top of excavation work area: 0 ppm





OVM calibration check was conducted at 1130 and indicated that the OVM was working properly. Calibration check reading was 109 ppm versus isobutylene gas concentration used which was 100 ppm.

**EQUIPMENT:** MiniRae 3000 and isobutylene calibration gas

**OTHERS ITEMS:**

Company	Personnel	Time On-site	Time Off-Site	Total On-site
GZA	Chris Boron	0830	1500	5.5

**Prepared by:** Chris Boron

## **APPENDIX D**

July 25, 2013  
File No. 21.0056546.00



535 Washington Street  
11<sup>th</sup> Floor  
Buffalo, New York  
14203  
716-685-2300  
FAX 716-685-3629  
<http://www.gza.com>

Mr. Glenn May  
NYSDEC Region 9  
270 Michigan Avenue  
Buffalo, New York 14203

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

Dear Mr. May:

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

## BACKGROUND

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

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

---

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

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





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

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

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

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

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

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

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

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



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

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

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

## **MAY 2013 GROUNDWATER MONITORING & SAMPLING**

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

### **METHODOLOGY**

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

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

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

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

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



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

## **ANALYTICAL RESULTS & DISCUSSION**

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

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

### Compounds of Concern

#### *Source Area Monitoring Well*

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

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





### *Mid Plume Monitoring Wells*

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

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

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

### *Downgradient Monitoring Wells*

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

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

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

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

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



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

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

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

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

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

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

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

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



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

### Natural Attenuation Performance

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

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

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

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

### CONCLUSIONS & RECOMMENDATIONS

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

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





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

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

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

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



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

Sincerely,

GZA GEOENVIRONMENTAL OF NEW YORK

A handwritten signature in blue ink that reads "Thomas Bohlen".

Thomas Bohlen  
Project Geologist

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

Christopher Boron  
Senior Project Manager

A handwritten signature in blue ink that reads "I. Richard Schaffner, Jr.".

I. Richard Schaffner, Jr., C.G.W.P.  
Consultant Reviewer

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

Bart A. Klettke, P.E.  
Principal

Table 1 – Natural Attenuation Parameter Results

Figure 1 – Site Plan & Compound of Concern Analytical Data

Figure 2 – Total COC Contour Plan

Figure 3 – Groundwater Contour Plan

Appendix A: Monitoring Well Observations & Groundwater Sampling Logs

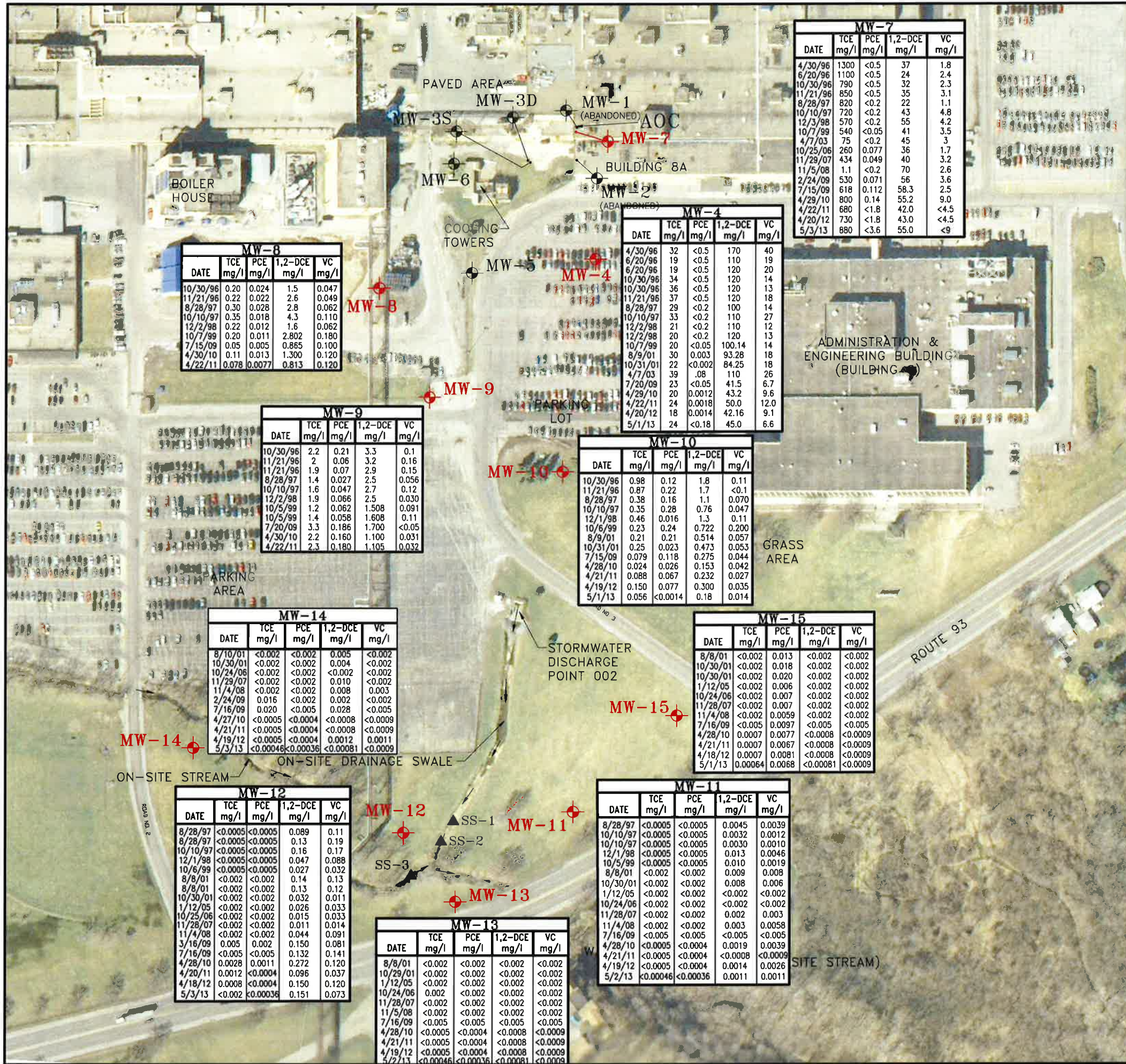
Appendix B: COC Data Graphs

Appendix C: Test America Analytical Laboratory Report

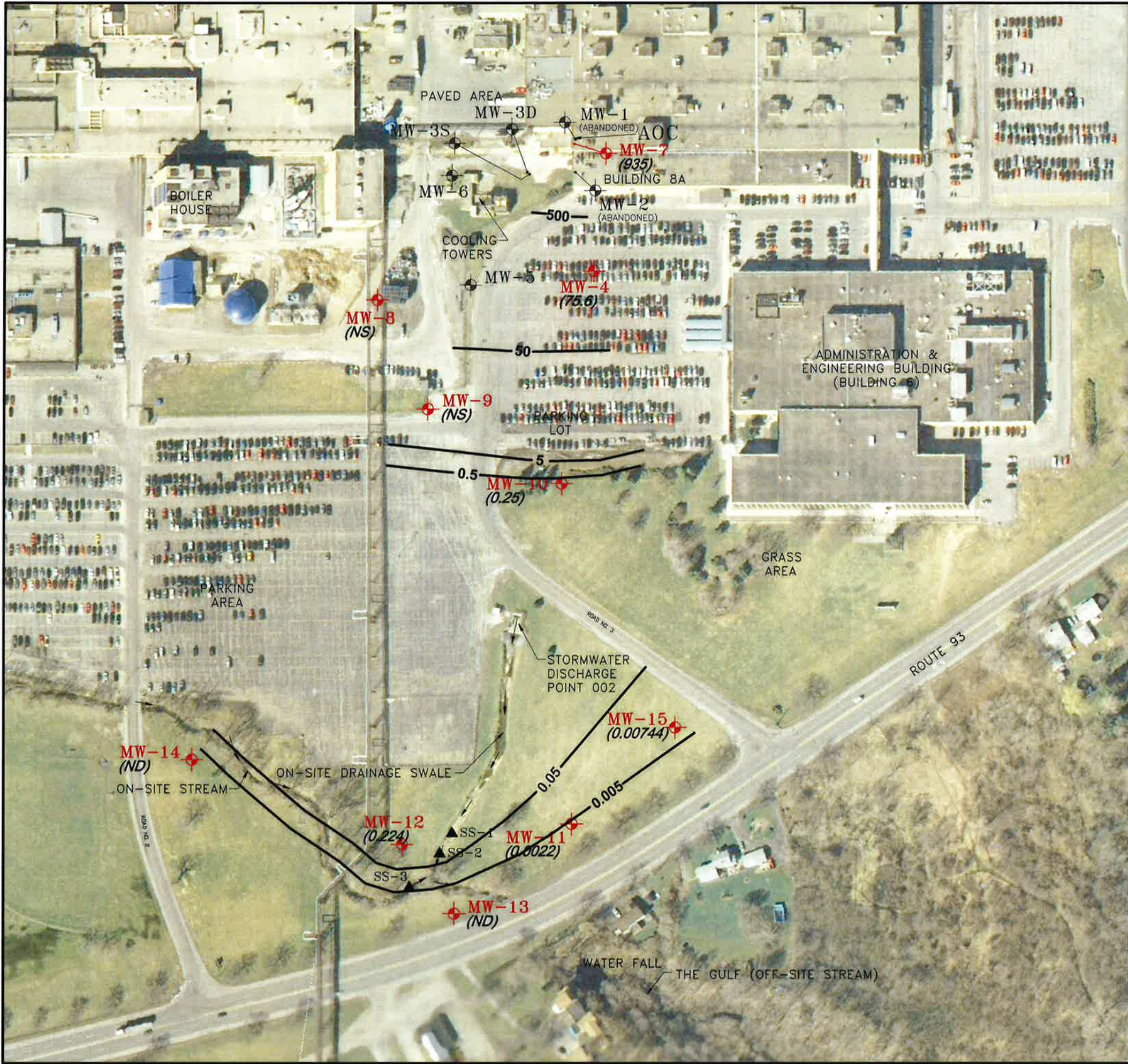
Appendix D: EPA cVOC Monitored Natural Attenuation Ranking System Results

## FIGURES










**NOTES:**

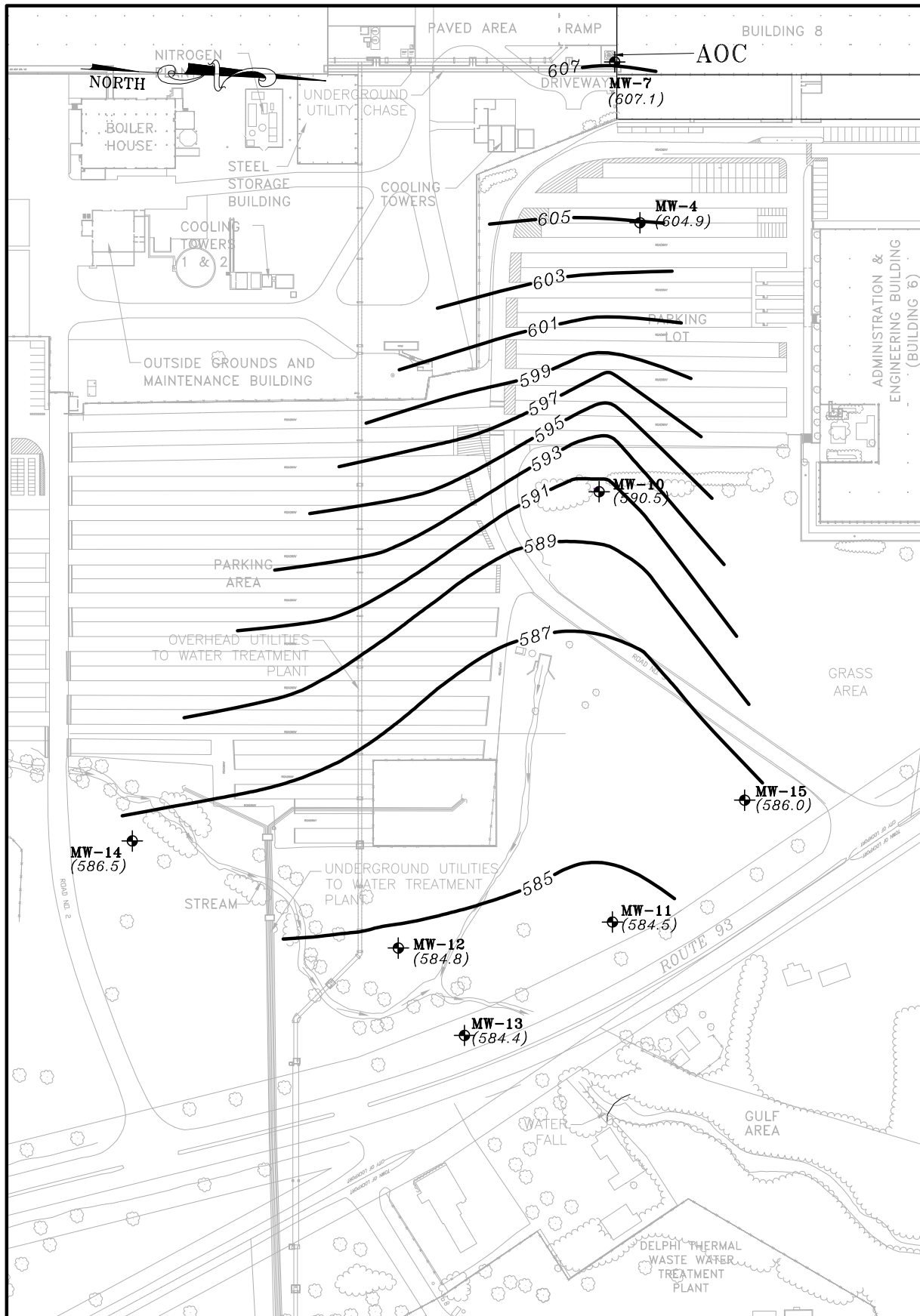
1. BASE MAP ADAPTED FROM A 2005 AERIAL PHOTOGRAPH DOWNLOADED FROM [http://www.nysgis.state.ny.us/gateway/mg/interactive\\_main.html](http://www.nysgis.state.ny.us/gateway/mg/interactive_main.html) AND SITE OBSERVATIONS.
2. ANALYTICAL TESTING WAS COMPLETED BY TEST AMERICA LABORATORIES.
3. UNITS ARE LISTED IN MILLIGRAMS PER LITER (mg/l). (< - INDICATES COMPOUND NOT DETECTED ABOVE THE SPECIFIED DETECTION LIMIT)
4. THE SIZE AND LOCATION OF EXISTING SITE FEATURES SHOULD BE CONSIDERED APPROXIMATE.

**LEGEND:**

- APPROXIMATE LOCATION AND CONCENTRATION OF TOTAL VOC CONTOUR
- APPROXIMATE LOCATION AND DESIGNATION OF MONITORING WELL INSTALLED BY GZA SHOWN WITH TOTAL VOC CONCENTRATION
- APPROXIMATE LOCATION AND DESIGNATION OF STREAM WATER SAMPLE
- AOC** DENOTES AREA OF CONCERN
- NS = NOT SAMPLED

<div>GM COMPONENTS HOLDINGS, LLC</div> <div>DELPHI HARRISON THERMAL SYSTEMS SITE</div> <div>200 UPPER MOUNTAIN ROAD</div> <div>LOCKPORT, NEW YORK</div> <div>MAY 2013 SAMPLING</div>		<div>DRAWN BY: MDK</div> <div>DATE: MAY 2013</div>	<div></div> <div>GZA GeoEnvironmental of New York</div>
<div>TOTAL VOC CONTOUR MAP</div>			
<div>APPROXIMATE SCALE IN FEET</div> <div><div>090180360</div><div><div></div><div></div><div></div><div></div></div></div>			
<div>PROJECT No.</div> <div>21.0056546.00</div>			
<div>FIGURE No.</div> <div>2</div>			





<b>DRAWN BY: MDK</b> <b>DATE: MAY 2013</b>		<b>GZA GeoEnvironmental of New York</b> 
<b>SCALE IN FEET</b> 		
<b>GM COMPONENTS HOLDINGS, LLC</b> <b>DELPHI HARRISON THERMAL SYSTEMS SITE</b> 200 UPPER MOUNTAIN ROAD LOCKPORT, NEW YORK <b>MAY 2013 SAMPLING</b> <b>GROUNDWATER CONTOUR PLAN</b> /MAY 16 2013/		<b>PROJECT No.</b> <b>21.0056546.00</b>
		<b>FIGURE No.</b> <b>3</b>

**LEGEND:**

- MW-4** APPROXIMATE LOCATION AND DESIGNATION OF EXISTING MONITORING WELL INSTALLED BY GZA (604.9)  
 APPROXIMATE GROUNDWATER ELEVATION MEASURED ON DATE SHOWN IN TITLE BLOCK  
**AOC** DENOTES AREA OF CONCERN

**NOTES:**

1. BASE MAP ADAPTED FROM AN AUTOCAD FILE PROVIDED BY DELPHI HARRISON THERMAL SYSTEMS.
2. WATER LEVEL READINGS HAVE BEEN MADE IN WELLS AT TIMES AND UNDER CONDITIONS PRESENTED IN THE REPORT. FLUCTUATIONS IN GROUNDWATER ELEVATIONS MAY OCCUR DUE TO VARIATIONS IN RAINFALL, BAROMETRIC PRESSURE, AND OTHER FACTORS.



## **TABLE**

Table 1 Summary of Groundwater Field Measurements and Analytical Test Results for Natural Attenuation Parameters May 2013 Groundwater Sampling Delphi Thermal Systems West Lockport Complex Lockport, New York																																		
Field Parameters							Analytical Test Results - Inorganic and Miscellaneous Water Quality Parameters																											
Location	Sample Date	Temp. (Deg. C)	Specific Cond. (mS/cm)	DO (mg/L)	ORP (mv)	pH (Std Units)	Methane (mg/L)	Ethane (mg/L)	Ethene (mg/L)	Carbon Dioxide (mg/L)	Hydrogen (nm)	Organic Carbon (mg/L)	Alkalinity (mg/L)	Ammonia (mg/L)	Chloride (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Nitrate Nitrite (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	Calcium (mg/L)	Dissolved Calcium (mg/L)	Iron (mg/L)	Dissolved Iron (mg/L)	Magnesium (mg/L)	Dissolved Magnesium (mg/L)	Manganese (mg/L)	Dissolved Manganese (mg/L)	Sodium (mg/L)	Dissolved Sodium (mg/L)	Potassium (mg/L)	Dissolved Potassium (mg/L)	Volatile Fatty Acids (mg/L)	
MW-4	12/2/1998	14.2	2.730	0.23	-56	6.6	2.9					19	354	1.23	986	0.30	<0.05		120	0.2	503	443	0.58	0.51	105	106	0.40	0.32	282	293	13.3	12.8		
MW-4 DUP	12/2/1998	NA	NA	NA	NA	NA	5.5					8	368	1.57	971	0.05	<0.05		120	0.2	431	335	0.59	0.52	107	100	0.39	0.34	282	306	13.2	13.5		
MW-4	10/7/1999	13.8	3.412	0.08	-92.8	6.7	4.2					47	360	1.03	1,010			0.08	110	0.3	269	318	0.42	0.45	98	116	0.23	0.34	240	305	10.4	13.1		
MW-4	8/9/2001	12.6	3.420	0.12	-5.1	6.5	0.12					20.2	366	1.20	1,300	0.11	<0.05		190	0.2	371		1.01		107		0.54		384		12.7			
MW-4	10/31/2001	13.8	3.444	0.10	-128.0	6.6	3.3					10.8	366	1.17	1,100	<0.05	<0.05		160	1.2			0.77		102		0.46		358		12.3			
MW-4	7/20/2009	17.7	1.263	0.28	35.1	6.41	5.28					13	330	3.83	5,320	<0.6	<0.6		295	2.0				3.21		193		2.64		2,100		50.5		
MW-4	4/29/2010	15.0	9.664	0.96	-2.1	6.5	1.8					4.3	333	NA	3,510	<0.05	<0.05		272	<1.0				3.15		152		1.86		1,700		26.1		
MW-4 DUP	4/22/2011	11.85	7.391	0.73	-349.0	6.77	2					0.6	343	1.9	3,260	<0.05	<0.05		370	<0.1	493		3.1		139		1.6		1420		17.8			
MW-4	4/20/2012 <sup>9</sup>	14.5	10.130	6.00	40.5	6.09	3.8	0.65	2.3	9.5	28	3.1	320	2.6	3,580	<0.05	<0.05		282	<0.1			2.7		138		1.5		1400		15.6		ND	
MW-4	5/1/2013	14.5	13.320	0.18	-34.2	6.62	<0.22	<0.0049	<0.0052	23	0.63	2.8	329	3.4	4,300	<0.02	<0.02		268	<0.052			3.9		163		2.0		2080		20.2		ND	
MW-6	12/2/1998	19.5	3740.000	0.30	-67	6.8	0.84					9	319	0.45	897	0.22	<0.05		160	0.2	161	156	7.98	1.13	35.6	28.8	0.48	0.29	619	638	9.64	9.51		
MW-6	10/7/1999	21.9	3283.000	0.12	-145.8	7.1	0.34					30	260	0.32	476			0.09	140	0.4	86.4	108	3.62	0.55	24	30.2	0.24	0.19	300	311	7.4	8.8		
MW-7	12/3/1998	17.3	3.130	0.33	-35	7.0	0.06					36	376	1.43	944	0.29	<0.05		200	0.4	382	375	0.14	0.02	118	136	<0.01	<0.01	288	351	20.5	23.0		
MW-7 <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-7	4/20/2012	15.4	1.830	0	-34	7.49	0.046	0.017	0.098	1.6		8.7	240	0.77	416	<0.05	<0.05		332	<0.1			0.06		67.1		0.024		193		13.2		Note 8.	
MW-7	5/3/2013	13.2	2.530	2.05	-55.6	7.3	0.12	0.032	0.25	4.4		7.6	242	0.75	569	<0.02	<0.02		253	<0.052			0.02		76		0.190		254		14.3		Note 8.	
MW-8	12/2/1998	16.7	3.210	0.90	-68	6.9	0.09					12	300	0.40	138	<0.05	<0.05		550	0.2	215	227	0.33	0.17	76	78	0.31	0.32	102	114	6.31	6.67		
MW-8	10/7/1999	19.7	1.640	0.08	-116.1	7.1	0.04					19	280	0.33	144			0.10	570	0.3	174	188	0.22	0.15	82.4	97.5	0.30	0.31	112	110	7.6	8.1		
MW-8	7/15/2009	16.3	2.408	0.20	-48.6	6.9	2.0					22	300	0.76	457	<0.6	<0.6		588	2				0.03		102		0.40		246		15.7		
MW-8	4/22/2011	9.39	2.327	4.56	-334	7.26	0.018					<1	244	0.30	683	<0.05	<0.05		562	<0.1	220		0.12		102		0.53		355		7.9			
MW-9	12/2/1998	16.2	7.150	1.6	120	6.9	0.04					3	309	0.23	640	0.25	<0.05		680	<0.1	330	300	0.33	<0.01	89	84.5	1.74	0.93	444	445	5.52	5.91		
MW-9	10/5/1999	18.7	4.042	0.08	103.5	6.9	0.02					24	330	0.20	963	0.46	<0.05		520	<0.1	250	283	0.20	0.02	63.8	89	1.36	0.99	476	535	4.6	26.5		
MW-9 DUP	10/5/1999	NA	NA	NA	NA	NA	0.02					27	340	0.14	833	0.63	<0.05		490	<0.1	252	284	0.20	0.02	72	86	1.46	0.94	478	560	5.0	5.6		
MW-9	7/20/2009	17.8	8.381	0.41	109.1	6.7	0.03					17	290	0.26	3,100	<0.6	0.9		379	1.2				<0.01		117		0.31		1,600		19.0		
MW-9	4/22/2011	9.49	7.263	0.24	-345	7.08	0.0069					<1	233	0.11	3,410	0.39	<0.05		362	<0.1	392		0.03		94.9		0.11		1,710		6.9			
MW-10	12/1/1998	14.5	4.100	0.40	-13.7	6.7	0.23					11	320	0.32	1,220	0.19	<0.05		270	0.2	310	305	1.95	0.76	54.6	85.5	2.30	2.07	584	645	13.4	13.2		
MW-10	10																																	

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

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

Notes:

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



## **APPENDIX A**

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

# SAMPLE COLLECTION DATA SHEET - GROUNDWATER SAMPLING PROGRAM

PROJECT NAME Delphi Harrison Thermal Systems Site PROJECT NO. 56546  
 SAMPLING CREW MEMBERS T. Bohlen SUPERVISOR C. Baron  
 DATE OF SAMPLE COLLECTION 5/1/2013 - 5/3/2013

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

Sample I.D. Number	Well No.	Measuring Point Elev. (ft. AMSL)	Bottom Depth (ft. btoc)	Water Depth (ft. btoc)	Water Elevation (ft. AMSL)	Well Volume (gallons)	Bailer Volume No. Bails	Volume Purged (gallons)	Field pH	Field Temp.	Field Cond.	Time	Sample Description & Analysis
MW-10-050113	MW-10	594.04	16.83	14.78	579.26	8.91 1.45	/	3.0	7.05	11.9	4.82	1025	VOC MNA H <sub>2</sub>
MW-4-050113	MW-4	613.07	34.88	8.51	604.56	4.3	/	6.0	6.62	14.5	13.32	1415	VOC MNA H <sub>2</sub>
MW-15-050113	MW-15	594.04	17.90	7.91	586.13	1.5	/	2.5	6.97	11.3	2.85	1558	VOC MNA, H <sub>2</sub>
G-1-050213	G-1	595.10	17.93	12.82	582.28	0.83	/	2.0	6.88	10.2	11.93	840	VOC MNA
MW-11-050213	MW-11	590.10	24.10	5.58	584.52	3.2	/	5.0	6.98	9.7	1.67	1120	VOC MNA H <sub>2</sub>
MW-13-050213	MW-13	589.02	15.00	4.65	584.37	1.53	/	5.0	7.25	10.5	5.41	1340	VOC MNA, H <sub>2</sub>
MW-12-050313	MW-12	590.71	15.10	5.98	584.73	1.70	/	3.0	6.82	9.0	7.30	858	VOC MNA, H <sub>2</sub>
MW-14-050313	MW-14	592.77	19.10	5.80	586.97	2.5	/	4.0	7.33	10.1	4.67	1158	VOC MNA, H <sub>2</sub>

Additional Comments:

Copies to:

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

# SAMPLE COLLECTION DATA SHEET - GROUNDWATER SAMPLING PROGRAM

PROJECT NAME Delphi Harrison Thermal Systems Site PROJECT NO. 56546  
 SAMPLING CREW MEMBERS T. Bohlen SUPERVISOR C. Boron  
 DATE OF SAMPLE COLLECTION 5/1/2013 - 5/3/2013

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

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

Additional Comments:

Copies to:

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



# MONITORING WELL RECORD FOR LOW-FLOW PURGING

## Project Data:

Project Name: Delphi Harrison  
Ref. No.: 56546

Date: 5/11/13  
Personnel: T. Bohlen

## Monitoring Well Data:

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

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

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <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>
1150	110	8.79		6.98	14.7	12.33	85.1	7.49	6.24	0	0
1155		8.98		6.95	14.0	12.40	70.1	7.01	6.00	0.95	0
1200		9.23		6.91	13.9	12.44	63.5	6.44	5.91	0.40	0
1205		9.47		6.75	13.6	12.84	53.9	3.94	5.00	0.50	0
1210		9.64		6.67	13.6	13.13	47.3	2.54	20.7	0.70	0
1215		9.81		6.65	14.0	13.21	43.3	1.62	21.3	0.90	0
1220		9.88		6.67	13.9	13.23	42.5	1.49	22.9	1.0	0
1225		10.00		6.64	14.0	13.23	40.7	1.30	24.4	1.1	0
1230		10.11		6.62	14.0	13.28	39.5	1.16	23.1	1.2	0
1235		10.26		6.62	13.9	13.30	39.6	1.10	22.2	1.3	0
1300		10.51		6.62	13.9	13.35	-2.9	0.54	14.6	2.1	0
1320		10.65		6.64	14.3	13.33	-4.1	0.44	10.3	3.0	0
1335		10.99		6.63	14.6	13.33	-10.9	0.36	10.1	3.4	0

## Notes:

- (1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.
- (2) The well screen volume will be based on a 5-foot screen length.  $V_s = \pi \cdot (D/2)^2 \cdot (5 \cdot 12) \cdot (2.54)^3$
- (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<sub>p</sub>/V<sub>s</sub>.

DVM = 285 ppm peak @ TDR

+ - slowest Geo Pump setting  
\* - calculated w/ 1L bottle & stopwatch

9.08

Project Data:

Project Name:

Rel. No.:

Delphi  
36546

Date:

Personnel:

511/13  
T. Bohler

## Well No.:

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):

### 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.  $V_{\text{screen}} = (D/2)^2 \pi (5 \times 12) \times (2.54)^3$
- (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: Delphi Harrison  
Ref. No.: 56546

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

Monitoring Well Data:

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

Screen Length (ft): 17.5 - 32.5 = 15'  
Depth to Pump Intake (ft)<sup>(1)</sup>: 20'  
Well Diameter, D (in): 2"  
Well Screen Volume, V<sub>s</sub> (mL)<sup>(2)</sup>: \_\_\_\_\_  
Initial Depth to Water (ft): 8.13

Time	Pumping Rate (gfl/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>
928		8.42		6.77	13.6	13.75	25.0	1.70	7.57	0	0
943		8.69		6.70	13.4	13.80	18.5	0.90	7.53	0.1	0
948		8.88		6.68	13.3	13.80	16.6	0.48	7.53	0.2	0
953		9.05		6.69	13.3	13.79	16.1	0.36	7.51	0.4	0
958		9.17		6.76	13.3	13.79	16.7	0.30	7.52	0.5	0
1003		9.30		6.80	13.4	13.78	16.0	0.24	7.41	0.6	0
1008		9.39		6.80	13.4	13.76	16.0	0.23	7.45	0.7	0

Notes:

- 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.
- The well screen volume will be based on a 3-foot screen length.  $V_s = \pi (D/2)^2 (5 \times 12) (2.54)^3$
- The drawdown from the initial water level should not exceed 0.3 ft.
- 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 =  $V_p/V_s$ .

OVM TOR = 25 ppm peak

- collected H<sub>2</sub>O quality readings for 1/2 hr. during H<sub>2</sub> equilibration



# WELL PURGING FIELD INFORMATION FORM

SITE/PROJECT NAME: Delphi Harrison

JOB# 56546

WELL# MW-4

## WELL PURGING INFORMATION

050113

PURGE DATE  
(MM/DD/YY)

050113

SAMPLE DATE  
(MM/DD/YY)

4.3

WATER VOL. IN/ASNG  
(LITERS/GALLONS)

6.0

W/BLVD. VOLUME PURGED  
(LITERS/GALLONS)

## PURGING AND SAMPLING EQUIPMENT

PURGING EQUIPMENT DEDICATED ☒ YES  
(CIRCLE ONE)

SAMPLING EQUIPMENT DEDICATED ☒ YES  
(CIRCLE ONE)

PURGING DEVICE ☒ A - SUBMERGIBLE PUMP ☐ B - GAS LIFT PUMP ☐ C - FAIRBANKS

SAMPLING DEVICE ☒ D - PERISTALTIC TUBING ☐ E - PERMANENT PUMP ☐ F - WALKER

PURGING DEVICE ☒ G - THERMOS ☐ H - PUMP ☐ I - OTHER

SAMPLING DEVICE ☒ J - PERMANENT PUMP ☐ K - OTHER

PURGING DEVICE ☒ L - THERMOS ☐ M - PUMP ☐ N - OTHER

SAMPLING DEVICE ☒ O - PERMANENT PUMP ☐ P - OTHER

FILTERING DEVICE USED ☐ A - FINE SCREEN ☐ B - PAPER ☐ C - VACUUM

## FIELD MEASUREMENTS

WELL ELEVATION 6113.07 (m) GROUNDWATER ELEVATION 604.56 (m)

DEPTH TO WATER 8.51 (m) WELL DEPTH 34.88 (m)

pH 7.0 TURBIDITY 0.0 CONDUCTIVITY 100 ORP 100 DO 100 SAMPLE TEMPERATURE 100

## FIELD COMMENTS

SAMPLE APPROPRIATE Good ☒ YES None ☐ NO Clear ☒ YES Clear ☐ NO

WEATHER CONDITIONS None ☒ YES None ☐ NO

SPECIFIC COMMENTS

DATE 5/11/13 SIGNATURE Thomas Bohlen SIGNATURE Thomas Bohlen

FOR MORE INFORMATION, PLEASE CONTACT THE REGIONAL REGIONAL OFFICE AT THE PROJECT LOCATION.

# MONITORING WELL RECORD FOR LOW-FLOW PURGING

## Project Data:

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

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

## Monitoring Well Data:

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

Screen Length (ft): 12.2 - 27.2 = 15'  
Depth to Pump Intake (ft)<sup>(1)</sup>: 22'  
Well Diameter, D (in): 2"  
Well Screen Volume, V<sub>s</sub> (mL)<sup>(2)</sup>: 1 well vol. = 3.6 gal.  
Initial Depth to Water (ft): 7.02

Time	Pumping Rate (ml/min)	Depth to Water (ft)	Drawdown from Initial Water Level <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>
1552		7.27		7.53	13.9	2.65	62.5	3.37	5.32	0	0
1557		8.02		7.34	13.5	2.58	46.1	1.85	5.21	0.2	0
1602		8.75		7.31	12.8	2.57	34.6	1.60	3.41	0.4	0
1607		10.41		7.31	12.8	2.56	22.2	0.76	2.14	0.9	0
1612		11.84		7.30	12.4	2.56	-0.7	0.66	2.02	1.2	0
1617		15.01		7.29	12.2	2.53	-33.0	0.90	2.62	2.0	0
1622		15.35		7.29	12.1	2.53	-51.4	1.26	2.51	2.5	0
1627		18.64		7.28	12.3	2.56	-58.8	1.82	2.45	3.1	0
1632		19.74		7.29	12.7	2.53	-65.0	1.79	2.41	3.8	1
1637		22.15		7.30	13.2	2.53	-55.6	2.05	2.15	4.2	1
1638		*DRY*									
5/3/13 1406		7.15	sampled recharged well								

## 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 =  $V_p / V_s$ .

DVM = 65 ppm. peak @ TOR

JOB# 56546 .

SITE/PROJECT NAME: Delhi / GMCH

WELL# MW-7

## WELL PURGING INFORMATION

050213

THE UNIVERSITY OF CHICAGO

050313

3 SAMPLES/VALVE  
PUMP OUT 30 S

3.6

INTERPOLING  
CONTINUOUSLY

4.2

ALL INFORMATION CONTAINED  
HEREIN IS UNCLASSIFIED

## PURGING AND SAMPLING EQUIPMENT

PLUGGING EQUIPMENT	DELETED <input checked="" type="checkbox"/>	SAMPLING EQUIPMENT	DELETED <input checked="" type="checkbox"/>
R. J. CLEONE		R. J. CLEONE	

PURCHING PRICE	B	A 3400-SHIRT FRONT	Q 1450-GRAND	C 1400-GRAND	8-
		B 1400-GRAND	E 1400-GRAND	D 1400-GRAND	9- 1400-GRAND

[illegible][illegible]

SAMPLING DEVICE: E Cumulative

PURCHASING DEVICE	<u>E</u>	1-800-451-7000	1-800-451-7000	1-800-451-7000
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SAMPLING DEVICE:  FLOW: \_\_\_\_\_ NO.: \_\_\_\_\_

DATE OF COLLECTION: \_\_\_\_\_ COORDINATOR: \_\_\_\_\_ FIELD COLLECTOR(S): \_\_\_\_\_

TECHNICAL APPROVAL: \_\_\_\_\_ N-: \_\_\_\_\_

SPECTRA		SAMPLING ERROR (SPRINT)	
FILTERING DEVICES 0-15	1. INITIAL GOOD SAMPLE	REPLACEMENT	CHECK QUAL

## FIELD MEASUREMENTS

WELL ELEVATION: 613.86 (m, ft) GROUNDWATER ELEVATION: 606.84 (m, ft)

TURBIDITY [ ] [ ] [ ] [ ] [ ] [ ]

PARTICLES [ ] [ ] [ ] [ ] [ ] [ ]

CONDUCIVITY [ ] [ ] [ ] [ ] [ ] [ ]

ORP [ ] [ ] [ ] [ ] [ ] [ ]

D.O. [ ] [ ] [ ] [ ] [ ] [ ]

SAMPLE TEMPERATURE [ ] [ ] [ ] [ ] [ ] [ ]

pn	pn+1	pn+2	pn+3	pn+4	pn+5	pn+6

### FIELD COMMENTS

SAMPLE FACTS: Good/Slight Slight Clear Clear

STANDARD COMMENTS: 0-3 (Age) 3w (Weight) 0 (Height) Summary (Notes)

SPECIFIC COMMENTS: \_\_\_\_\_

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DATE	TIME	DESCRIPTION
10/10/19	10:00	10.000000
10/10/19	10:05	10.000000
10/10/19	10:10	10.000000
10/10/19	10:15	10.000000
10/10/19	10:20	10.000000
10/10/19	10:25	10.000000
10/10/19	10:30	10.000000
10/10/19	10:35	10.000000
10/10/19	10:40	10.000000
10/10/19	10:45	10.000000
10/10/19	10:50	10.000000
10/10/19	10:55	10.000000
10/10/19	11:00	10.000000
10/10/19	11:05	10.000000
10/10/19	11:10	10.000000
10/10/19	11:15	10.000000
10/10/19	11:20	10.000000
10/10/19	11:25	10.000000
10/10/19	11:30	10.000000
10/10/19	11:35	10.000000
10/10/19	11:40	10.000000
10/10/19	11:45	10.000000
10/10/19	11:50	10.000000
10/10/19	11:55	10.000000
10/10/19	12:00	10.000000
10/10/19	12:05	10.000000
10/10/19	12:10	10.000000
10/10/19	12:15	10.000000
10/10/19	12:20	10.000000
10/10/19	12:25	10.000000
10/10/19	12:30	10.000000
10/10/19	12:35	10.000000
10/10/19	12:40	10.000000
10/10/19	12:45	10.000000
10/10/19	12:50	10.000000
10/10/19	12:55	10.000000
10/10/19	13:00	10.000000
10/10/19	13:05	10.000000
10/10/19	13:10	10.000000
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10/10/19	13:20	10.000000
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10/10/19	14:20	10.000000
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10/10/19	14:35	10.000000
10/10/19	14:40	10.000000
10/10/19	14:45	10.000000
10/10/19	14:50	10.000000
10/10/19	14:55	10.000000
10/10/19	15:00	10.000000
10/10/19	15:05	10.000000
10/10/19	15:10	10.000000
10/10/19	15:15	10.000000
10/10/19	15:20	10.000000
10/10/19	15:25	10.000000
10/10/19	15:30	10.000000
10/10/19	15:35	10.000000
10/10/19	15:40	10.000000
10/10/19	15:45	10.000000
10/10/19	15:50	10.000000
10/10/19	15:55	10.000000
10/10/19	16:00	10.000000
10/10/19	16:05	10.000000
10/10/19	16:10	10.000000
10/10/19	16:15	10.000000
10/10/19	16:20	10.000000
10/10/19	16:25	10.000000
10/10/19	16:30	10.000000
10/10/19	16:35	10.000000
10/10/19	16:40	10.000000
10/10/19	16:45	10.000000
10/10/19	16:50	10.000000
10/10/19	16:55	10.000000
10/10/19	17:00	10.000000
10/10/19	17:05	10.000000
10/10		

ALL MATERIALS MUST BE A: COMPANY PROPERTY REQUEST FORM ATTACHED TO THE PROJECT SUMMARY



# MONITORING WELL RECORD FOR LOW-FLOW PURGING

## Project Data:

Project Name: Delphi  
Ref. No.: 56546

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

## Monitoring Well Data:

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

Screen Length (ft): 12.5-21.3 = 8.8'  
Depth to Pump Intake (ft)<sup>(1)</sup>: 19'  
Well Diameter, D (in): 2  
Well Screen Volume, V<sub>s</sub> (mL)<sup>(2)</sup>: \_\_\_\_\_  
Initial Depth to Water (ft): 14.22

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	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>
842		14.58		7.06	11.7	5.47	144.7	3.19	3.44	0	0
849		14.58		7.03	11.9	5.76	127.3	1.02	3.21	0.2	0
854		14.58		7.03	11.9	5.95	118.2	0.91	2.90	1.4	0
859		14.58		7.04	11.9	6.05	112.5	0.87	2.85	0.6	0
904		14.58		7.05	12.1	6.07	108.5	0.82	2.73	0.8	0
909		14.58		7.06	12.1	6.10	106.3	0.79	2.71	1.0	0
912		14.58		7.06	12.1	6.10	105.0	0.82	2.70	1.2	0

## Notes:

- (1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.
- (2) The well screen volume will be based on a 5-foot screen length.  $V_s = \pi^2 (D/2)^2 (5 \times 12) (2.54)^3$
- (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 =  $V_p/V_s$ .

- re sampling of H<sub>2</sub> - collected H<sub>2</sub>O quality readings for 16 hour equilibration time.

# MONITORING WELL RECORD FOR LOW-FLOW PURGING

## Project Data:

Project Name: EMCH / Delphi  
 Ref. No.: 21.0456546.00 TASK J4

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

## Monitoring Well Data:

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

Screen Length (ft): 12.5 - 21.3 = 8.8'  
 Depth to Pump Intake (ft)<sup>(1)</sup>: 19'  
 Well Diameter, D (in): 2  
 Well Screen Volume, V<sub>s</sub> (mL)<sup>(2)</sup>: 1.45 gal  
 Initial Depth to Water (ft): 14.78 (TOR)

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(4)</sup> (ft)	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>
945	157	15.32	0.54	7.02	11.8	4.31	168.3	1.97	12.0	0	0
950				7.02	11.8	4.32	157.7	1.56	10.2	0.25	0
955				7.01	11.7	4.33	154.3	1.58	10.87	0.5	0
1000				7.01	11.7	4.40	148.7	1.85	10.50	0.75	0
1005				7.03	11.8	4.58	143.0	2.46	9.1	1	0
1010				7.04	11.9	4.70	137.9	1.51	5.12	1.2	0
1015				7.05	11.8	4.79	133.1	0.79	5.05	1.4	0
1020				7.05	11.9	4.85	133.2	0.79	5.01	1.6	1
1025				7.05	11.9	4.82	131.2	0.75	5.01	1.8	1

## Notes:

- (1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.
- (2) The well screen volume will be based on a 5-foot screen length.  $V_s = \pi (D/2)^2 (5 \times 12) (2.54)$
- (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 =  $V_p/V_s$ .

\* measured w/ 1 L bottle & stop watch

DVM = 0.0 ppm TOR

6.38 min

# WELL PURGING FIELD INFORMATION FORM

SITE/PROJECT NAME: AWCH/Delphi

JOB# 56546

WELL# MW-10

050113

PURGE DATE  
(MM/DD/YY)

050113

SAMPLE DATE  
(MM/DD/YY)

115

WATER VOL IN CASE  
(LITERS/GALLONS)

30

ACTUAL VOL. USED PURGED  
(LITERS/GALLONS)

## PURGING AND SAMPLING EQUIPMENT

PURGING EQUIPMENT

DEDICATED BY (C)  
(CIRCLE ONE)

SAMPLING EQUIPMENT

DEDICATED BY (C)  
(CIRCLE ONE)

PURGING DEVICE

(B)

A - JUMPER-SHIFT PUMP

D - GAS-LIFT PUMP

G - PAILER

X -

B - PRESSURIZED PUMP

E - FLUGGE PUMP

H - WATERBATH

USE PURGING OTHER (SPECIFY)

SAMPLING DEVICE

(B)

C - ALUMINUM PUMP

F - DETER SOTTLE

X -

SAMPLING OTHER (SPECIFY)

PURGING DEVICE

(E)

A - TUBESON

D - PVC

X -

PURGING OTHER (SPECIFY)

SAMPLING DEVICE

(E)

C - PRESSURIZED PUMP

F - POLYETHYLENE

X -

SAMPLING OTHER (SPECIFY)

PURGING DEVICE

(E)

A - TUBESON

D - PVC

X -

PURGING OTHER (SPECIFY)

SAMPLING DEVICE

(E)

C - PRESSURIZED PUMP

F - POLYETHYLENE

X -

SAMPLING OTHER (SPECIFY)

FILTERING DEVICES USED

(C)

A - PLASTIC FLOWMETER

B - PRESSURE

C - VACUUM

## FIELD MEASUREMENTS

WELL ELEVATION

1604.70

(m/ft)

GROUNDWATER ELEVATION

590.22

(m/ft)

DEPTH TO WATER

1014.48

(m/ft)

WELL DEPTH

236.9

(m/ft)

pH

TURBIDITY

CONDUCTIVITY

ORP

DO

SAMPLE TEMPERATURE

7.0

0.0

472.0

0.0

0.0

15.0

7.0

0.0

472.0

0.0

0.0

15.0

7.0

0.0

472.0

0.0

0.0

15.0

7.0

0.0

472.0

0.0

0.0

15.0

7.0

0.0

472.0

0.0

0.0

15.0

7.0

0.0

472.0

0.0

0.0

15.0

## FIELD COMMENTS

SAMPLE COMMENTS

Good

none

Clear

Clear

WEATHER CONDITIONS

D-S

SW

Sunny ~6.5

REMARKS

DATE

5/1/13

SIGNATURE

Thomas Bohlen

Thomas Bohlen

FOR MORE INFORMATION, PLEASE CONTACT THE REGIONAL OFFICE OF THE U.S. ENVIRONMENTAL PROTECTION AGENCY.



# MONITORING WELL RECORD FOR LOW-FLOW PURGING

## Project Data:

Project Name: Delphi Harrison  
Ref. No.: 56546

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

## Monitoring Well Data:

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

Screen Length (ft): 9-21.4 (15.1)  
Depth to Pump Intake (ft)<sup>(1)</sup>: 15'  
Well Diameter, D (in): 2"  
Well Screen Volume, V<sub>s</sub> (mL)<sup>(2)</sup>: \_\_\_\_\_  
Initial Depth to Water (ft): 5.63

Time	Pumping Rate (gal/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(4)</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>
1140		5.97		7.43	11.0	1.81	86.7	0.83	1.19	0	0
1145		6.09		7.38	10.8	1.81	82.8	0.43	1.18	0.2	0
1150		6.20		7.37	10.9	1.79	79.1	0.29	1.18	0.3	0
1155		6.25		7.28	10.8	1.71	37.1	0.24	1.15	0.4	0
1200		6.27		7.73	10.8	1.65	33.0	0.21	1.12	0.6	0
1205		6.32		7.51	10.7	1.65	-67.8	0.22	1.10	0.7	0
1210		6.34		7.50	10.7	1.63	-71.7	0.23	1.10	0.8	0

## Notes:

- 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.
- The well screen volume will be based on a 5-foot screen length.  $V_s = \pi (D/2)^2 (5 \times 12) (2.54)^3$
- The drawdown from the initial water level should not exceed 0.3 ft.
- 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 =  $V_p/V_s$ .

0.0M @ TOR = 0.0ppm

- collected H<sub>2</sub>O quality readings for 1/2 hr. while H<sub>2</sub> equilibrated

# MONITORING WELL RECORD FOR LOW-FLOW PURGING

## Project Data:

Project Name: D-1phi/6MCH  
 Ref. No.: 56546

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

## Monitoring Well Data:

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

Screen Length (ft): 9-21.4 (15.1')  
 Depth to Pump Intake (ft)<sup>(1)</sup>: 15'  
 Well Diameter, D (in): 5"  
 Well Screen Volume, V<sub>s</sub> (mL)<sup>(2)</sup>: 1 well vol. = 3.2 gal.  
 Initial Depth to Water (ft): 5.58'

Time	Pumping Rate (gpm/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	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>
948	120	5.91		7.60	10.7	1.76	112.4	4.25	2.23	0	0
953		6.06		7.48	10.5	1.67	105.5	3.65	2.12	0.1	0
958		6.11		7.48	10.3	1.65	99.7	2.48	2.10	0.2	0
1003		6.17		7.48	10.3	1.62	95.7	2.34	2.11	0.3	0
1013		6.28		7.45	10.1	1.62	3.6	1.72	2.01	1	0
1045		6.56		7.42	9.9	1.69	-79.4	0.95	2.00	1.9	0
1100		6.69		7.39	9.8	1.69	-94.5	0.81	1.53	2.3	0
1110		6.98		7.41	9.7	1.67	-101.1	0.73	1.29	3.0	0
1115		6.98		7.41	9.7	1.67	-102.2	0.71	1.25	3.2	1
1120		6.98		7.41	9.7	1.67	-101.9	0.71	1.21	3.4	1

## Notes:

- (1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.
- (2) The well screen volume will be based on a 5-foot screen length.  $V_s = \pi (D/2)^2 (5'12") (2.54)$
- (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 =  $V_p/V_s$ .

\* calculated using 1L bottle & stopwatch

8/11 TDR = 0.0 ppm

# WELL PURGING FIELD INFORMATION FORM

SITE/PROJECT NAME: Delphi/GMC H

JOB# 56546

WELL # MW-11

050213

PURGE DATE  
(MM/DD/YY)

050213

SAMPLE DATE  
(MM/DD/YY)

3.2

WATER VOL. EXTRACTED  
(GALLONS)

50

WELL VOL. (GALLONS)  
(ESTIMATED)

## PURGING AND SAMPLING EQUIPMENT

PURGING EQUIPMENT

DECONTAMINATED ☒ YES  
(CIRCLE ONE)

SAMPLING EQUIPMENT

DECONTAMINATED ☒ YES  
(CIRCLE ONE)

PURGING DEVICE

B

1. SHALLOW PUMP

2. LIFT OFF PUMP

3. PUMP

X=

4. PERMEABLE PUMP

5. PERMEABLE PUMP

6. HYDRAULIC

7. OTHER (SPECIFY)

SAMPLING DEVICE

B

1. PERMEABLE PUMP

2. OTHER BOTTLE

X=

3. OTHER (SPECIFY)

PURGING DEVICE

E

1. SHALLOW PUMP

2. LIFT OFF PUMP

3. PUMP

X=

4. PERMEABLE PUMP

5. PERMEABLE PUMP

6. HYDRAULIC

7. OTHER (SPECIFY)

SAMPLING DEVICE

E

1. PERMEABLE PUMP

2. OTHER BOTTLE

X=

3. OTHER (SPECIFY)

PURGING DEVICE

E

1. SHALLOW PUMP

2. LIFT OFF PUMP

3. PUMP

X=

4. PERMEABLE PUMP

5. PERMEABLE PUMP

6. HYDRAULIC

7. OTHER (SPECIFY)

SAMPLING DEVICE

E

1. PERMEABLE PUMP

2. OTHER BOTTLE

X=

3. OTHER (SPECIFY)

FILTERING DEVICES ONLY

☐

1. IN LINE FILTER

2. PUMP

3. VACUUM

## FIELD MEASUREMENTS

WELL ELEVATION

590.10

(ft)

GROUNDWATER ELEVATION

584.52

(ft)

DEPTH TO WATER

5.56

(ft)

WELL DEPTH

24.10

(ft)

pH

7.0

TURBIDITY

0.0

CONDUCTIVITY

1000

ORP

0.0

DO

0.0

SAMPLE TEMPERATURE

SAMPLE APP. SP. #

Good

1. pH

none

2. ORP

Clear

3. DO

Clear

WEATHER CONDITIONS

0-5

4. WIND

SW

5. MOISTURE

~80°F, Sunny

SPECIFIC COMMENTS

SD/13

Thomas Bohlen

Thomas Bohlen

THIS FORM MUST BE ACCOMPANIED BY A DECONTAMINATION REQUEST FORM ATTACHED TO THE PROJECT MATERIALS.



# MONITORING WELL RECORD FOR LOW-FLOW PURGING

## Project Data:

Project Name: Delphi Harrison  
Ref. No.: 56546

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

## Monitoring Well Data:

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

Screen Length (ft): 8-15.1 = 7.1'  
Depth to Pump Intake (ft)<sup>(1)</sup>: 14  
Well Diameter, D (in): 2  
Well Screen Volume, V<sub>s</sub> (mL)<sup>(2)</sup>: 1 well vol. = 1.7 gallons  
Initial Depth to Water (ft): 5.98

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <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>
808	123	6.14		6.88	9.5	7.26	13.9	3.77	12.00	0	0
813		6.22		6.81	9.3	7.20	0.8	2.26	12.10	0.2	0
818		6.22		6.81	9.4	7.21	-13.4	1.68	10.10	0.5	0
823		6.22		6.81	9.2	7.21	-24.6	1.52	18.2	0.7	0
828		6.22		6.82	9.3	7.24	-30.3	0.85	18.1	0.9	0
833		6.22		6.82	9.1	7.27	-37.0	0.82	13.9	1.1	0
838		6.22		6.82	9.1	7.27	-41.8	0.65	13.5	1.2	0
843		6.22		6.82	9.2	7.27	-43.8	0.50	12.1	1.4	0
848		6.22		6.82	9.0	7.30	-47.4	0.34	4.81	1.6	0
853		6.22		6.82	9.0	7.29	-48.1	0.30	4.83	1.7	1
858		6.22		6.82	9.0	7.30	-48.3	0.31	4.81	1.9	1

## Notes:

- (1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.
- (2) The well screen volume will be based on a 5-foot screen length.  $V_s = \pi (D/2)^2 (5'12") (2.54)$
- (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 =  $V_p/V_s$ .

\* Calculated using 1L bottle & stop watch

ovm = 0.8ppm @ TOR

# WELL PURGING FIELD INFORMATION FORM

SITE/PROJECT NAME: Delphi Harrison

JOB# 56546

WELL# MW-12

WELL PURGING INFORMATION  
 PURGE DATE (MM/DD/YY) 050313 SAMPLE DATE (MM/DD/YY) 050313 WATER VOL. IN CASING (GALLONS) 117 ACTUAL VOLUME PURGED (GALLONS) 310

PURGING AND SAMPLING EQUIPMENT  
 PURGING EQUIPMENT DELETED 0 (CIRCLE ONE) SAMPLING EQUIPMENT DELETED 0 (CIRCLE ONE)

PURGING DEVICE B A-HEMP-NEE PUMP B-44-UP PUMP C-FAIRBANKS  
 SAMPLING DEVICE B D-2500-1000 E-FLUOR PUMP F-WATERBURY  
 PURGING DEVICE E G-TREX H-2500-1000 I-FLUOR PUMP  
 SAMPLING DEVICE B J-2500-1000 K-FLUOR PUMP  
 PURGING DEVICE E L-TREX M-2500-1000 N-FLUOR PUMP  
 SAMPLING DEVICE E O-TREX P-2500-1000 Q-FLUOR PUMP  
 PURGING DEVICE E R-TREX S-2500-1000 T-FLUOR PUMP  
 SAMPLING DEVICE E U-TREX V-2500-1000 W-FLUOR PUMP

FILTERING DEVICES: 0 A-INLINE DOWNSIDE B-STRAINER C-VACUUM

FIELD MEASUREMENTS  
 WELL ELEVATION 590.71 (ft.) GROUNDWATER ELEVATION 584.73 (ft.)  
 DEPTH TO WATER 5.98 (ft.) WELL DEPTH 151 (ft.)  
 pH 7.0 TURBIDITY 0.0 CONDUCTIVITY 1000 ORP 100 DO 100 SAMPLE TEMPERATURE 65

FIELD COMMENTS  
 SAMPLES: Good (1-5) none (6-10) Clear (11-15) Clear w/ brown phos (16-20)  
 WELL CONDITION: 5-10 (1-5) SW (6-10) 0 (11-15) Sunny ~ 65°F (16-20)  
 SPECIFIC COMMENTS: \_\_\_\_\_

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

FORM MODIFICATIONS MUST BE ACCOMPANIED BY A REVISION REQUEST FORM ATTACHED TO THE PROJECT MANUAL

# MONITORING WELL RECORD FOR LOW-FLOW PURGING

## Project Data:

Project Name: DePhi/GMCH  
 Rel. No.: 56546

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

## Monitoring Well Data:

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

Screen Length (ft): 8-15 = 7'  
 Depth to Pump Intake (ft)<sup>(1)</sup>: 12'  
 Well Diameter, D (in): 5  
 Well Screen Volume, V<sub>s</sub> (mL)<sup>(2)</sup>: well vol. = 1.53 gal  
 Initial Depth to Water (ft): 4.65

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	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>
1300	148	4.78		7.37	11.4	5.55	72.6	2.41	2.21	0	0
1305				7.29	10.9	5.56	62.0	1.77	2.12	0.1	0
1310				7.28	10.8	5.58	33.1	1.41	2.07	0.2	0
1315				7.29	10.6	5.56	2.4	0.60	1.91	0.3	0
1320				7.28	10.5	5.32	-57.4	1.70	1.90	0.6	0
1325				7.27	10.4	5.38	-64.2	1.47	1.83	0.9	0
1330				7.27	10.5	5.43	-69.5	1.32	1.81	1.2	0
1335				7.27	10.5	5.42	-70.1	1.29	1.60	1.5	1
1340				7.25	10.5	5.41	-71.2	1.27	1.59	1.8	1

## Notes:

- (1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.
- (2) The well screen volume will be based on a 5-foot screen length.  $V_s = \pi \cdot (D/2)^2 \cdot (5 \cdot 12) \cdot (2.54)^3$
- (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<sub>p</sub>/V<sub>s</sub>.

0.0 M = 0.0 ppm

\* - calculated w/ 1L bottle & 50 p watch



# MONITORING WELL RECORD FOR LOW-FLOW PURGING

## Project Data:

Project Name: Delphi Harrison  
Ref. No.: 56546

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

## Monitoring Well Data:

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

Screen Length (ft): 8-15 = 7'  
Depth to Pump Intake (ft)<sup>(1)</sup>: 10'  
Well Diameter, D (in): 2"  
Well Screen Volume, V<sub>s</sub> (mL)<sup>(2)</sup>:             
Initial Depth to Water (ft): 4.66

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>
1236		4.79		7.27	12.0	5.70	58.9	1.20	1.63	0	0
1241		4.79		7.27	11.8	5.71	59.6	0.49	1.61	0.2	0
1246		4.79		7.26	11.8	5.65	44.6	0.32	1.65	0.4	0
1251		4.79		7.33	11.7	5.66	5.7	0.26	1.65	0.6	0
1256		4.79		7.40	11.8	5.61	-24.3	0.29	1.56	0.8	0
1301		4.79		7.41	11.8	5.57	-23.2	0.35	1.41	1.0	0
1306		4.79		7.42	11.8	5.47	-27.8	0.61	1.53	1.2	0

## Notes:

- 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.
- The well screen volume will be based on a 5-foot screen length,  $V_s = \pi \cdot (D/2)^2 \cdot (5'12) \cdot (2.54)^3$
- The drawdown from the initial water level should not exceed 0.3 ft.
- 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: Delphi/GMCH

JOB# 56546

WELL# MW-13

<u>050213</u> PURGE DATE (MM/DD/YY)	<u>050213</u> SAMPLE DATE (MM/DD/YY)	<u>    </u> WATER VOL. DUMPED (GALLONS)	<u>    </u> WATER VOL. SAMPLED (GALLONS)
---	--	---	--

PURGING AND SAMPLING EQUIPMENT			
PURGING EQUIPMENT	DECONTAMINATED <input checked="" type="checkbox"/>	SAMPLING EQUIPMENT	DECONTAMINATED <input checked="" type="checkbox"/>
PURGING DEVICE	<u>B</u> A. JET PUMP B. PERISTALTIC PUMP C. AIR LIFT PUMP D. ELECTRIC PUMP E. OTHER	SAMPLING DEVICE	<u>B</u> A. JET PUMP B. PERISTALTIC PUMP C. AIR LIFT PUMP D. ELECTRIC PUMP E. OTHER
PURGING DEVICE	<u>E</u> A. JET PUMP B. PERISTALTIC PUMP C. AIR LIFT PUMP D. ELECTRIC PUMP E. OTHER	SAMPLING DEVICE	<u>E</u> A. JET PUMP B. PERISTALTIC PUMP C. AIR LIFT PUMP D. ELECTRIC PUMP E. OTHER
PURGING DEVICE	<u>E</u> A. JET PUMP B. PERISTALTIC PUMP C. AIR LIFT PUMP D. ELECTRIC PUMP E. OTHER	SAMPLING DEVICE	<u>E</u> A. JET PUMP B. PERISTALTIC PUMP C. AIR LIFT PUMP D. ELECTRIC PUMP E. OTHER

FIELD MEASUREMENTS					
WELL ELEVATION	<u>589.02</u>	GROUNDWATER ELEVATION	<u>584.37</u>	WELL DEPTH	<u>1500</u>
DEPTH G.W. WATER	<u>465</u>				
pH	<u>    </u>	TURBIDITY	<u>    </u>	CONDUCTIVITY	<u>    </u>
<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>
<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>
<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>
<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>

FIELD COMMENTS			
SAMPLE REPRESENTATIVE	<u>Good</u>	WEATHER CONDITIONS	<u>0-5</u>
WEATHER CONDITIONS	<u>0-5</u>	WIND DIRECTION	<u>SW</u>
SPECIAL COMMENTS	<u>Clear</u>		
<u>Clear</u>			
<u>Summary 80°F</u>			
DATE <u>5/2/13</u> NAME <u>Thomas Bohlen</u> SIGNATURE <u>Thomas Bohlen</u>			

FORM OR RELATIVES MUST BE ACCOMPANIED BY A REGIONAL REQUEST FORM ATTACHED BY THE PROJECT MANAGER

# MONITORING WELL RECORD FOR LOW-FLOW PURGING

## Project Data:

Project Name: Delphi / G.M.H.  
Ref. No.:

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

## Monitoring Well Data:

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

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

Time	Pumping Rate (gal/min)*	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	pH	Temperature °C	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V <sub>p</sub> (gal)	No. of Well Screen Volumes Purged <sup>(4)</sup>
10:23	10.2	6.29		7.45	11.4	4.49	36.8	0.90	3.66	0	0
10:33		7.27		7.31	11.1	4.23	16.3	0.30	3.21	0.2	0
10:43		7.81		7.30	10.8	4.35	29.8	0.24	3.15	0.5	0
10:53		8.16		7.30	10.3	4.53	26.7	0.25	3.01	1.0	0
11:03		8.39		7.31	10.6	4.62	21.9	0.28	2.51	1.2	0
11:13		8.61		7.31	10.1	4.67	15.6	0.22	2.01	1.5	0
11:33		8.85		7.32	10.0	4.67	7.5	0.18	1.92	2.1	0
11:38		8.90		7.33	9.9	4.68	1.4	0.18	1.91	2.2	0
11:43		8.93		7.34	10.2	4.68	-0.8	0.17	1.90	2.3	0
11:48		8.96		7.33	10.1	4.67	-1.7	0.18	1.90	2.4	0
11:53		9.00		7.33	10.1	4.67	-1.9	0.18	1.91	2.5	1
11:58		9.03		7.33	10.1	4.67	-1.8	0.17	1.85	2.6	1

## Notes:

- (1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.
- (2) The well screen volume will be based on a 5-foot screen length,  $V_s = \pi(D/2)^2(5 \times 12)(2.54)^3$
- (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 =  $V_p/V_s$ .

0VM = 0.0 ppm @ TOR

\* Calculated using stopwatch & 1L bottle



JOB# 56546

SITE/PROJECT NAME: Delphi / GMCH

WELL# MW-14

## WELL PURGING INFORMATION

| 0 | 5 | 0 | 3 | 1 | 3 |

050313

2.5

40

PLR 81-146  
5110-31

$$\begin{aligned} \text{NANBP1} &= 17 \times 2 \\ &= 34 \end{aligned}$$
WATER VOL. IN GROUND  
DISTRIBUTION

RECEIVED: 10/1/98

## PURGING AND SAMPLING EQUIPMENT

PULPING EQUIPMENT      PUBLISHED BY      
(CIRCLE ONE)

SAMPLING EQUIPMENT      OPERATED BY      (CONTINUED)

PURCHASER: B SELLER: SPRINT CARRIER: VERIZON A-                      
 DATE: 12/14/10 TIME: 11:00 BY: WALSH C-                    

SAMPLING DEVICE B WATER PUMP PORTABLE MOTOR 8  
SAMPLING DEVICE WATER PUMP PORTABLE MOTOR

PURCHASER/RENTAL	<input checked="" type="checkbox"/> F	NAME	DATE	NO.
		STREET ADDRESS	REFERENCE	ISSUING OFFICE/ISSUANCE

SAMPLING DEVICE   

PURLING PEARL LE SECTION TO DOVING OFFICE F. AIRLINE Doc. \_\_\_\_\_

SAMPLING DEVICE: **E** C. REF: A. \_\_\_\_\_

FRITING DISC 0.15	3-PLATE TOP: 0.017	8-PLATE TOP	0-VALUOM
-------------------	--------------------	-------------	----------

## FIELD MEASUREMENTS

WELL ELEVATION	592.77	(m)	GROUNDWATER ELEVATION	586.97	(m)
DEPTH RAW WATER	5.80	(m)	WELL DEPTH	21.36	(m)

DEPTH FROM WATER				5.80	FEET	WELL DEPTH			21.36	(FEET)
------------------	--	--	--	------	------	------------	--	--	-------	--------

pH	TURBIDITY	CONDUCTIVITY	ORP	DO	SAMPLE TEMPERATURE
 1 2 3 4 5 6 7 8 9 10 11 12 13 14	 0 10 20 30 40 50 60 70 80 90 100	 0 250 500 750 1000	 -1000 -500 0 500 1000	 0 1 2 3 4 5 6 7 8 9 10	 0 10 20 30 40 50 60

## FIELD COMMENTS

SANDPICKS (V) Good (1) none (2) Clear (3) Clear  
 WIND (1) 5-10 (2) SW (3) 0 (4) Surf ~ 70° F  
 SURF (1) COMFORT (2) COMFORT (3) COMFORT

GRAPHIC CONFINING

5/3/13

Thomas Bohlen

Thomas Bohlen

DOI: 10.1002/anie.201505318

# MONITORING WELL RECORD FOR LOW-FLOW PURGING

## Project Data:

Project Name: Delphi Harrison  
Ref. No.: 56546

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

## Monitoring Well Data:

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

Screen Length (ft): 8-15 = 7'  
Depth to Pump Intake (ft)<sup>(1)</sup>: 13'  
Well Diameter, D (in): 2"  
Well Screen Volume, V<sub>s</sub> (mL)<sup>(2)</sup>: \_\_\_\_\_  
Initial Depth to Water (ft): 8.05

Time	Pumping Rate (ml/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	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>
1047		8.35		6.99	11.1	2.92	83.9	1.38	1.96	0	0
1052		8.35		6.90	11.0	2.90	87.1	0.48	1.95	0.1	0
1057		8.35		6.90	11.1	2.90	86.6	0.34	1.87	0.2	0
1102		8.35		6.92	11.1	2.92	87.1	0.27	1.85	0.3	0
1107		8.35		6.93	11.1	2.93	87.1	0.24	1.82	0.4	0
1112		8.35		6.93	11.0	2.95	88.0	0.21	1.80	0.6	0
1117		8.35		6.93	11.0	2.95	88.3	0.19	1.79	0.7	0

## Notes:

- (1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.
- (2) The well screen volume will be based on a 5-foot screen length.  $V_s = \pi \cdot (D/2)^2 \cdot (5 \cdot 12) \cdot (2.54)^3$
- (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<sub>p</sub>/V<sub>s</sub>.

- collected H<sub>2</sub>O quality readings for 1/2 hr. while H<sub>2</sub> sample equilibrated. DVM = 0.0 ppm TOR

# MONITORING WELL RECORD FOR LOW-FLOW PURGING

## Project Data:

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

Date: 5/11/13  
Personnel: T. Bohlen

## Monitoring Well Data:

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

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

Time	Pumping Rate (mL/min) *	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	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>
1518	118	8.15		7.20	12.5	2.85	84.4	3.28	2.32	0	0
1523				7.06	12.0	2.78	89.7	2.26	2.13	0.1	0
1528				7.00	11.4	2.78	89.4	1.02	2.21	0.2	0
1533				6.99	11.4	2.78	89.0	0.76	2.20	0.4	0
1538				6.99	11.5	2.79	88.1	0.51	2.21	0.6	0
1543				6.99	11.3	2.83	87.5	0.41	2.20	0.9	0
1548				6.97	11.3	2.85	86.6	0.38	2.20	1.2	0
1553				6.97	11.3	2.85	86.0	0.33	2.20	1.3	0
1558				6.97	11.3	2.85	86.1	0.35	2.23	1.5	1

## Notes:

- (1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.
- (2) The well screen volume will be based on a 5-foot screen length.  $V_s = \pi (D/2)^2 (5'12") (2.54)$
- (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 =  $V_p/V_s$ .

\* calculated w/ 1L bottle stopwatch

OVM = 0.0ppm TOR



JOB# 56546 .

WELL # MW-151

0	5	0	1	1	3
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PL RICHARDS  
\* 454-3871

050113

5.  $\text{NAD}^+ \rightarrow \text{NADH}$   
6.  $\text{FAD} \rightarrow \text{FADH}_2$

1.15

## WATERVOL ENCLASING DIFFERENTIAL

25

THE UNIVERSITY OF CHICAGO PRESS  
50 EAST LEXINGTON AVENUE  
NEW YORK, NY 10017-2453

PURGING EQUIPMENT DEDICATED  

CIRCLE(S)

SAMPLING EQUIPMENT: Dredge, 1000 ☒

## ACKNOWLEDGMENTS

PUMPING DEVICE: B A. SUBMERSIBLE PUMP B. GAS-LIFT PUMP C. OTHER \_\_\_\_\_

DATE	STATE	LOCALITY	COLLECTOR	PLANT	FRUIT	SEED	OTHER
1950	INDONESIA	Sumatra	W. G. S. P.	...	...	...	...
1951	INDONESIA	Sumatra	W. G. S. P.	...	...	...	...
1952	INDONESIA	Sumatra	W. G. S. P.	...	...	...	...
1953	INDONESIA	Sumatra	W. G. S. P.	...	...	...	...
1954	INDONESIA	Sumatra	W. G. S. P.	...	...	...	...
1955	INDONESIA	Sumatra	W. G. S. P.	...	...	...	...
1956	INDONESIA	Sumatra	W. G. S. P.	...	...	...	...
1957	INDONESIA	Sumatra	W. G. S. P.	...	...	...	...
1958	INDONESIA	Sumatra	W. G. S. P.	...	...	...	...
1959	INDONESIA	Sumatra	W. G. S. P.	...	...	...	...
1960	INDONESIA	Sumatra	W. G. S. P.	...	...	...	...
1961	INDONESIA	Sumatra	W. G. S. P.	...	...	...	...
1962	INDONESIA	Sumatra	W. G. S. P.	...	...	...	...
1963	INDONESIA	Sumatra	W. G. S. P.	...	...	...	...
1964	INDONESIA	Sumatra	W. G. S. P.	...	...	...	...
1965	INDONESIA	Sumatra	W. G. S. P.	...	...	...	...
1966	INDONESIA	Sumatra	W. G. S. P.	...	...	...	...
1967	INDONESIA	Sumatra	W. G. S. P.	...	...	...	...
1968	INDONESIA	Sumatra	W. G. S. P.	...	...	...	...
1969	INDONESIA	Sumatra	W. G. S. P.	...	...	...	...
1970	INDONESIA	Sumatra	W. G. S. P.	...	...	...	...
1971	INDONESIA	Sumatra	W. G. S. P.	...	...	...	...
1972	INDONESIA	Sumatra	W. G. S. P.	...	...	...	...
1973	INDONESIA	Sumatra	W. G. S. P.	...	...	...	...
1974	INDONESIA	Sumatra	W. G. S. P.	...	...	...	...
1975	INDONESIA	Sumatra	W. G. S. P.	...	...	...	...
1976	INDONESIA	Sumatra	W. G. S. P.	...	...	...	...
1977	INDONESIA	Sumatra	W. G. S. P.	...	...	...	...
1978	INDONESIA	Sumatra	W. G. S. P.	...	...	...	...
1979	INDONESIA	Sumatra	W. G. S. P.	...	...	...	...
1980	INDONESIA	Sumatra	W. G. S. P.	...	...	...	...
1981	INDONESIA	Sumatra	W. G. S. P.	...	...	...	...
1982	INDONESIA	Sumatra	W. G. S. P.	...	...	...	...
1983	INDONESIA	Sumatra	W. G. S. P.	...	...	...	...
1984	INDONESIA	Sumatra	W. G. S. P.	...	...	...	...
1985	INDONESIA	Sumatra	W. G. S. P.	...	...	...	...
1986	INDONESIA	Sumatra	W. G. S. P.	...	...	...	...
1987	INDONESIA	Sumatra	W. G. S. P.	...	...	...	...
1988	INDONESIA	Sumatra	W. G. S. P.	...	...	...	...
1989	INDONESIA	Sumatra	W. G. S. P.	...	...	...	...
1990	INDONESIA	Sumatra	W. G. S. P.	...	...	...	...
1991	INDONESIA	Sumatra	W. G. S. P.	...	...	...	...
1992	INDONESIA	Sumatra	W. G. S. P.	...	...	...	...
1993	INDONESIA	Sumatra	W. G. S. P.	...	...	...	...
1994	INDONESIA	Sumatra	W. G. S. P.	...	...	...	...
1995	INDONESIA	Sumatra	W. G. S. P.	...	...	...	...
1996	INDONESIA	Sumatra	W. G. S. P.	...	...	...	...
1997	INDONESIA	Sumatra	W. G. S. P.	...	...	...	...
1998	INDONESIA	Sumatra	W. G. S. P.	...	...	...	...
1999	INDONESIA	Sumatra	W. G. S. P.	...	...	...	...
2000	INDONESIA	Sumatra	W. G. S. P.	...	...	...	...
2001	INDONESIA	Sumatra	W. G. S. P.	...	...	...	...
2002	INDONESIA	Sumatra	W. G. S. P.	...	...	...	...
2003	INDONESIA	Sumatra	W. G. S. P.	...	...	...	...
2004	INDONESIA	Sumatra	W. G. S. P.	...	...	...	...
2005	INDONESIA	Sumatra	W. G. S. P.	...	...	...	...
2006	INDONESIA	Sumatra	W. G. S. P.	...	...	...	...
2007	INDONESIA						

SAMPLING DEVICE  = SUBMERGED PUMP

Page No.	1
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**FORGING DEVICE**

ITEM NO.	MATERIAL	QTY REQD	UNIT OF MEASUREMENT
D-STEEL PRESS STEEL	E-POLYETHYLENE	CUBIC INCHES	FT <sup>3</sup>

SAMPLING DEVICE E 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100[illegible]

PURGING DEVICE  TUBING  DISPOSABLE OPTICAL FIBER  FIBERLINE  

EXOTHERMIC CHANGE	<b>F</b>	POLYMERIZATION	ELECTROLYTIC	COMBINATION	OTHER SPECIFY
				THELOS/POLYPROPYLENE	

[illegible]

FILTERING DEVICES 015	3	INTRODUCTION 5	REPRODUCTION 5	CONCLUSION 5
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59404 GROUNDEWATER 58613

WELL-ELEVATION	<table border="1"><tr><td></td><td></td><td>9</td><td>7</td><td>1</td><td>0</td><td>1</td></tr></table>			9	7	1	0	1	(INCHES)	FURNACE	<table border="1"><tr><td></td><td></td><td>5</td><td>8</td><td>0</td><td>1</td><td>5</td></tr></table>			5	8	0	1	5	(INCHES)
		9	7	1	0	1													
		5	8	0	1	5													
TEMPERATURE OF AIR	<table border="1"><tr><td></td><td></td><td>7</td><td>0</td><td>1</td></tr></table>			7	0	1	(DEGREES F.)	AIR IN FURNACE	<table border="1"><tr><td></td><td></td><td>1</td><td>7</td><td>0</td><td>0</td></tr></table>			1	7	0	0	(DEGREES F.)			
		7	0	1															
		1	7	0	0														

**DEPTH FORWARD**

				7	9	1
--	--	--	--	---	---	---

**WHEEL DEPTH**

				7	7	7	0
--	--	--	--	---	---	---	---

pH		TURBIDITY		CONDUCTIVITY		ORP		DO		SAMPLE TEMPERATURE	

Figure 1 is a schematic representation of the experimental design. It shows a timeline of events for three groups: Control, 100% TMS, and 50% TMS. The timeline includes Baseline, TMS, and Post-TMS phases. The Control group shows a decrease in pain threshold (PT) after TMS. The 100% TMS group shows an increase in PT after TMS. The 50% TMS group shows a decrease in PT after TMS. The y-axis represents PT (N) and the x-axis represents Time (min).

SAFETY WEAR STRAP	Good	none	Clear	Clear
-------------------	------	------	-------	-------

VELOCITY CORRECTION: 0.5 WAVE TYPE: SW PLOT STATE: Swm ~65

SPECIFIER COMMENTS

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FOOTNOTES

5/1/13 Thomas Bohlen Thomas Bohlen

DATE	2/2/84	NO. 244112
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CMR, MRCP, AEC, & MRCP, AS, & COMPANIED BY A REVISION REQUEST FORM, ALL FROM THE FIVE BUT NOT MORE

# MONITORING WELL RECORD FOR LOW-FLOW PURGING

## Project Data:

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

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

## Monitoring Well Data:

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

Screen Length (ft):  
Depth to Pump Intake (ft)<sup>(1)</sup>: 15'  
Well Diameter, D (in): 2"  
Well Screen Volume, V<sub>s</sub> (mL)<sup>(2)</sup>: 0.83 gal / well vol.  
Initial Depth to Water (ft): 12.82

Time	Pumping Rate (gal/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>
800	90	12.95		7.17	10.5	11.77	157.6	8.77	2.2	0	0
805				6.89	10.0	11.70	163.0	8.01	2.1	0	0
810				6.90	10.2	11.73	162.8	7.81	2.0	0.1	0
815				6.89	10.2	11.81	159.0	7.65	2.0	0.2	0
820				6.88	10.3	11.86	152.1	6.69	1.9	0.4	0
825				6.88	10.2	11.88	150.8	6.55	1.81	0.6	0
830				6.88	10.2	11.92	147.9	6.48	1.81	0.8	1
835				6.88	10.2	11.91	146.9	6.57	1.70	1.0	1
840				6.88	10.2	11.93	146.5	6.60	1.71	1.2	1

## Notes:

- 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.
- The well screen volume will be based on a 5-foot screen length,  $V_s = \pi (D/2)^2 (5'12) (2.54)^3$
- The drawdown from the initial water level should not exceed 0.3 ft.
- 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 =  $V_p/V_s$ .

\* calculated using a 1L bottle & stop watch

0VM TOR = 0.0 ppm

5/1/13 - 0.85 gal / well vol.  
- purged ~ 6 gal -  
brown / turbid -  
productive well  
- TDW = 12.73'  
- ROW = 17.93'

JOB# 56546 . | |

SITE/PROJECT NAME: Delhi / GMCH

WELI # 6-1

WFLI # 6-1

## WELL PURGING INFORMATION

1050113

0	5	0	2	1	3
---	---	---	---	---	---

1 1 1 1 0.8

111120

FURCA  
 ANQUE

$$S_1 \Delta M^2 = \frac{1}{2} \Delta^2, \quad S_2 \Delta M^2 = \frac{1}{2} \Delta^2$$
WATERGOL INVASION  
LITHOGRAPHED

W. H. W. & J. M. P. 201  
1987 11 392

## PURGING AND SAMPLING EQUIPMENT

PULPING EQUIPMENT DELICATELY  YOURS  
CIRCULATING


SAMPLING EQUIPMENT DEDICATED TO  
CUTTING

PURCHING DEVICE	B	A. SUMMIT NEWS PAPER	D. LANSING PAPER	C. CHIEF	Y-
-----------------	---	----------------------	------------------	----------	----

SAMPLING DEVICE	B	ANALYST	REVIEWER	DATE
-----------------	---	---------	----------	------

PURCHASING DEVICE	<i>E</i>	A-10000	10000	10000
-------------------	----------	---------	-------	-------

SAMPLING DEVICE:	<b>F</b>	IDENTIFICATION:	
------------------	----------	-----------------	--

WORKING DEVICE:  TELEPHONE: TOLL FREE 1-800-368-5848 FAX: 516-334-2266

SAMPLING DEVICE	<b>E</b>	TYPE OF FILTERS	CELLULOSE DIATOMACEOUS EARTH	DATE OF ANALYSIS	1980-07-16
			TETRAON/POLYPROPYLENE		

FILTERING DEVICES 0.15	3. IN-LINE DISPOSER	0.15050.35	100 VACUUM
------------------------	---------------------	------------	------------

## FIELD MEASUREMENTS

WFL STRABCO. 1 1 575110

[illegible]

GRANDNEW VETER  
FLEXATIONS

1 1 5 8 2 2 8

《周易》 卷一

DEPT: 603478 1 1 1 2 8 2

1004-272

WELL DEPTH

				1	7	9	3
--	--	--	--	---	---	---	---

(189) 22

p13

FLRBDIFV

### CONDUCTIVITY

CR:

120

SAMPLE TEMPERATURE

## FIELD COMMENTS

SAMPLE 1017500011 Good none Clear Clear

WEATHER CONDITIONS: WINDSPEED 0-5 KNOTS DIRECTION SW PRESSURE 1013.5 VISIBILITY Sunny ~80

SEPTUAGINT COMMENTARY

5/2/13

Thomas Bohlen

Thomas Bohler



# GROUNDWATER LEVEL MONITORING REPORT

WELL NUMBER

Page of

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

PROJECT MANAGER C. Biron  
FIELD REP. T. Biron  
DATE 5/1/83

[illegible]

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

# GROUNDWATER LEVEL MONITORING REPORT

WELL NUMBER

Page of

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

PROJECT MANAGER C. Brown  
FIELD REP. T. Boylen  
DATE 5/16/13

[illegible]

## INSTRUMENT CALIBRATION RECORD

PROJECT SMCH / DelphiPROJECT MANAGER C. BrownLOCATION Lockport, NYFIELD REP. T. BahkenCLIENT SMCHDATE 5/1/13

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

Other Remarks:

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



# INSTRUMENT CALIBRATION RECORD

PROJECT

Delphi Harrison Thermal Systems Site

PROJECT MANAGER

C. Baron

LOCATION

Lockport, NY

FIELD REP.

T. Bohler

CLIENT

DATE

5/16/13

Instrument	Date Calibrated	By	Standard Used	Decontamination, Maintenance, or Repair Performed	Remarks
OVM	5/16/13	VB	ISO. Gas.	Cal.	OK
Y SI	"	"	Cal. Sol.	"	"
LaMotte	"	"	Cal. Sol.	"	"

Other Remarks:

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



**GASCO AFFILIATES, LLC.**

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

## **CERTIFICATE OF ANALYSIS**

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

**Customer:** Eco-Rental Solutions

**Use Before:** 10/02/2016

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

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

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

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

**Analyst:**

A handwritten signature in black ink, appearing to read "Rebecca Otter".



## Calibration Certificate

rev 8/9/11

Work Order No.: SE-004193

Date of Service: 04/18/13

Unit Under Test: Lamotte 2020WE Turbidity Meter

Asset No.: FA00413

Technician: TYLER HINTZ Initials: TH

Serial No: 2606-3812

TEST	Specification	Result
Standard Calibration	Pass/Fail	PASS

### TEST STANDARDS USED:

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

### TEST EQUIPMENT USED:

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

Test Equipment and standards are traceable to National standards.



**GFS Chemicals, Inc.**  
**Columbus, Ohio 43223**

LOT ANALYSIS

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

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

TRACEABLE TO N.I.S.T. (Y/N)? Y

Comment:

Reported by: Renita Smith

QC Supervisor: Joshua Crow

Quality Assured to Retest Point: 12 months from shipment

C/A Print Date: 07/23/2012

Not for direct use in food, cosmetics, finished pharmaceuticals or drug products. Supplier is not responsible for compliance with FDA Current Good Manufacturing Practice (CGMP) requirements, including without limitation those for finished drug products in 21 C.F.R Parts 210 and 211. Consult warranty limitations at [www.gfschemicals.com/statics/documents/aboutus/termsandconditions.html](http://www.gfschemicals.com/statics/documents/aboutus/termsandconditions.html) For resale by GFS authorized distributors only.

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GFS Chemicals, Inc. P.O. Box 245 Powell, OH 43065 \* Signed Orig. Doc. on File  
800-858-9682 (U.S. and Canada) 740-881-5501(International) 740-881-5989 (Fax)

**GFS Chemicals, Inc.**  
**Columbus, Ohio 43223**

LOT ANALYSIS

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

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

TRACEABLE TO N.I.S.T. (Y/N)? Y

Comment:

Reported by: Renita Smith

QC Supervisor: Joshua Crow

Quality Assured to Retest Point: 12 months from shipment

C/A Print Date: 07/23/2012

Not for direct use in food, cosmetics, finished pharmaceuticals or drug products. Supplier is not responsible for compliance with FDA Current Good Manufacturing Practice (CGMP) requirements, including without limitation those for finished drug products in 21 C.F.R Parts 210 and 211. Consult warranty limitations at [www.gfschemicals.com/statics/documents/aboutus/termsandconditions.html](http://www.gfschemicals.com/statics/documents/aboutus/termsandconditions.html) For resale by GFS authorized distributors only.

---

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800-858-9682 (U.S. and Canada) 740-881-5501(International) 740-881-5989 (Fax)

Work Order No.: SE-004194

Date of Service: 04/18/13

Unit Under Test: YSI Pro Plus Quatro, 4m pH/ORP/Cond/Temp/DO

Asset No.: FA00002

Technician: TYLER HINTZ Initials: TH

Serial No: 11K100528

TEST	Specification	Result
Standard Calibration	Pass/Fail	PASS

**TEST STANDARDS USED:**

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

**TEST EQUIPMENT USED:**

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

Test Equipment and standards are traceable to National standards.





## ***Certificate Of Analysis***

<b>Product</b>	Conductivity Standard, 7000 $\mu\text{S}/\text{cm}$
<b>Code</b>	CS7000
<b>Lot Number</b>	2AJ581
<b>Specifications</b>	7000 $\mu\text{S}/\text{cm}$ +/- 1% @ 25C
<b>Lot Analysis</b>	7000 $\mu\text{S}/\text{cm}$
<b>Expiration</b>	10/13
<b>NIST STD used</b>	SRM 3193

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

Luke Miller  
Research Chemist  
October 22, 2012

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

**GFS Chemicals, Inc.**  
**Columbus, Ohio 43223**

LOT ANALYSIS

LOT#:C255426

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

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

TRACEABLE TO N.I.S.T. (Y/N)? Y

Comment: NIST SRM 185H, 186IG, 186IIG, 191-D-1 & 191-D-II

Reported by: Karen Hirsch

QC Supervisor: Robert Kramer

Quality Assured to Retest Point: 8/28/14

C/A Print Date: 10/01/2012

Not for direct use in food, cosmetics, finished pharmaceuticals or drug products. Supplier is not responsible for compliance with FDA Current Good Manufacturing Practice (CGMP) requirements, including without limitation those for finished drug products in 21 C.F.R Parts 210 and 211. Consult warranty limitations at [www.gfschemicals.com/statics/documents/aboutus/termsandconditions.html](http://www.gfschemicals.com/statics/documents/aboutus/termsandconditions.html) For resale by GFS authorized distributors only.

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GFS Chemicals, Inc. P.O. Box 245 Powell, OH 43065 \* Signed Orig. Doc. on File  
800-858-9682 (U.S. and Canada) 740-881-5501(International) 740-881-5989 (Fax)

GFS Chemicals, Inc.  
Columbus, Ohio 43223

LOT ANALYSIS

LOT#:C254458

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

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

TRACEABLE TO N.I.S.T. (Y/N)? Y

Comment: NIST SRM 186IG, 186IIG & 191C

Reported by: Karen Hirsch

Quality Assured to Retest Point: 7/19/14

C/A Print Date: 10/01/2012

QC Supervisor: Robert Kramer

Not for direct use in food, cosmetics, finished pharmaceuticals or drug products. Supplier is not responsible for compliance with FDA Current Good Manufacturing Practice (CGMP) requirements, including without limitation those for finished drug products in 21 C.F.R Parts 210 and 211. Consult warranty limitations at [www.gfschemicals.com/statics/documents/aboutus/termsandconditions.html](http://www.gfschemicals.com/statics/documents/aboutus/termsandconditions.html) For resale by GFS authorized distributors only.

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GFS Chemicals, Inc. P.O. Box 245 Powell, OH 43065 \* Signed Orig. Doc. on File  
800-858-9682 (U.S. and Canada) 740-881-5501(International) 740-881-5989 (Fax)





## ***Certificate Of Analysis***

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

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

Luke Miller  
Research Chemist  
July 24, 2012

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

Phone (716) 691-2600 Fax (716) 691-7991

THE LEADER IN ENVIRONMENTAL TESTING

[illegible]

# TestAmerica Buffalo

10 Hazelwood Drive

Amherst, NY 14228-2298

Phone (716) 691-2600 Fax (716) 691-7991

## Chain of Custody Record

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

<b>Client Information</b> Client Contact: Mr. Christopher Boron Company: GZA GeoEnvironmental, Inc. Address: 535 Washington Street 11th Floor City: Buffalo State, Zip: NY, 14203 Phone: (716) 685-2300 Email: christopher.boron@gza.com Project Name: 058507, GM-Lockport Groundwater Sampling Site: Delphi Harrison Thermal Systems Site				Sampler: Thomas Bohlen Phone: (716) 844-7050		Lab PM: Deyo, Melissa L E-Mail: melissa.deyo@testamericainc.com		Carrier Tracking No(s):		COC No:	
				Due Date Requested: TAT Requested (days): 3 Weeks		<b>Analysis Requested</b>		Preservation Codes: A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2SO3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - ph 4-5 L - EDA Z - other (specify)			
<b>Sample Identification</b>				Sample Date		Sample Time		Sample Type (C=comp, G=grab)		Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	
Preservation Code:				Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		RSK_175_CO2 - Carbon dioxide		VFA_IC - Volatile Fatty Acids	
G-1-050213				5/2/13		850		G		Water	
MW-11-050213				↓		1130		↓		Water	
MW-13-050213 MS/MSD				↓		1350		↓		↓	
Trip Blank											
<b>Possible Hazard Identification</b> <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological				<b>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)</b> <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Month							
Deliverable Requested: I, II, III, IV, Other (specify)				Special Instructions/QC Requirements:							
Empty Kit Relinquished by:				Date:		Time:		Method of Shipment:		Company:	
Relinquished by: Thomas Bohlen				Date/Time: 5/2/13 / 1730		Company: GZA		Received by: [Signature]		Date/Time:	
Relinquished by:				Date/Time:		Company:		Received by:		Date/Time:	
Relinquished by:				Date/Time:		Company:		Received by:		Date/Time:	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No				Custody Seal No.:		Temperature(s) °C and Other Remarks:					

Phone (716) 691-2600 Fax (716) 691-7991

THE LEADER IN ENVIRONMENTAL TESTING

[illegible]



**TestAmerica Buffalo**

10 Hazelwood Drive

Amherst, NY 14228-2298

Phone (716) 691-2600 Fax (716) 691-7991

**Chain of Custody Record**
**TestAmerica**

THE LEADER IN ENVIRONMENTAL TESTING

<b>Client Information</b>				Sampler: Thomas Bohlen		Lab PM: Deyo, Melissa L		Carrier Tracking No(s):		COC No:																																	
				Phone: (716) 844-7050		E-Mail: melissa.deyo@testamericainc.com				Page: Page 1 of 1																																	
Company: GZA GeoEnvironmental, Inc.				Analysis Requested								GZA Job #: 21,0056546,00 Task 24																															
Address: 535 Washington Street 11th Floor				Due Date Requested:		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td rowspan="5" style="writing-mode: vertical-rl; transform: rotate(180deg);">Field Filtered Sample (Yes or No)</td> <td rowspan="5" style="writing-mode: vertical-rl; transform: rotate(180deg);">Perform MS/MSD (Yes or No)</td> <td rowspan="5" style="writing-mode: vertical-rl; transform: rotate(180deg);">RSK_175_CO2 - Carbon dioxide</td> <td rowspan="5" style="writing-mode: vertical-rl; transform: rotate(180deg);">VFA_IC - Volatile Fatty Acids</td> <td rowspan="5" style="writing-mode: vertical-rl; transform: rotate(180deg);">350.1 - Ammonia</td> <td rowspan="5" style="writing-mode: vertical-rl; transform: rotate(180deg);">6010B - Metals - Fe, Mn, Mg, K &amp; Na</td> <td rowspan="5" style="writing-mode: vertical-rl; transform: rotate(180deg);">8260B - PCE, TCE, DCE (trans and cis), Vinyl Chloride</td> <td rowspan="5" style="writing-mode: vertical-rl; transform: rotate(180deg);">9060 - Total Organic Carbon</td> <td rowspan="5" style="writing-mode: vertical-rl; transform: rotate(180deg);">RSK_175 - Methane, Ethane, Ethene</td> <td rowspan="5" style="writing-mode: vertical-rl; transform: rotate(180deg);">SM4500_S2_D - Sulfide</td> <td rowspan="5" style="writing-mode: vertical-rl; transform: rotate(180deg);">353.2, 353.2_Nitrite, Nitrate_Calc</td> <td rowspan="5" style="writing-mode: vertical-rl; transform: rotate(180deg);">2320B - Total Alkalinity</td> <td rowspan="5" style="writing-mode: vertical-rl; transform: rotate(180deg);">300.0_28D - Anions (Chloride &amp; Sulfate)</td> <td rowspan="5" style="writing-mode: vertical-rl; transform: rotate(180deg);">AM20GAX</td> <td rowspan="5" style="writing-mode: vertical-rl; transform: rotate(180deg);">Total Number of containers</td> </tr> </table>								Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	RSK_175_CO2 - Carbon dioxide	VFA_IC - Volatile Fatty Acids	350.1 - Ammonia	6010B - Metals - Fe, Mn, Mg, K & Na	8260B - PCE, TCE, DCE (trans and cis), Vinyl Chloride	9060 - Total Organic Carbon	RSK_175 - Methane, Ethane, Ethene	SM4500_S2_D - Sulfide	353.2, 353.2_Nitrite, Nitrate_Calc	2320B - Total Alkalinity	300.0_28D - Anions (Chloride & Sulfate)	AM20GAX	Total Number of containers	<b>Preservation Codes:</b> A - HCL                      M - Hexane B - NaOH                  N - None C - Zn Acetate            O - AsNaO2 D - Nitric Acid            P - Na2O4S E - NaHSO4                Q - Na2SO3 F - MeOH                  R - Na2S2SO3 G - Amchlor               S - H2SO4 H - Ascorbic Acid        T - TSP Dodecahydrate I - Ice                        U - Acetone J - DI Water               V - MCAA K - EDTA                  W - pH 4-5 L - EDA                     Z - other (specify)														
Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	RSK_175_CO2 - Carbon dioxide	VFA_IC - Volatile Fatty Acids	350.1 - Ammonia	6010B - Metals - Fe, Mn, Mg, K & Na																										8260B - PCE, TCE, DCE (trans and cis), Vinyl Chloride	9060 - Total Organic Carbon	RSK_175 - Methane, Ethane, Ethene	SM4500_S2_D - Sulfide	353.2, 353.2_Nitrite, Nitrate_Calc	2320B - Total Alkalinity	300.0_28D - Anions (Chloride & Sulfate)	AM20GAX	Total Number of containers				
																																								City: Buffalo		TAT Requested (days): 3 Weeks	
																																								State, Zip: NY, 14203			
																																								Phone: (716) 685-2300		PO #: 4047065	
						Email: christopher.boron@gza.com		WO #: 58507																																			
Project Name: 058507, GM-Lockport Groundwater Sampling				Project #: 48004014																																							
Site: <i>Delphi Harrison Thermal Systems Site</i>				SSOW#: 256015																																							
<b>Sample Identification</b>				<b>Sample Date</b>		<b>Sample Time</b>		<b>Sample Type (C=comp, G=grab)</b>		<b>Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)</b>		<b>Preservation Code:</b>		<b>Special Instructions/Note:</b>																													
MW-10-051613				5/14/13		912				Water				<i>X - Dissolved H2 for Microscreeps</i>																													
MW-4-051613						1008				Water																																	
MW-15-051613						1117																																					
MW-11-051613						1210																																					
MW-13-051613						1306																																					
<b>Possible Hazard Identification</b>														<b>Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month)</b>																													
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological														<input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months																													
Deliverable Requested: I, II, III, IV, Other (specify)														Special Instructions/QC Requirements:																													
Empty Kit Relinquished by:				Date:		Time:		Method of Shipment:																																			
Relinquished by: <i>Thomas Bohlen</i>				Date/Time: 5/16/13 1615		Company: GZA		Received by: <i>Mark Brown</i>				Date/Time: 5/16/13 1615		Company: GZA																													
Relinquished by: <i>Mark Brown</i>				Date/Time: 5/16/13 1645		Company: GZA		Received by: <i>Mark Brown</i>				Date/Time: 5/16/13		Company: 1645TA																													
Relinquished by:				Date/Time:		Company:		Received by:				Date/Time:		Company:																													
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No				Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:																																					

## **APPENDIX B**

### **GRAPHS OF MONITORING WELL ANALYTICAL DATA FOR THE COCs**

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

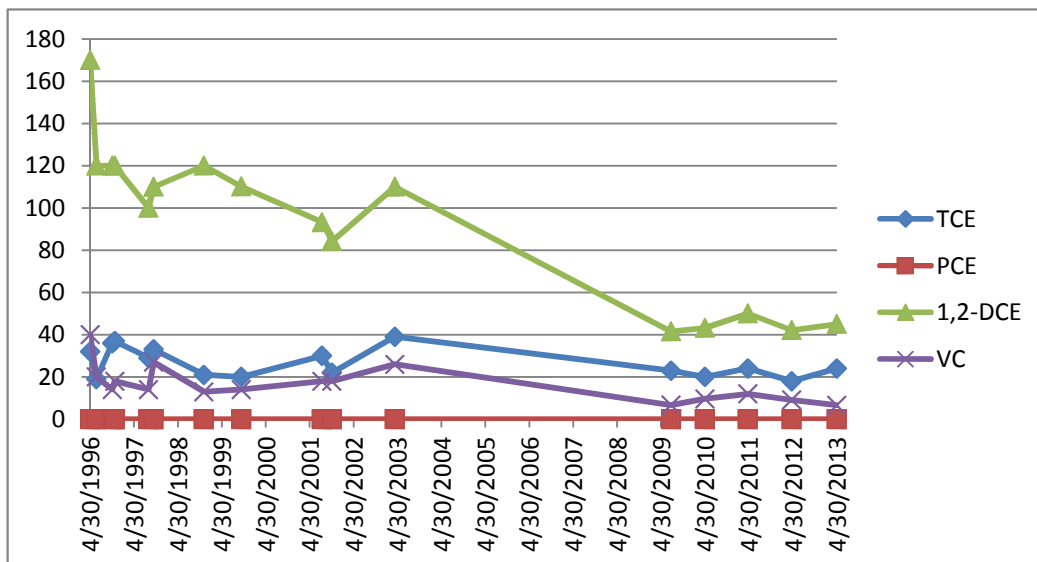
Date	TCE	PCE	1,2-DCE	VC
4/30/1996	32	<0.5	170	40
6/20/1996	19	<0.5	120	20
10/30/1996	36	<0.5	120	14
11/21/1996	37	<0.5	120	18
8/28/1997	29	<0.5	100	14
10/10/1997	33	<0.2	110	27
12/2/1998	21	<0.2	120	13
10/7/1999	20	<0.05	110.14	14
8/9/2001	30	0.003	93.28	18
10/31/2001	22	<0.002	84.25	18
4/7/2003	39	0.08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

Notes:

Results are provided in parts per million (ppm)

Duplicate samples were collected from this location on 6/20/96, 10/30/96 and 12/2/98.

The higher of the two concentrations were recorded in this graph.

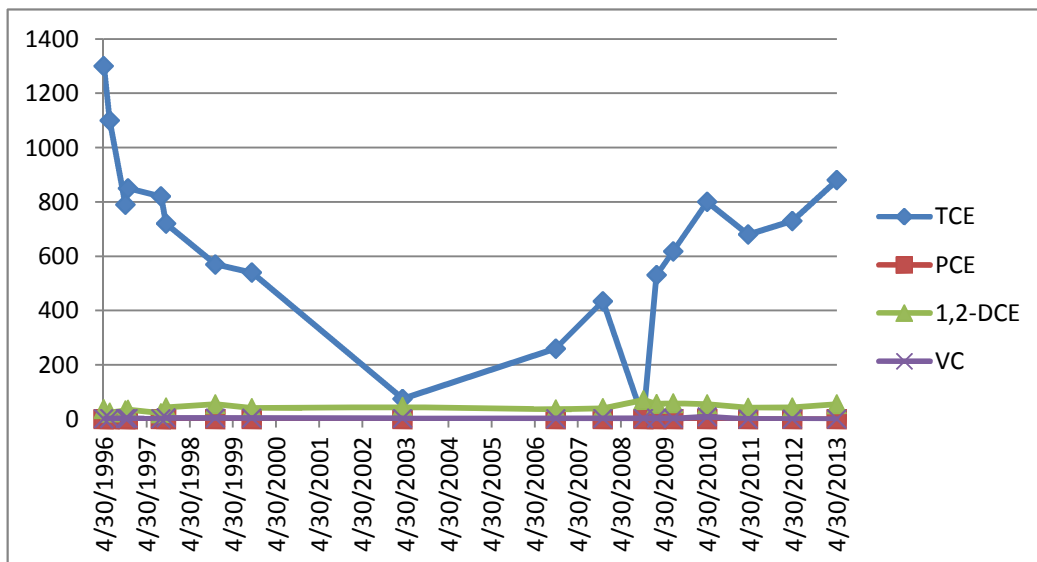


MW-7 Groundwater Data  
Delphi Harrison Thermal Systems Site  
GM Components Holdings, LLC  
Lockport, New York

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

Notes:

Results are provided in parts per million (ppm)



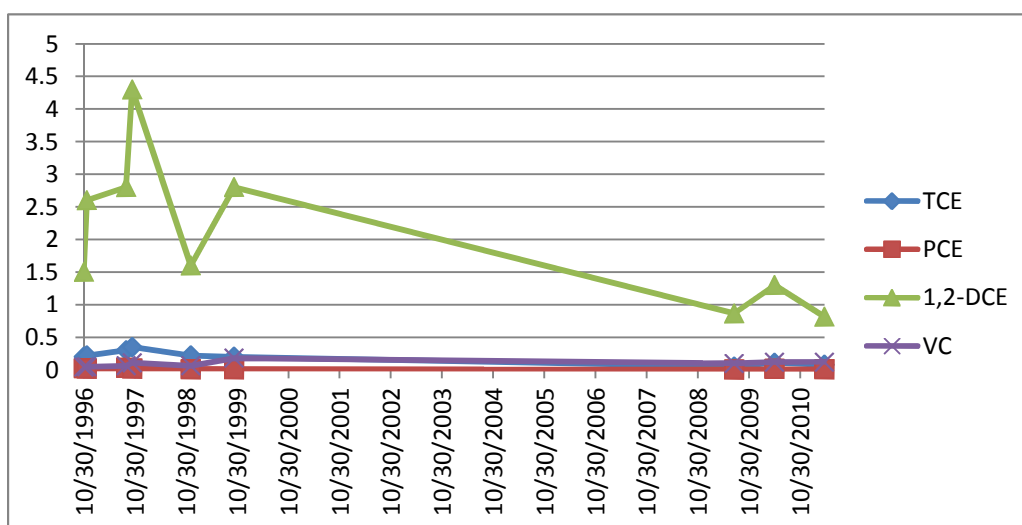


MW-8 Groundwater Data  
Delphi Harrison Thermal Systems Site  
GM Components Holdings, LLC  
Lockport, New York

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

Notes:

Results are provided in parts per million (ppm)



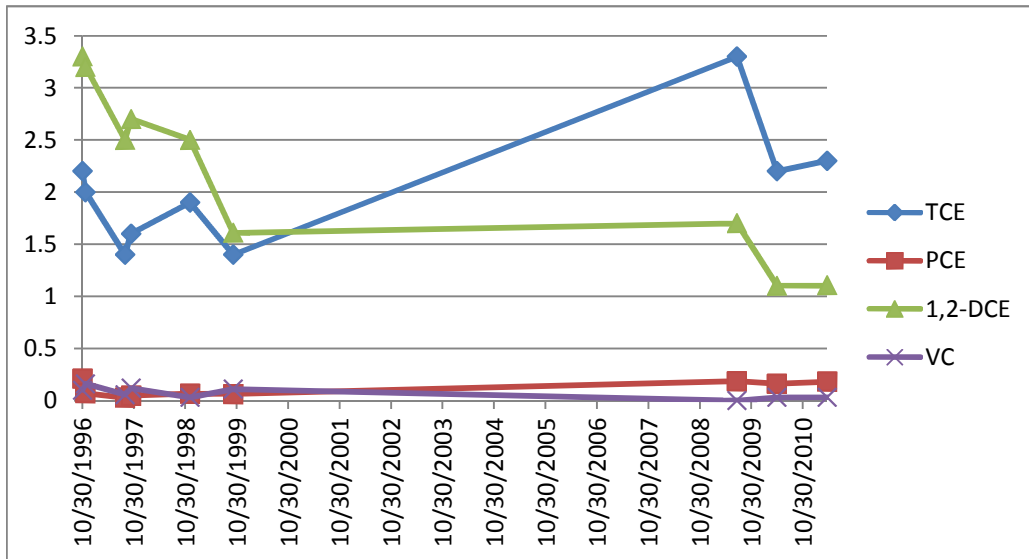
MW-9 Groundwater Data  
Delphi Harrison Thermal Systems Site  
GM Components Holdings, LLC  
Lockport, New York

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

Notes:

Results are provided in parts per million (ppm)

Duplicate samples were collected from this location on 11/21/96 and 10/5/99. The higher of the two concentrations were recorded in this graph.

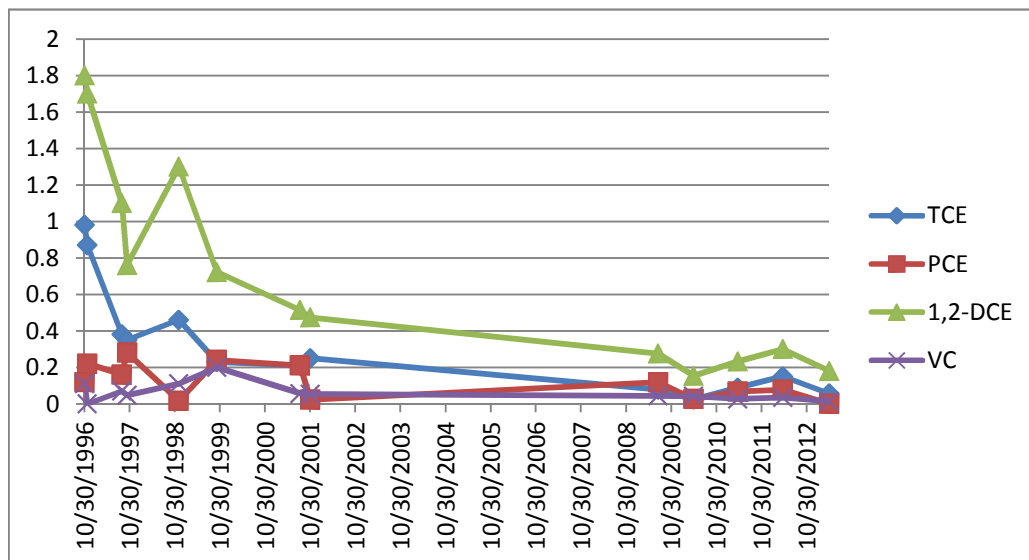


MW-10 Groundwater Data  
Delphi Harrison Thermal Systems Site  
GM Components Holdings, LLC  
Lockport, New York

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

Notes:

Results are provided in parts per million (ppm)



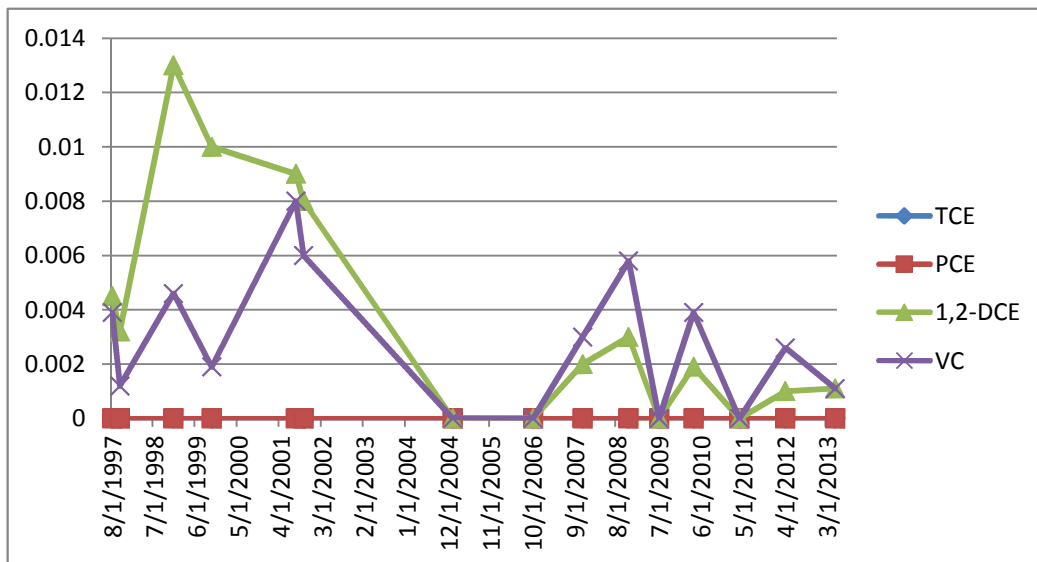
MW-11 Groundwater Data  
Delphi Harrison Thermal Systems Site  
GM Components Holdings, LLC  
Lockport, New York

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

Notes:

Results are provided in parts per million (ppm)

Duplicate samples were collected from this location on 10/10/97. The higher of the two concentrations were recorded in this graph.





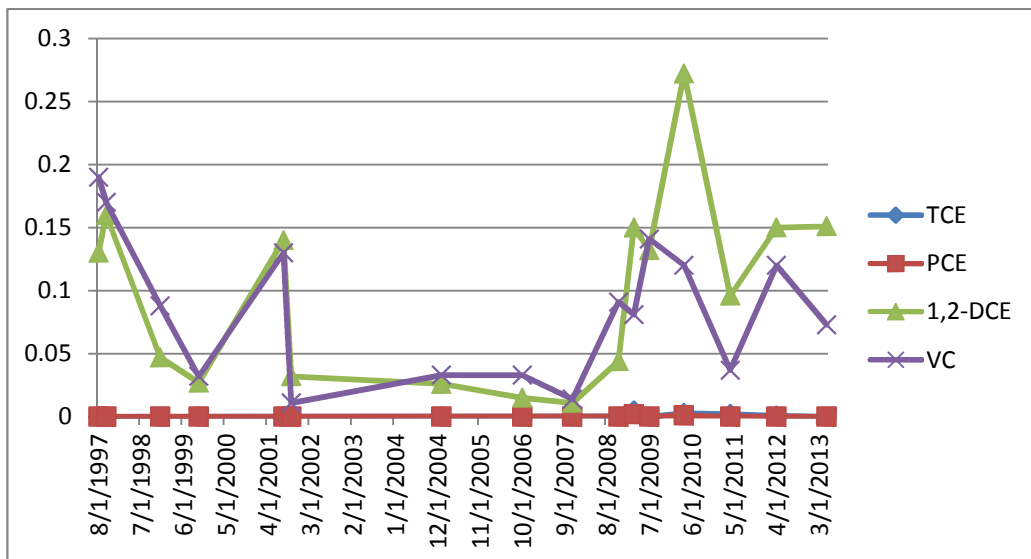
MW-12 Groundwater Data  
Delphi Harrison Thermal Systems Site  
GM Components Holdings, LLC  
Lockport, New York

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

Notes:

Results are provided in parts per million (ppm)

Duplicate samples were collected from this location on 8/28/97 and 8/8/01. The higher of the two concentrations were recorded in this graph.



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

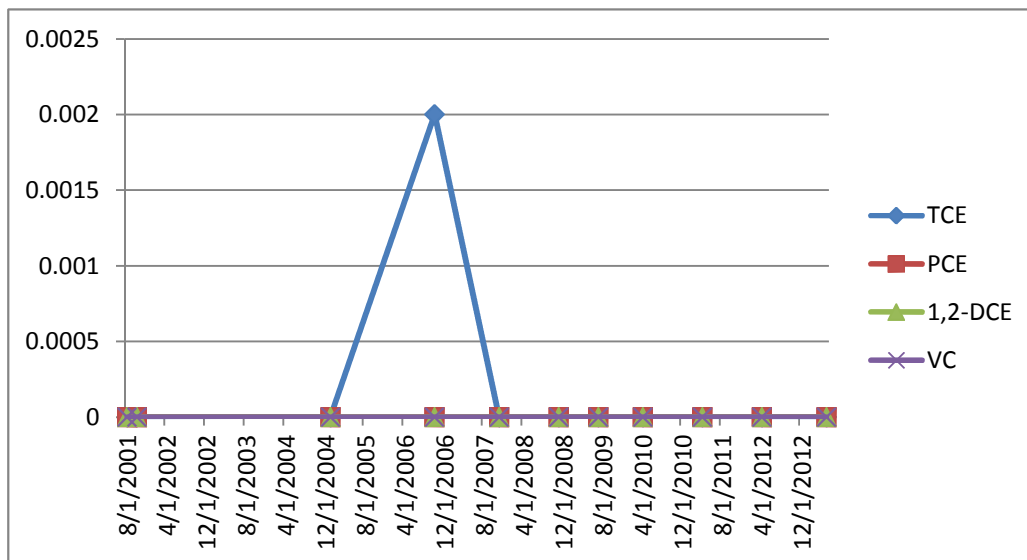
Date	TCE	PCE	1,2-DCE	VC
8/8/2001	<0.002	<0.002	<0.002	<0.002
10/29/2001	<0.002	<0.002	<0.002	<0.002
1/12/2005	<0.002	<0.002	<0.002	<0.002
10/24/2006	0.002	<0.002	<0.002	<0.002
11/28/2007	<0.002	<0.002	<0.002	<0.002
11/5/2008	<0.002	<0.002	<0.002	<0.002
7/16/2009	<0.005	<0.005	<0.005	<0.005
4/28/2010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

Notes:

Results are provided in parts per million (ppm)

A duplicate sample was collected from this location on 4/19/2012.

The higher of the two concentrations were recorded in this graph.

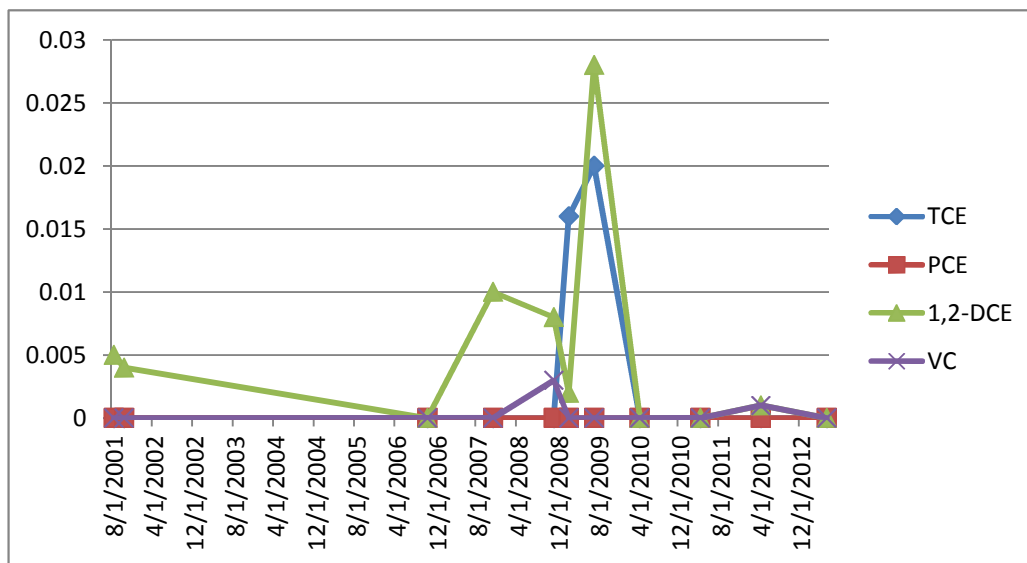


MW-14 Groundwater Data  
Delphi Harrison Thermal Systems Site  
GM Components Holdings, LLC  
Lockport, New York

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

Notes:

Results are provided in parts per million (ppm)



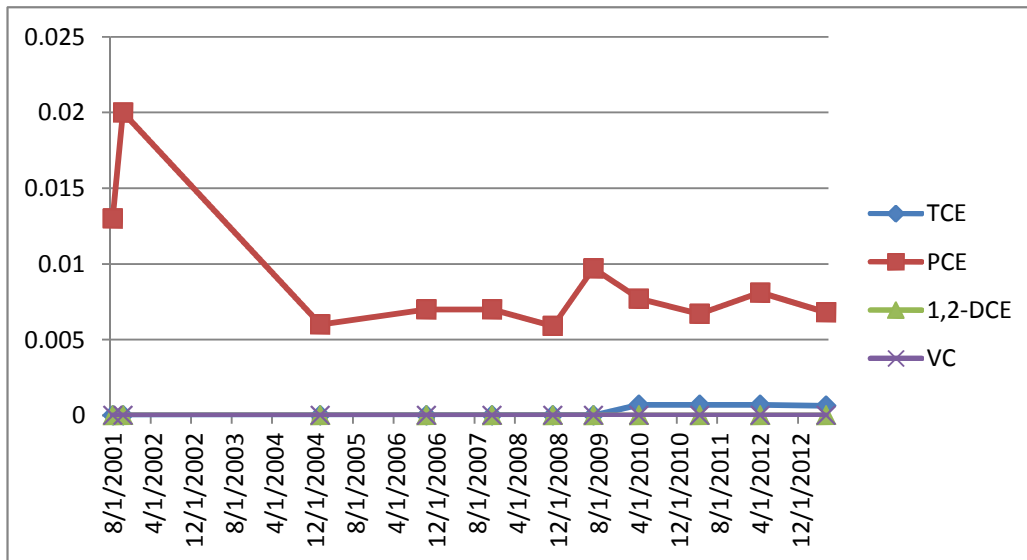
MW-15 Groundwater Data  
Delphi Harrison Thermal Systems Site  
GM Components Holdings, LLC  
Lockport, New York

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

Notes:

Results are provided in parts per million (ppm)

Duplicate samples were collected from this location on 10/30/01. The higher of the two concentrations were recorded in this graph.





## **APPENDIX C**

### **TEST AMERICA ANALYTICAL LABORATORY REPORT**

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Buffalo

10 Hazelwood Drive

Amherst, NY 14228-2298

Tel: (716)691-2600

TestAmerica Job ID: 480-37417-1

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

For:

Conestoga-Rovers & Associates, Inc.

2055 Niagara Falls Blvd., Suite 3

Niagara Falls, New York 14304

Attn: Kathleen Willy



Authorized for release by:

5/16/2013 9:51:49 AM

Rebecca Jones, Project Mgmt. Assistant

[rebecca.jones@testamericainc.com](mailto:rebecca.jones@testamericainc.com)

Designee for

Melissa Deyo, Project Manager I

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

### LINKS

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*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. 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.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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## Definitions/Glossary

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

TestAmerica Job ID: 480-37417-1

### Qualifiers

#### GC/MS VOA

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

#### GC VOA

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

#### Metals

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

### Glossary

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



## Case Narrative

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

TestAmerica Job ID: 480-37417-1

### Job ID: 480-37417-1

Laboratory: TestAmerica Buffalo

#### Narrative

#### Job Narrative 480-37417-1

##### Receipt

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

##### GC/MS VOA

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

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

No other analytical or quality issues were noted.

##### IC

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

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

No other analytical or quality issues were noted.

##### GC VOA

No analytical or quality issues were noted.

##### Metals

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

No other analytical or quality issues were noted.

##### General Chemistry

No analytical or quality issues were noted.

## Detection Summary

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

TestAmerica Job ID: 480-37417-1

**Client Sample ID: MW-10-050113**

**Lab Sample ID: 480-37417-1**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	180		4.0	3.2	ug/L	4		8260B	Total/NA
Trichloroethene	56		4.0	1.8	ug/L	4		8260B	Total/NA
Vinyl chloride	14		4.0	3.6	ug/L	4		8260B	Total/NA
Ethane	0.71	J	7.5	0.49	ug/L	1		RSK-175	Total/NA
Ethene	1.2	J	7.0	0.52	ug/L	1		RSK-175	Total/NA
Methane	58		4.0	0.22	ug/L	1		RSK-175	Total/NA
Iron	0.48		0.050	0.019	mg/L	1		6010B	Total/NA
Magnesium	31.8		0.20	0.043	mg/L	1		6010B	Total/NA
Manganese	1.5	B	0.0030	0.00040	mg/L	1		6010B	Total/NA
Potassium	3.4		0.50	0.10	mg/L	1		6010B	Total/NA
Sodium	845		1.0	0.32	mg/L	1		6010B	Total/NA
Chloride	1470		10.0	5.6	mg/L	20		300.0	Total/NA
Sulfate	153		40.0	7.0	mg/L	20		300.0	Total/NA
Ammonia	0.039		0.020	0.0090	mg/L	1		350.1	Total/NA
Nitrate	0.33		0.050	0.020	mg/L	1		353.2	Total/NA
Total Organic Carbon	3.3		1.0	0.43	mg/L	1		9060	Total/NA
Total Alkalinity	270		5.0	0.79	mg/L	1		SM 2320B	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Carbon dioxide	7400		1000	1000	ug/L	1		RSK-175	Total/NA

**Client Sample ID: MW-4-050113**

**Lab Sample ID: 480-37417-2**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	45000		500	410	ug/L	500		8260B	Total/NA
Trichloroethene	24000		500	230	ug/L	500		8260B	Total/NA
Vinyl chloride	6600		500	450	ug/L	500		8260B	Total/NA
Iron	3.9		0.050	0.019	mg/L	1		6010B	Total/NA
Magnesium	163		0.20	0.043	mg/L	1		6010B	Total/NA
Manganese	2.0	B	0.0030	0.00040	mg/L	1		6010B	Total/NA
Potassium	20.2		0.50	0.10	mg/L	1		6010B	Total/NA
Sodium	2080		1.0	0.32	mg/L	1		6010B	Total/NA
Chloride	4300		25.0	14.1	mg/L	50		300.0	Total/NA
Sulfate	268		100	17.5	mg/L	50		300.0	Total/NA
Ammonia	3.4		0.040	0.018	mg/L	2		350.1	Total/NA
Total Organic Carbon	2.8		1.0	0.43	mg/L	1		9060	Total/NA
Total Alkalinity	329		5.0	0.79	mg/L	1		SM 2320B	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Carbon dioxide	23000		1000	1000	ug/L	1		RSK-175	Total/NA

**Client Sample ID: MW-15-050113**

**Lab Sample ID: 480-37417-3**

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

This Detection Summary does not include radiochemical test results.

TestAmerica Buffalo

## Detection Summary

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

TestAmerica Job ID: 480-37417-1

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

Lab Sample ID: 480-37417-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Nitrate	1.4		0.050	0.020	mg/L	1		353.2	Total/NA
Total Organic Carbon	2.1		1.0	0.43	mg/L	1		9060	Total/NA
Total Alkalinity	415		5.0	0.79	mg/L	1		SM 2320B	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Carbon dioxide	15000		1000	1000	ug/L	1		RSK-175	Total/NA

### Client Sample ID: TRIP BLANK

Lab Sample ID: 480-37417-4

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Buffalo

# Client Sample Results

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

TestAmerica Job ID: 480-37417-1

**Client Sample ID: MW-10-050113**

**Lab Sample ID: 480-37417-1**

**Date Collected: 05/01/13 10:30**

**Matrix: Water**

**Date Received: 05/01/13 17:35**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	180		4.0	3.2	ug/L			05/09/13 22:04	4
Tetrachloroethene	ND		4.0	1.4	ug/L			05/09/13 22:04	4
trans-1,2-Dichloroethene	ND		4.0	3.6	ug/L			05/09/13 22:04	4
Trichloroethene	56		4.0	1.8	ug/L			05/09/13 22:04	4
Vinyl chloride	14		4.0	3.6	ug/L			05/09/13 22:04	4
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		66 - 137					05/09/13 22:04	4
4-Bromofluorobenzene (Surr)	102		73 - 120					05/09/13 22:04	4
Toluene-d8 (Surr)	105		71 - 126					05/09/13 22:04	4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	0.71	J	7.5	0.49	ug/L			05/03/13 08:31	1
Ethene	1.2	J	7.0	0.52	ug/L			05/03/13 08:31	1
Methane	58		4.0	0.22	ug/L			05/03/13 08:31	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	7400		1000	1000	ug/L			05/07/13 13:19	1

## Method: 6010B - Metals (ICP)

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

## General Chemistry

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

TestAmerica Buffalo



# Client Sample Results

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

TestAmerica Job ID: 480-37417-1

**Client Sample ID: MW-4-050113**

**Lab Sample ID: 480-37417-2**

**Date Collected: 05/01/13 14:15**

**Matrix: Water**

**Date Received: 05/01/13 17:35**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	45000		500	410	ug/L			05/09/13 12:37	500
Tetrachloroethene	ND		500	180	ug/L			05/09/13 12:37	500
trans-1,2-Dichloroethene	ND		500	450	ug/L			05/09/13 12:37	500
Trichloroethene	24000		500	230	ug/L			05/09/13 12:37	500
Vinyl chloride	6600		500	450	ug/L			05/09/13 12:37	500
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		66 - 137					05/09/13 12:37	500
4-Bromofluorobenzene (Surr)	100		73 - 120					05/09/13 12:37	500
Toluene-d8 (Surr)	104		71 - 126					05/09/13 12:37	500

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	ND		7.5	0.49	ug/L			05/03/13 11:29	1
Ethene	ND		7.0	0.52	ug/L			05/03/13 11:29	1
Methane	ND		4.0	0.22	ug/L			05/03/13 11:29	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	23000		1000	1000	ug/L			05/07/13 13:28	1

## Method: 6010B - Metals (ICP)

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

## General Chemistry

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

TestAmerica Buffalo

# Client Sample Results

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

TestAmerica Job ID: 480-37417-1

**Client Sample ID: MW-15-050113**

**Lab Sample ID: 480-37417-3**

**Date Collected: 05/01/13 16:10**

**Matrix: Water**

**Date Received: 05/01/13 17:35**

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

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

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

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	ND		7.5	0.49	ug/L			05/03/13 09:05	1
Ethene	ND		7.0	0.52	ug/L			05/03/13 09:05	1
Methane	ND		4.0	0.22	ug/L			05/03/13 09:05	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Carbon dioxide</b>	<b>15000</b>		1000	1000	ug/L			05/07/13 13:38	1

## Method: 6010B - Metals (ICP)

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

## General Chemistry

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

TestAmerica Buffalo

## Client Sample Results

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

TestAmerica Job ID: 480-37417-1

**Client Sample ID: TRIP BLANK**

**Lab Sample ID: 480-37417-4**

**Date Collected: 05/01/13 00:00**

**Matrix: Water**

**Date Received: 05/01/13 17:35**

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

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

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

## Surrogate Summary

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

TestAmerica Job ID: 480-37417-1

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

Matrix: Water

Prep Type: Total/NA

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

#### Surrogate Legend

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

BFB = 4-Bromofluorobenzene (Surr)

TOL = Toluene-d8 (Surr)



# QC Sample Results

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

TestAmerica Job ID: 480-37417-1

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

Lab Sample ID: MB 480-117584/5

Matrix: Water

Analysis Batch: 117584

Client Sample ID: Method Blank

Prep Type: Total/NA

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

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

Lab Sample ID: LCS 480-117584/4

Matrix: Water

Analysis Batch: 117584

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

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

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

Lab Sample ID: MB 480-117784/5

Matrix: Water

Analysis Batch: 117784

Client Sample ID: Method Blank

Prep Type: Total/NA

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

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

TestAmerica Buffalo

# QC Sample Results

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

TestAmerica Job ID: 480-37417-1

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

Lab Sample ID: LCS 480-117784/4

Matrix: Water

Analysis Batch: 117784

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

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

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

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

Lab Sample ID: MB 480-116579/2

Matrix: Water

Analysis Batch: 116579

Client Sample ID: Method Blank

Prep Type: Total/NA

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

Lab Sample ID: LCS 480-116579/3

Matrix: Water

Analysis Batch: 116579

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

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

Lab Sample ID: MB 200-55142/3

Matrix: Water

Analysis Batch: 55142

Client Sample ID: Method Blank

Prep Type: Total/NA

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

Lab Sample ID: LCS 200-55142/2

Matrix: Water

Analysis Batch: 55142

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

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

TestAmerica Buffalo

## QC Sample Results

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

TestAmerica Job ID: 480-37417-1

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

Lab Sample ID: MB 480-116383/1-A

Matrix: Water

Analysis Batch: 116598

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 116383

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

Lab Sample ID: LCS 480-116383/2-A

Matrix: Water

Analysis Batch: 116598

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 116383

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

### Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 480-116467/52

Matrix: Water

Analysis Batch: 116467

Client Sample ID: Method Blank

Prep Type: Total/NA

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

Lab Sample ID: LCS 480-116467/51

Matrix: Water

Analysis Batch: 116467

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

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

Lab Sample ID: MB 480-116748/52

Matrix: Water

Analysis Batch: 116748

Client Sample ID: Method Blank

Prep Type: Total/NA

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

Lab Sample ID: LCS 480-116748/51

Matrix: Water

Analysis Batch: 116748

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

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

TestAmerica Buffalo

# QC Sample Results

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

TestAmerica Job ID: 480-37417-1

## Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 480-116748/51

Matrix: Water

Analysis Batch: 116748

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

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

## Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 480-116492/123

Matrix: Water

Analysis Batch: 116492

Client Sample ID: Method Blank

Prep Type: Total/NA

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

Lab Sample ID: MB 480-116492/171

Matrix: Water

Analysis Batch: 116492

Client Sample ID: Method Blank

Prep Type: Total/NA

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

Lab Sample ID: MB 480-116492/51

Matrix: Water

Analysis Batch: 116492

Client Sample ID: Method Blank

Prep Type: Total/NA

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

Lab Sample ID: MB 480-116492/99

Matrix: Water

Analysis Batch: 116492

Client Sample ID: Method Blank

Prep Type: Total/NA

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

Lab Sample ID: LCS 480-116492/100

Matrix: Water

Analysis Batch: 116492

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

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

Lab Sample ID: LCS 480-116492/124

Matrix: Water

Analysis Batch: 116492

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

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

TestAmerica Buffalo



# QC Sample Results

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

TestAmerica Job ID: 480-37417-1

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

Lab Sample ID: LCS 480-116492/172

Matrix: Water

Analysis Batch: 116492

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

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

Lab Sample ID: LCS 480-116492/52

Matrix: Water

Analysis Batch: 116492

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

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

Lab Sample ID: 480-37417-2 DU

Matrix: Water

Analysis Batch: 116492

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

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

## Method: 353.2 - Nitrogen, Nitrite

Lab Sample ID: MB 480-116368/24

Matrix: Water

Analysis Batch: 116368

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

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

Lab Sample ID: MB 480-116368/3

Matrix: Water

Analysis Batch: 116368

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

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

Lab Sample ID: LCS 480-116368/25

Matrix: Water

Analysis Batch: 116368

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

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

Lab Sample ID: LCS 480-116368/4

Matrix: Water

Analysis Batch: 116368

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

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

TestAmerica Buffalo

# QC Sample Results

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

TestAmerica Job ID: 480-37417-1

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

Lab Sample ID: MB 480-116737/27

Matrix: Water

Analysis Batch: 116737

Client Sample ID: Method Blank

Prep Type: Total/NA

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

Lab Sample ID: MB 480-116737/3

Matrix: Water

Analysis Batch: 116737

Client Sample ID: Method Blank

Prep Type: Total/NA

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

Lab Sample ID: LCS 480-116737/28

Matrix: Water

Analysis Batch: 116737

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

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

Lab Sample ID: LCS 480-116737/4

Matrix: Water

Analysis Batch: 116737

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

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

## Method: SM 2320B - Alkalinity

Lab Sample ID: MB 480-117105/6

Matrix: Water

Analysis Batch: 117105

Client Sample ID: Method Blank

Prep Type: Total/NA

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

Lab Sample ID: LCS 480-117105/7

Matrix: Water

Analysis Batch: 117105

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

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

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

Lab Sample ID: MB 480-116743/3

Matrix: Water

Analysis Batch: 116743

Client Sample ID: Method Blank

Prep Type: Total/NA

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

TestAmerica Buffalo

## QC Sample Results

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

TestAmerica Job ID: 480-37417-1

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

Lab Sample ID: LCS 480-116743/4

Matrix: Water

Analysis Batch: 116743

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

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

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

Lab Sample ID: MB 480-117043/28

Matrix: Water

Analysis Batch: 117043

Client Sample ID: Method Blank

Prep Type: Total/NA

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

Lab Sample ID: LCS 480-117043/27

Matrix: Water

Analysis Batch: 117043

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

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

## QC Association Summary

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

TestAmerica Job ID: 480-37417-1

### GC/MS VOA

#### Analysis Batch: 117584

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

#### Analysis Batch: 117784

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

### GC VOA

#### Analysis Batch: 55142

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

#### Analysis Batch: 116579

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

### Metals

#### Prep Batch: 116383

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

#### Analysis Batch: 116598

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

TestAmerica Buffalo



## QC Association Summary

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

TestAmerica Job ID: 480-37417-1

### General Chemistry

#### Analysis Batch: 116368

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

#### Analysis Batch: 116409

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

#### Analysis Batch: 116417

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

#### Analysis Batch: 116467

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

#### Analysis Batch: 116492

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

#### Analysis Batch: 116737

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

#### Analysis Batch: 116743

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

TestAmerica Buffalo

## QC Association Summary

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

TestAmerica Job ID: 480-37417-1

### General Chemistry (Continued)

#### Analysis Batch: 116743 (Continued)

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

#### Analysis Batch: 116748

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

#### Analysis Batch: 117043

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

#### Analysis Batch: 117105

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

# Lab Chronicle

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

TestAmerica Job ID: 480-37417-1

**Client Sample ID: MW-10-050113**

**Date Collected: 05/01/13 10:30**

**Date Received: 05/01/13 17:35**

**Lab Sample ID: 480-37417-1**

**Matrix: Water**

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

**Client Sample ID: MW-4-050113**

**Date Collected: 05/01/13 14:15**

**Date Received: 05/01/13 17:35**

**Lab Sample ID: 480-37417-2**

**Matrix: Water**

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

**Client Sample ID: MW-15-050113**

**Date Collected: 05/01/13 16:10**

**Date Received: 05/01/13 17:35**

**Lab Sample ID: 480-37417-3**

**Matrix: Water**

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

TestAmerica Buffalo

## Lab Chronicle

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

TestAmerica Job ID: 480-37417-1

**Client Sample ID: MW-15-050113**

**Lab Sample ID: 480-37417-3**

**Date Collected: 05/01/13 16:10**

**Matrix: Water**

**Date Received: 05/01/13 17:35**

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

**Client Sample ID: TRIP BLANK**

**Lab Sample ID: 480-37417-4**

**Date Collected: 05/01/13 00:00**

**Matrix: Water**

**Date Received: 05/01/13 17:35**

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

### Laboratory References:

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

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



## Certification Summary

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

TestAmerica Job ID: 480-37417-1

### Laboratory: TestAmerica Buffalo

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

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

### Laboratory: TestAmerica Burlington

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

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

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

TestAmerica Buffalo

## Certification Summary

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

TestAmerica Job ID: 480-37417-1

### Laboratory: TestAmerica Burlington (Continued)

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

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

## Method Summary

Client: Conestoga-Rovers & Associates, Inc.

TestAmerica Job ID: 480-37417-1

Project/Site: 058507, GM-Lockport Groundwater Sampling

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

### Protocol References:

EPA = US Environmental Protection Agency

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

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

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

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

TestAmerica SOP = TestAmerica, Inc., Standard Operating Procedure

### Laboratory References:

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

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

## Sample Summary

Client: Conestoga-Rovers & Associates, Inc.

TestAmerica Job ID: 480-37417-1

Project/Site: 058507, GM-Lockport Groundwater Sampling

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



# TestAmerica Buffalo

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

## Chain of Custody Record

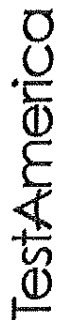
**TestAmerica**  
THE LEADER IN ENVIRONMENTAL TESTING

<b>Client Information</b> Client Contact: Mr. Christopher Boron Phone: (716) 844-7050 Email: melissa.devo@testamericainc.com		Lab PM: Devo, Melissa L Carrier Tracking No(s):	
Company: GZA GeoEnvironmental, Inc. Address: 535 Washington Street 11th Floor City: Buffalo State, Zip: NY, 14203 Phone: (716) 885-2300 Email: christopher.boron@gza.com		Due Date Requested: TAT Requested (days): 3 Weeks PO #: 4047085 WO #: 58507 Project #: 48004014 SSOW #: 256015	
Site: <b>Delphi Harrison Thermal Systems Site</b> Project Name: 058507, GM-Lockport Groundwater Sampling		Matrix (Water, Soil, Sediment, Oil, Gas, etc.) Sample Type (C=Comp, G=Grab) Sample Time Sample Date	
Sample Identification MW-10-050113 MW-4-050113 MW-15-050113 Trip Blank		Field Filtered Sample (Yes or No) RSK_175_CO2 - Carbon dioxide VFA_IC - Volatile Fatty Acids 350_1 - Ammonia 6010B - Metals - Fe, Mn, Mg, K & Na 8260B - PCE, TCE, DCE (trans and cis), Vinyl Chloride 9060 - Total Organic Carbon RSK_175 - Methane, Ethane, Ethene SM4500_S2_D - Sulfide 353.2, 353.2_Nitrite, Nitrate, Calc 2320B - Total Alkalinity 300.0_28D - Anions (Chloride & Sulfate) AM20GAX Total Number of Containers	
Special Instructions/Note: A-Microseeds Dissolved H <sub>2</sub>		Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO <sub>4</sub> F - MeOH G - Anchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify)			
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months			
Special Instructions/QC Requirements:			
Empty Kit Relinquished by: _____ Date: _____ Relinquished by: <b>Thomas Boron</b> Date/Time: <b>5/11/13 / 1735</b> Company: <b>GZA</b> Relinquished by: _____ Date/Time: _____ Company: _____ Relinquished by: _____ Date/Time: _____ Company: _____ Custody Seal No.: _____ Custody Seal Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			

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Phone (716) 691-2600 Fax (716) 691-7991

## Chain of Custody Record



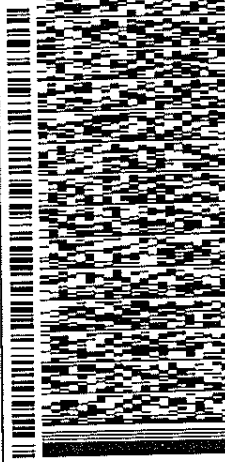
# THE LEADER & ENVIRONMENTAL TESTING

[illegible]

ORIGIN ID: DKKA (716) 691-2600  
KEN KINECKI  
TESTAMERICA  
10 HAZELWOOD DR  
ARHERST, NY 14228  
UNITED STATES US

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

TO MARK PHILLIPS  
TA BURLINGTON  
30 COMMUNITY DRIVE  
SUITE 11  
SOUTH BURLINGTON VT 05403  
(602) 660-1990  
REF: BURLINGTON  
DEPT: SAMPLE CONTROL

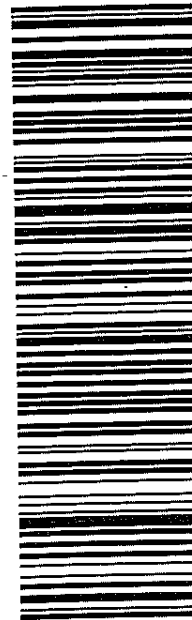


FRI - 03 MAY 3:00P  
STANDARD OVERNIGHT

MPS# 4485 0264 3056  
Mstr# 4485 0264 3045

ZF BTVA

05403  
VT-US BTV

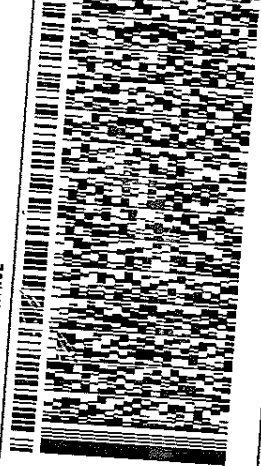


P&H # 151251-354 RIT2 02/13

ORIGIN ID: DKKA (716) 691-2600  
KEN KINECKI  
TESTAMERICA  
10 HAZELWOOD DR  
ARHERST, NY 14228  
UNITED STATES US

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

TO MARK PHILLIPS  
TA BURLINGTON  
30 COMMUNITY DRIVE  
SUITE 11  
SOUTH BURLINGTON VT 05403  
(602) 660-1990  
REF: BURLINGTON  
DEPT: SAMPLE CONTROL

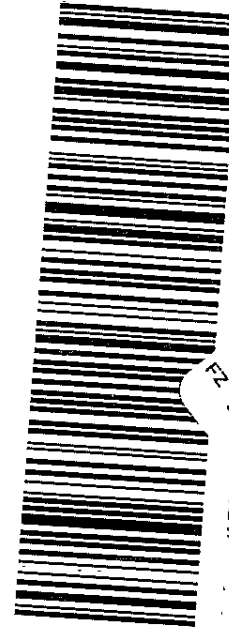


FRI - 03 MAY 3:00P  
STANDARD OVERNIGHT

1 of 2  
TRK# 4485 0264 3045  
## MASTER ##

ZF BTVA

05403  
VT-US BTV



P&H # 151251-354 RIT2 02/13

## Login Sample Receipt Checklist

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 480-37417-1

Login Number: 37417

List Source: TestAmerica Buffalo

List Number: 1

Creator: Kolb, Chris M

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



## Login Sample Receipt Checklist

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 480-37417-1

**Login Number: 37417**

**List Source: TestAmerica Burlington**

**List Number: 1**

**List Creation: 05/03/13 12:23 PM**

**Creator: Poucher, Stephanie A**

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

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Buffalo

10 Hazelwood Drive

Amherst, NY 14228-2298

Tel: (716)691-2600

TestAmerica Job ID: 480-37534-1

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

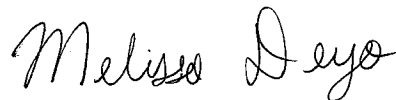
For:

Conestoga-Rovers & Associates, Inc.

2055 Niagara Falls Blvd., Suite 3

Niagara Falls, New York 14304

Attn: Kathleen Willy



Authorized for release by:

5/15/2013 11:54:50 AM

Melissa Deyo, Project Manager I

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

### LINKS

Review your project  
results through

TotalAccess

Have a Question?



Visit us at:

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

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. 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.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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## Definitions/Glossary

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

TestAmerica Job ID: 480-37534-1

### Qualifiers

#### GC/MS VOA

Qualifier	Qualifier Description
F	MS or MSD exceeds the control limits

#### GC VOA

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

#### Metals

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

#### General Chemistry

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

### Glossary

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

## Case Narrative

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

TestAmerica Job ID: 480-37534-1

### Job ID: 480-37534-1

#### Laboratory: TestAmerica Buffalo

#### Narrative

#### Job Narrative 480-37534-1

#### Receipt

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

#### GC/MS VOA

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

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

No other analytical or quality issues were noted.

#### IC

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

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

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

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

No other analytical or quality issues were noted.

#### GC VOA

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

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

No other analytical or quality issues were noted.

#### Metals

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

No other analytical or quality issues were noted.

#### General Chemistry

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

No other analytical or quality issues were noted.



## Detection Summary

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

TestAmerica Job ID: 480-37534-1

**Client Sample ID: G-1-050213**

**Lab Sample ID: 480-37534-1**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	14		1.0	0.81	ug/L	1			8260B	Total/NA
Trichloroethene	21		1.0	0.46	ug/L	1			8260B	Total/NA
Tetrachloroethene - DL	110		2.0	0.72	ug/L	2			8260B	Total/NA
Iron	0.057		0.050	0.019	mg/L	1			6010B	Total/NA
Magnesium	101		0.20	0.043	mg/L	1			6010B	Total/NA
Manganese	0.0071	B	0.0030	0.00040	mg/L	1			6010B	Total/NA
Potassium	11.1		0.50	0.10	mg/L	1			6010B	Total/NA
Sodium	2160		1.0	0.32	mg/L	1			6010B	Total/NA
Chloride	3810		50.0	28.2	mg/L	100			300.0	Total/NA
Sulfate	301		40.0	7.0	mg/L	20			300.0	Total/NA
Nitrate	1.3		0.050	0.020	mg/L	1			353.2	Total/NA
Total Organic Carbon	1.4		1.0	0.43	mg/L	1			9060	Total/NA
Total Alkalinity	300		5.0	0.79	mg/L	1			SM 2320B	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil	Fac	D	Method	Prep Type
Carbon dioxide	11000		1000	1000	ug/L	1			RSK-175	Total/NA

**Client Sample ID: MW-11-050213**

**Lab Sample ID: 480-37534-2**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.1		1.0	0.81	ug/L	1			8260B	Total/NA
Vinyl chloride	1.1		1.0	0.90	ug/L	1			8260B	Total/NA
Ethane	1.0	J	7.5	0.49	ug/L	1			RSK-175	Total/NA
Ethene	1.3	J	7.0	0.52	ug/L	1			RSK-175	Total/NA
Methane	40		4.0	0.22	ug/L	1			RSK-175	Total/NA
Iron	0.70		0.050	0.019	mg/L	1			6010B	Total/NA
Magnesium	47.0		0.20	0.043	mg/L	1			6010B	Total/NA
Manganese	0.17	B	0.0030	0.00040	mg/L	1			6010B	Total/NA
Potassium	9.0		0.50	0.10	mg/L	1			6010B	Total/NA
Sodium	151		1.0	0.32	mg/L	1			6010B	Total/NA
Chloride	333		2.5	1.4	mg/L	5			300.0	Total/NA
Sulfate	84.6		2.0	0.35	mg/L	1			300.0	Total/NA
Ammonia	0.15		0.020	0.0090	mg/L	1			350.1	Total/NA
Nitrate	0.34		0.050	0.020	mg/L	1			353.2	Total/NA
Total Organic Carbon	1.6		1.0	0.43	mg/L	1			9060	Total/NA
Total Alkalinity	259		5.0	0.79	mg/L	1			SM 2320B	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil	Fac	D	Method	Prep Type
Carbon dioxide	4200		1000	1000	ug/L	1			RSK-175	Total/NA

**Client Sample ID: MW-13-050213**

**Lab Sample ID: 480-37534-3**

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

This Detection Summary does not include radiochemical test results.

TestAmerica Buffalo

## Detection Summary

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

TestAmerica Job ID: 480-37534-1

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

Lab Sample ID: 480-37534-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Nitrate	0.057		0.050	0.020	mg/L	1			353.2	Total/NA
Total Organic Carbon	3.8		1.0	0.43	mg/L	1			9060	Total/NA
Total Alkalinity	382		5.0	0.79	mg/L	1			SM 2320B	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil	Fac	D	Method	Prep Type
Carbon dioxide	3700		1000	1000	ug/L	1			RSK-175	Total/NA

### Client Sample ID: Trip Blank

Lab Sample ID: 480-37534-4

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Buffalo

# Client Sample Results

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

TestAmerica Job ID: 480-37534-1

**Client Sample ID: G-1-050213**

**Lab Sample ID: 480-37534-1**

**Date Collected: 05/02/13 08:50**

**Matrix: Water**

**Date Received: 05/02/13 17:30**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	14		1.0	0.81	ug/L			05/10/13 23:45	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			05/10/13 23:45	1
Trichloroethene	21		1.0	0.46	ug/L			05/10/13 23:45	1
Vinyl chloride	ND		1.0	0.90	ug/L			05/10/13 23:45	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		66 - 137					05/10/13 23:45	1
4-Bromofluorobenzene (Surr)	101		73 - 120					05/10/13 23:45	1
Toluene-d8 (Surr)	103		71 - 126					05/10/13 23:45	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	110		2.0	0.72	ug/L			05/11/13 11:42	2
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		66 - 137					05/11/13 11:42	2
4-Bromofluorobenzene (Surr)	107		73 - 120					05/11/13 11:42	2
Toluene-d8 (Surr)	107		71 - 126					05/11/13 11:42	2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	ND		7.5	0.49	ug/L			05/03/13 11:46	1
Ethene	ND		7.0	0.52	ug/L			05/03/13 11:46	1
Methane	ND		4.0	0.22	ug/L			05/03/13 11:46	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	11000		1000	1000	ug/L			05/07/13 14:12	1

## Method: 6010B - Metals (ICP)

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

## General Chemistry

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

TestAmerica Buffalo

# Client Sample Results

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

TestAmerica Job ID: 480-37534-1

**Client Sample ID: G-1-050213**

**Lab Sample ID: 480-37534-1**

**Date Collected: 05/02/13 08:50**

**Matrix: Water**

**Date Received: 05/02/13 17:30**

## General Chemistry (Continued)

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

**Client Sample ID: MW-11-050213**

**Lab Sample ID: 480-37534-2**

**Date Collected: 05/02/13 11:30**

**Matrix: Water**

**Date Received: 05/02/13 17:30**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.1		1.0	0.81	ug/L			05/11/13 00:07	1
Tetrachloroethene	ND		1.0	0.36	ug/L			05/11/13 00:07	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			05/11/13 00:07	1
Trichloroethene	ND		1.0	0.46	ug/L			05/11/13 00:07	1
Vinyl chloride	1.1		1.0	0.90	ug/L			05/11/13 00:07	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		66 - 137					05/11/13 00:07	1
4-Bromofluorobenzene (Surr)	102		73 - 120					05/11/13 00:07	1
Toluene-d8 (Surr)	105		71 - 126					05/11/13 00:07	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	1.0	J	7.5	0.49	ug/L			05/03/13 12:03	1
Ethene	1.3	J	7.0	0.52	ug/L			05/03/13 12:03	1
Methane	40		4.0	0.22	ug/L			05/03/13 12:03	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	4200		1000	1000	ug/L			05/07/13 14:21	1

## Method: 6010B - Metals (ICP)

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

## General Chemistry

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

TestAmerica Buffalo

# Client Sample Results

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

TestAmerica Job ID: 480-37534-1

**Client Sample ID: MW-11-050213**

**Lab Sample ID: 480-37534-2**

**Date Collected: 05/02/13 11:30**

**Matrix: Water**

**Date Received: 05/02/13 17:30**

## General Chemistry (Continued)

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

**Client Sample ID: MW-13-050213**

**Lab Sample ID: 480-37534-3**

**Date Collected: 05/02/13 13:50**

**Matrix: Water**

**Date Received: 05/02/13 17:30**

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

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

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

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	ND		75	4.9	ug/L			05/03/13 13:39	10
Ethene	ND		70	5.2	ug/L			05/03/13 13:39	10
Methane	110		40	2.2	ug/L			05/03/13 13:39	10
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	3700		1000	1000	ug/L			05/13/13 14:08	1

## Method: 6010B - Metals (ICP)

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

## General Chemistry

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

TestAmerica Buffalo



## Client Sample Results

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

TestAmerica Job ID: 480-37534-1

**Client Sample ID: MW-13-050213**

**Lab Sample ID: 480-37534-3**

**Date Collected: 05/02/13 13:50**

**Matrix: Water**

**Date Received: 05/02/13 17:30**

### General Chemistry (Continued)

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

**Client Sample ID: Trip Blank**

**Lab Sample ID: 480-37534-4**

**Date Collected: 05/02/13 00:00**

**Matrix: Water**

**Date Received: 05/02/13 17:30**

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

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

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

## Surrogate Summary

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

TestAmerica Job ID: 480-37534-1

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

Matrix: Water

Prep Type: Total/NA

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

#### Surrogate Legend

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

BFB = 4-Bromofluorobenzene (Surr)

TOL = Toluene-d8 (Surr)

# QC Sample Results

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

TestAmerica Job ID: 480-37534-1

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

Lab Sample ID: MB 480-118039/6

Matrix: Water

Analysis Batch: 118039

Client Sample ID: Method Blank

Prep Type: Total/NA

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

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

Lab Sample ID: LCS 480-118039/5

Matrix: Water

Analysis Batch: 118039

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

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

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

Lab Sample ID: 480-37534-3 MS

Matrix: Water

Analysis Batch: 118039

Client Sample ID: MW-13-050213

Prep Type: Total/NA

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

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

Lab Sample ID: 480-37534-3 MSD

Matrix: Water

Analysis Batch: 118039

Client Sample ID: MW-13-050213

Prep Type: Total/NA

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

TestAmerica Buffalo

# QC Sample Results

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

TestAmerica Job ID: 480-37534-1

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

Lab Sample ID: 480-37534-3 MSD

Matrix: Water

Analysis Batch: 118039

Client Sample ID: MW-13-050213

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Tetrachloroethene	ND		25.0	32.6	F	ug/L		130	74 - 122	1	20
trans-1,2-Dichloroethene	ND		25.0	31.7		ug/L		127	73 - 127	2	20
Trichloroethene	ND		25.0	31.2	F	ug/L		125	74 - 123	0	16
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	95		66 - 137								
4-Bromofluorobenzene (Surr)	96		73 - 120								
Toluene-d8 (Surr)	98		71 - 126								

Lab Sample ID: MB 480-118065/5

Matrix: Water

Analysis Batch: 118065

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			05/11/13 10:34	1
Tetrachloroethene	ND		1.0	0.36	ug/L			05/11/13 10:34	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			05/11/13 10:34	1
Trichloroethene	ND		1.0	0.46	ug/L			05/11/13 10:34	1
Vinyl chloride	ND		1.0	0.90	ug/L			05/11/13 10:34	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	90		66 - 137					05/11/13 10:34	1
4-Bromofluorobenzene (Surr)	105		73 - 120					05/11/13 10:34	1
Toluene-d8 (Surr)	106		71 - 126					05/11/13 10:34	1

Lab Sample ID: LCS 480-118065/4

Matrix: Water

Analysis Batch: 118065

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
cis-1,2-Dichloroethene	25.0	27.7		ug/L		111	74 - 124
Tetrachloroethene	25.0	25.7		ug/L		103	74 - 122
trans-1,2-Dichloroethene	25.0	23.9		ug/L		96	73 - 127
Trichloroethene	25.0	24.7		ug/L		99	74 - 123
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	90		66 - 137				
4-Bromofluorobenzene (Surr)	109		73 - 120				
Toluene-d8 (Surr)	104		71 - 126				

TestAmerica Buffalo

# QC Sample Results

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

TestAmerica Job ID: 480-37534-1

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

Lab Sample ID: MB 480-116579/2

Matrix: Water

Analysis Batch: 116579

Client Sample ID: Method Blank

Prep Type: Total/NA

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

Lab Sample ID: LCS 480-116579/3

Matrix: Water

Analysis Batch: 116579

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

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

Lab Sample ID: 480-37534-3 MS

Matrix: Water

Analysis Batch: 116579

Client Sample ID: MW-13-050213

Prep Type: Total/NA

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

Lab Sample ID: 480-37534-3 MSD

Matrix: Water

Analysis Batch: 116579

Client Sample ID: MW-13-050213

Prep Type: Total/NA

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

Lab Sample ID: MB 200-55142/3

Matrix: Water

Analysis Batch: 55142

Client Sample ID: Method Blank

Prep Type: Total/NA

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

Lab Sample ID: LCS 200-55142/2

Matrix: Water

Analysis Batch: 55142

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

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

TestAmerica Buffalo



# QC Sample Results

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

TestAmerica Job ID: 480-37534-1

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

Lab Sample ID: MB 200-55461/3

Matrix: Water

Analysis Batch: 55461

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	ND		1000	1000	ug/L			05/13/13 13:43	1

Lab Sample ID: LCS 200-55461/2

Matrix: Water

Analysis Batch: 55461

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon dioxide	5010	5660		ug/L		113	70 - 130

Lab Sample ID: 480-37534-3 MS

Matrix: Water

Analysis Batch: 55461

Client Sample ID: MW-13-050213

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon dioxide	3700		5010	6430	F	ug/L		54	70 - 130

Lab Sample ID: 480-37534-3 MSD

Matrix: Water

Analysis Batch: 55461

Client Sample ID: MW-13-050213

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Carbon dioxide	3700		5010	7250		ug/L		71	70 - 130	12	30

## Method: 6010B - Metals (ICP)

Lab Sample ID: MB 480-116635/1-A

Matrix: Water

Analysis Batch: 116955

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 116635

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.050	0.019	mg/L		05/03/13 10:00	05/03/13 18:48	1
Magnesium	ND		0.20	0.043	mg/L		05/03/13 10:00	05/03/13 18:48	1
Manganese	0.000490	J	0.0030	0.00040	mg/L		05/03/13 10:00	05/03/13 18:48	1
Potassium	ND		0.50	0.10	mg/L		05/03/13 10:00	05/03/13 18:48	1
Sodium	ND		1.0	0.32	mg/L		05/03/13 10:00	05/03/13 18:48	1

Lab Sample ID: LCS 480-116635/2-A

Matrix: Water

Analysis Batch: 116955

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 116635

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	10.0	10.11		mg/L		101	80 - 120
Magnesium	10.0	10.26		mg/L		103	80 - 120
Manganese	0.200	0.209		mg/L		104	80 - 120
Potassium	10.0	10.05		mg/L		100	80 - 120
Sodium	10.0	9.85		mg/L		98	80 - 120

TestAmerica Buffalo

# QC Sample Results

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

TestAmerica Job ID: 480-37534-1

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

Lab Sample ID: 480-37534-3 MS

Matrix: Water

Analysis Batch: 116955

Client Sample ID: MW-13-050213

Prep Type: Total/NA

Prep Batch: 116635

Analyte	Sample Result	Sample Qualifier	Spike Added	MS		Unit	D	%Rec	%Rec.	
				Result	Qualifier				Limits	
Iron	4.7		10.0	14.44		mg/L		97	75 - 125	
Magnesium	39.4		10.0	48.14		mg/L		87	75 - 125	
Manganese	4.3	B	0.200	4.36	4	mg/L		32	75 - 125	
Potassium	6.2		10.0	16.78		mg/L		105	75 - 125	
Sodium	964		10.0	947.0	4	mg/L		-172	75 - 125	

Lab Sample ID: 480-37534-3 MSD

Matrix: Water

Analysis Batch: 116955

Client Sample ID: MW-13-050213

Prep Type: Total/NA

Prep Batch: 116635

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD		Unit	D	%Rec	%Rec.		RPD	
				Result	Qualifier				Limits		RPD	Limit
Iron	4.7		10.0	14.53		mg/L		98	75 - 125		1	20
Magnesium	39.4		10.0	48.50		mg/L		91	75 - 125		1	20
Manganese	4.3	B	0.200	4.38	4	mg/L		43	75 - 125		0	20
Potassium	6.2		10.0	16.84		mg/L		106	75 - 125		0	20
Sodium	964		10.0	950.3	4	mg/L		-139	75 - 125		0	20

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 480-116750/76

Matrix: Water

Analysis Batch: 116750

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Chloride	ND		0.50	0.28	mg/L			05/04/13 11:47	1
Sulfate	ND		2.0	0.35	mg/L			05/04/13 11:47	1

Lab Sample ID: LCS 480-116750/75

Matrix: Water

Analysis Batch: 116750

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS		Unit	D	%Rec	%Rec.	
		Result	Qualifier				Limits	
Chloride	20.0	20.32		mg/L		102	90 - 110	
Sulfate	20.0	20.35		mg/L		102	90 - 110	

Lab Sample ID: 480-37534-3 MS

Matrix: Water

Analysis Batch: 116750

Client Sample ID: MW-13-050213

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS		Unit	D	%Rec	%Rec.	
				Result	Qualifier				Limits	
Sulfate	62.7		125	188.7		mg/L		101	90 - 110	

Lab Sample ID: 480-37534-3 MSD

Matrix: Water

Analysis Batch: 116750

Client Sample ID: MW-13-050213

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD		Unit	D	%Rec	%Rec.		RPD	
				Result	Qualifier				Limits		RPD	Limit
Sulfate	62.7		125	200.2		mg/L		110	90 - 110		6	20

TestAmerica Buffalo

## QC Sample Results

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

TestAmerica Job ID: 480-37534-1

### Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 480-116998/4

Matrix: Water

Analysis Batch: 116998

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50	0.28	mg/L			05/06/13 14:03	1
Sulfate	ND		2.0	0.35	mg/L			05/06/13 14:03	1

Lab Sample ID: LCS 480-116998/3

Matrix: Water

Analysis Batch: 116998

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	20.60		mg/L		103	90 - 110
Sulfate	20.0	20.82		mg/L		104	90 - 110

Lab Sample ID: 480-37534-3 MS

Matrix: Water

Analysis Batch: 116998

Client Sample ID: MW-13-050213

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	1590		1250	3018	F	mg/L		114	90 - 110

Lab Sample ID: 480-37534-3 MSD

Matrix: Water

Analysis Batch: 116998

Client Sample ID: MW-13-050213

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	1590		1250	2900		mg/L		105	90 - 110	4	20

### Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 480-116849/99

Matrix: Water

Analysis Batch: 116849

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.020	0.0090	mg/L			05/04/13 14:11	1

Lab Sample ID: LCS 480-116849/100

Matrix: Water

Analysis Batch: 116849

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	1.00	0.971		mg/L		97	90 - 110

Lab Sample ID: 480-37534-3 MS

Matrix: Water

Analysis Batch: 116849

Client Sample ID: MW-13-050213

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	0.60		0.200	0.797		mg/L		96	54 - 150

TestAmerica Buffalo

# QC Sample Results

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

TestAmerica Job ID: 480-37534-1

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

Lab Sample ID: 480-37534-3 MSD

Matrix: Water

Analysis Batch: 116849

Client Sample ID: MW-13-050213

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia	0.60		0.200	0.823		mg/L		110	54 - 150	3	20

## Method: 353.2 - Nitrogen, Nitrite

Lab Sample ID: MB 480-116551/27

Matrix: Water

Analysis Batch: 116551

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite	ND		0.050	0.020	mg/L			05/03/13 00:04	1

Lab Sample ID: MB 480-116551/3

Matrix: Water

Analysis Batch: 116551

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite	ND		0.050	0.020	mg/L			05/02/13 23:37	1

Lab Sample ID: LCS 480-116551/28

Matrix: Water

Analysis Batch: 116551

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrite	1.50	1.52		mg/L		101	90 - 110

Lab Sample ID: LCS 480-116551/4

Matrix: Water

Analysis Batch: 116551

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

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

Lab Sample ID: 480-37534-1 MS

Matrix: Water

Analysis Batch: 116551

Client Sample ID: G-1-050213

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrite	ND		1.00	0.998		mg/L		100	90 - 110

Lab Sample ID: 480-37534-3 MS

Matrix: Water

Analysis Batch: 116551

Client Sample ID: MW-13-050213

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrite	ND		1.00	1.01		mg/L		101	90 - 110

TestAmerica Buffalo

# QC Sample Results

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

TestAmerica Job ID: 480-37534-1

## Method: 353.2 - Nitrogen, Nitrite (Continued)

Lab Sample ID: 480-37534-3 MSD

Matrix: Water

Analysis Batch: 116551

Client Sample ID: MW-13-050213

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrite	ND		1.00	1.02		mg/L		102	90 - 110	1	20

Lab Sample ID: 480-37534-1 DU

Matrix: Water

Analysis Batch: 116551

Client Sample ID: G-1-050213

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Nitrite	ND		ND		mg/L		NC	20

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

Lab Sample ID: MB 480-116925/4

Matrix: Water

Analysis Batch: 116925

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		1.0	0.43	mg/L			05/04/13 07:51	1

Lab Sample ID: LCS 480-116925/5

Matrix: Water

Analysis Batch: 116925

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	60.0	59.31		mg/L		99	90 - 110

Lab Sample ID: 480-37534-2 MS

Matrix: Water

Analysis Batch: 116925

Client Sample ID: MW-11-050213

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	1.6		20.3	17.10		mg/L		77	54 - 131

Lab Sample ID: 480-37534-3 MS

Matrix: Water

Analysis Batch: 116925

Client Sample ID: MW-13-050213

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	3.8		20.3	20.39		mg/L		82	54 - 131

Lab Sample ID: 480-37534-3 MSD

Matrix: Water

Analysis Batch: 116925

Client Sample ID: MW-13-050213

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	3.8		20.3	20.33		mg/L		81	54 - 131	0	20

TestAmerica Buffalo



# QC Sample Results

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

TestAmerica Job ID: 480-37534-1

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

Lab Sample ID: 480-37534-1 DU

Matrix: Water

Analysis Batch: 116925

Client Sample ID: G-1-050213

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Total Organic Carbon	1.4		1.51		mg/L		6	20

## Method: SM 2320B - Alkalinity

Lab Sample ID: MB 480-117560/6

Matrix: Water

Analysis Batch: 117560

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	ND		5.0	0.79	mg/L			05/09/13 00:52	1

Lab Sample ID: LCS 480-117560/7

Matrix: Water

Analysis Batch: 117560

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity	100	95.51		mg/L		96	90 - 110

Lab Sample ID: 480-37534-3 MS

Matrix: Water

Analysis Batch: 117560

Client Sample ID: MW-13-050213

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity	382		100	433.6		mg/L		52	42 - 116

Lab Sample ID: 480-37534-3 MSD

Matrix: Water

Analysis Batch: 117560

Client Sample ID: MW-13-050213

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Total Alkalinity	382		100	450.0		mg/L		68	42 - 116	4	20

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

Lab Sample ID: MB 480-116743/3

Matrix: Water

Analysis Batch: 116743

Client Sample ID: Method Blank

Prep Type: Total/NA

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

Lab Sample ID: LCS 480-116743/4

Matrix: Water

Analysis Batch: 116743

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

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

TestAmerica Buffalo

## QC Sample Results

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

TestAmerica Job ID: 480-37534-1

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

Lab Sample ID: 480-37534-3 MS

Matrix: Water

Analysis Batch: 116743

Client Sample ID: MW-13-050213

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide	ND		0.500	0.438	F	mg/L		88	90 - 110

Lab Sample ID: 480-37534-3 MSD

Matrix: Water

Analysis Batch: 116743

Client Sample ID: MW-13-050213

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfide	ND		0.500	0.441	F	mg/L		88	90 - 110	1	20

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

Lab Sample ID: MB 480-117043/28

Matrix: Water

Analysis Batch: 117043

Client Sample ID: Method Blank

Prep Type: Total/NA

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

Lab Sample ID: LCS 480-117043/27

Matrix: Water

Analysis Batch: 117043

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

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

Lab Sample ID: 480-37534-1 MS

Matrix: Water

Analysis Batch: 117043

Client Sample ID: G-1-050213

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetic acid	ND		100	100.9		mg/L		101	80 - 120
Formic-acid	ND		100	97.12		mg/L		97	80 - 120
Lactic acid	ND		100	97.84		mg/L		98	80 - 120
n-Butyric Acid	ND		100	98.81		mg/L		99	80 - 120
Propionic acid	ND		100	104.5		mg/L		104	80 - 120
Pyruvic Acid	ND		100	91.66		mg/L		92	80 - 120

TestAmerica Buffalo

# QC Sample Results

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

TestAmerica Job ID: 480-37534-1

## Method: VFA-IC - Volatile Fatty Acids, Ion Chromatography (Continued)

Lab Sample ID: 480-37534-1 MSD

Matrix: Water

Analysis Batch: 117043

Client Sample ID: G-1-050213

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetic acid	ND		100	99.15		mg/L		99	80 - 120	2	20
Formic-acid	ND		100	99.48		mg/L		99	80 - 120	2	20
Lactic acid	ND		100	99.45		mg/L		99	80 - 120	2	20
n-Butyric Acid	ND		100	101.3		mg/L		101	80 - 120	2	20
Propionic acid	ND		100	104.7		mg/L		105	80 - 120	0	20
Pyruvic Acid	ND		100	91.88		mg/L		92	80 - 120	0	20

Lab Sample ID: MB 480-117044/52

Matrix: Water

Analysis Batch: 117044

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetic acid	ND		1.0	0.15	mg/L			05/07/13 17:07	1
Formic-acid	ND		1.0	0.11	mg/L			05/07/13 17:07	1
Lactic acid	ND		1.0	0.14	mg/L			05/07/13 17:07	1
n-Butyric Acid	ND		1.0	0.16	mg/L			05/07/13 17:07	1
Propionic acid	ND		1.0	0.17	mg/L			05/07/13 17:07	1
Pyruvic Acid	ND		1.0	0.080	mg/L			05/07/13 17:07	1

Lab Sample ID: LCS 480-117044/51

Matrix: Water

Analysis Batch: 117044

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetic acid	10.0	9.84		mg/L		98	80 - 120
Formic-acid	10.0	9.85		mg/L		98	80 - 120
Lactic acid	10.0	10.25		mg/L		103	80 - 120
n-Butyric Acid	10.0	9.67		mg/L		97	80 - 120
Propionic acid	10.0	10.31		mg/L		103	80 - 120
Pyruvic Acid	10.0	10.39		mg/L		104	80 - 120

Lab Sample ID: MB 480-117667/4

Matrix: Water

Analysis Batch: 117667

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetic acid	ND		1.0	0.15	mg/L			05/09/13 12:07	1
Formic-acid	ND		1.0	0.11	mg/L			05/09/13 12:07	1
Lactic acid	ND		1.0	0.14	mg/L			05/09/13 12:07	1
n-Butyric Acid	ND		1.0	0.16	mg/L			05/09/13 12:07	1
Propionic acid	ND		1.0	0.17	mg/L			05/09/13 12:07	1
Pyruvic Acid	ND		1.0	0.080	mg/L			05/09/13 12:07	1

Lab Sample ID: LCS 480-117667/3

Matrix: Water

Analysis Batch: 117667

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetic acid	10.0	9.68		mg/L		97	80 - 120

TestAmerica Buffalo

## QC Sample Results

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

TestAmerica Job ID: 480-37534-1

### Method: VFA-IC - Volatile Fatty Acids, Ion Chromatography (Continued)

Lab Sample ID: LCS 480-117667/3

Matrix: Water

Analysis Batch: 117667

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Formic-acid	10.0	9.77		mg/L		98	80 - 120
Lactic acid	10.0	10.47		mg/L		105	80 - 120
n-Butyric Acid	10.0	9.42		mg/L		94	80 - 120
Propionic acid	10.0	10.75		mg/L		108	80 - 120
Pyruvic Acid	10.0	10.49		mg/L		105	80 - 120

Lab Sample ID: 480-37534-3 MS

Matrix: Water

Analysis Batch: 117667

Client Sample ID: MW-13-050213

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetic acid	ND		10.0	10.72		mg/L		107	80 - 120
Formic-acid	ND		10.0	10.76		mg/L		108	80 - 120
Lactic acid	ND		10.0	10.61		mg/L		106	80 - 120
n-Butyric Acid	ND		10.0	8.88		mg/L		89	80 - 120
Propionic acid	ND		10.0	9.33		mg/L		93	80 - 120
Pyruvic Acid	ND		10.0	7.72	F	mg/L		77	80 - 120

Lab Sample ID: 480-37534-3 MSD

Matrix: Water

Analysis Batch: 117667

Client Sample ID: MW-13-050213

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetic acid	ND		10.0	15.04	F	mg/L		150	80 - 120	34	20
Formic-acid	ND		10.0	11.58		mg/L		116	80 - 120	7	20
Lactic acid	ND		10.0	10.85		mg/L		108	80 - 120	2	20
n-Butyric Acid	ND		10.0	8.89		mg/L		89	80 - 120	0	20
Propionic acid	ND		10.0	10.72		mg/L		107	80 - 120	14	20
Pyruvic Acid	ND		10.0	7.78	F	mg/L		78	80 - 120	1	20

## QC Association Summary

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

TestAmerica Job ID: 480-37534-1

### GC/MS VOA

#### Analysis Batch: 118039

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37534-1	G-1-050213	Total/NA	Water	8260B	
480-37534-2	MW-11-050213	Total/NA	Water	8260B	
480-37534-3	MW-13-050213	Total/NA	Water	8260B	
480-37534-3 MS	MW-13-050213	Total/NA	Water	8260B	
480-37534-3 MSD	MW-13-050213	Total/NA	Water	8260B	
480-37534-4	Trip Blank	Total/NA	Water	8260B	
LCS 480-118039/5	Lab Control Sample	Total/NA	Water	8260B	
MB 480-118039/6	Method Blank	Total/NA	Water	8260B	

#### Analysis Batch: 118065

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37534-1 - DL	G-1-050213	Total/NA	Water	8260B	
LCS 480-118065/4	Lab Control Sample	Total/NA	Water	8260B	
MB 480-118065/5	Method Blank	Total/NA	Water	8260B	

### GC VOA

#### Analysis Batch: 55142

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37534-1	G-1-050213	Total/NA	Water	RSK-175	
480-37534-2	MW-11-050213	Total/NA	Water	RSK-175	
LCS 200-55142/2	Lab Control Sample	Total/NA	Water	RSK-175	
MB 200-55142/3	Method Blank	Total/NA	Water	RSK-175	

#### Analysis Batch: 55461

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37534-3	MW-13-050213	Total/NA	Water	RSK-175	
480-37534-3 MS	MW-13-050213	Total/NA	Water	RSK-175	
480-37534-3 MSD	MW-13-050213	Total/NA	Water	RSK-175	
LCS 200-55461/2	Lab Control Sample	Total/NA	Water	RSK-175	
MB 200-55461/3	Method Blank	Total/NA	Water	RSK-175	

#### Analysis Batch: 116579

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37534-1	G-1-050213	Total/NA	Water	RSK-175	
480-37534-2	MW-11-050213	Total/NA	Water	RSK-175	
480-37534-3	MW-13-050213	Total/NA	Water	RSK-175	
480-37534-3 MS	MW-13-050213	Total/NA	Water	RSK-175	
480-37534-3 MSD	MW-13-050213	Total/NA	Water	RSK-175	
LCS 480-116579/3	Lab Control Sample	Total/NA	Water	RSK-175	
MB 480-116579/2	Method Blank	Total/NA	Water	RSK-175	

### Metals

#### Prep Batch: 116635

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37534-1	G-1-050213	Total/NA	Water	3005A	
480-37534-2	MW-11-050213	Total/NA	Water	3005A	
480-37534-3	MW-13-050213	Total/NA	Water	3005A	
480-37534-3 MS	MW-13-050213	Total/NA	Water	3005A	

TestAmerica Buffalo



# QC Association Summary

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

TestAmerica Job ID: 480-37534-1

## Metals (Continued)

### Prep Batch: 116635 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37534-3 MSD	MW-13-050213	Total/NA	Water	3005A	
LCS 480-116635/2-A	Lab Control Sample	Total/NA	Water	3005A	
MB 480-116635/1-A	Method Blank	Total/NA	Water	3005A	

### Analysis Batch: 116955

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37534-1	G-1-050213	Total/NA	Water	6010B	116635
480-37534-2	MW-11-050213	Total/NA	Water	6010B	116635
480-37534-3	MW-13-050213	Total/NA	Water	6010B	116635
480-37534-3 MS	MW-13-050213	Total/NA	Water	6010B	116635
480-37534-3 MSD	MW-13-050213	Total/NA	Water	6010B	116635
LCS 480-116635/2-A	Lab Control Sample	Total/NA	Water	6010B	116635
MB 480-116635/1-A	Method Blank	Total/NA	Water	6010B	116635

## General Chemistry

### Analysis Batch: 116551

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37534-1	G-1-050213	Total/NA	Water	353.2	
480-37534-1 DU	G-1-050213	Total/NA	Water	353.2	
480-37534-1 MS	G-1-050213	Total/NA	Water	353.2	
480-37534-2	MW-11-050213	Total/NA	Water	353.2	
480-37534-3	MW-13-050213	Total/NA	Water	353.2	
480-37534-3 MS	MW-13-050213	Total/NA	Water	353.2	
480-37534-3 MSD	MW-13-050213	Total/NA	Water	353.2	
LCS 480-116551/28	Lab Control Sample	Total/NA	Water	353.2	
LCS 480-116551/4	Lab Control Sample	Total/NA	Water	353.2	
MB 480-116551/27	Method Blank	Total/NA	Water	353.2	
MB 480-116551/3	Method Blank	Total/NA	Water	353.2	

### Analysis Batch: 116552

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37534-1	G-1-050213	Total/NA	Water	353.2	
480-37534-2	MW-11-050213	Total/NA	Water	353.2	
480-37534-3	MW-13-050213	Total/NA	Water	353.2	

### Analysis Batch: 116743

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37534-1	G-1-050213	Total/NA	Water	SM 4500 S2 D	
480-37534-2	MW-11-050213	Total/NA	Water	SM 4500 S2 D	
480-37534-3	MW-13-050213	Total/NA	Water	SM 4500 S2 D	
480-37534-3 MS	MW-13-050213	Total/NA	Water	SM 4500 S2 D	
480-37534-3 MSD	MW-13-050213	Total/NA	Water	SM 4500 S2 D	
LCS 480-116743/4	Lab Control Sample	Total/NA	Water	SM 4500 S2 D	
MB 480-116743/3	Method Blank	Total/NA	Water	SM 4500 S2 D	

### Analysis Batch: 116750

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37534-1	G-1-050213	Total/NA	Water	300.0	
480-37534-2	MW-11-050213	Total/NA	Water	300.0	

TestAmerica Buffalo

# QC Association Summary

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

TestAmerica Job ID: 480-37534-1

## General Chemistry (Continued)

### Analysis Batch: 116750 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37534-3	MW-13-050213	Total/NA	Water	300.0	
480-37534-3 MS	MW-13-050213	Total/NA	Water	300.0	
480-37534-3 MSD	MW-13-050213	Total/NA	Water	300.0	
LCS 480-116750/75	Lab Control Sample	Total/NA	Water	300.0	
MB 480-116750/76	Method Blank	Total/NA	Water	300.0	

### Analysis Batch: 116849

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37534-1	G-1-050213	Total/NA	Water	350.1	
480-37534-2	MW-11-050213	Total/NA	Water	350.1	
480-37534-3	MW-13-050213	Total/NA	Water	350.1	
480-37534-3 MS	MW-13-050213	Total/NA	Water	350.1	
480-37534-3 MSD	MW-13-050213	Total/NA	Water	350.1	
LCS 480-116849/100	Lab Control Sample	Total/NA	Water	350.1	
MB 480-116849/99	Method Blank	Total/NA	Water	350.1	

### Analysis Batch: 116925

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37534-1	G-1-050213	Total/NA	Water	9060	
480-37534-1 DU	G-1-050213	Total/NA	Water	9060	
480-37534-2	MW-11-050213	Total/NA	Water	9060	
480-37534-2 MS	MW-11-050213	Total/NA	Water	9060	
480-37534-3	MW-13-050213	Total/NA	Water	9060	
480-37534-3 MS	MW-13-050213	Total/NA	Water	9060	
480-37534-3 MSD	MW-13-050213	Total/NA	Water	9060	
LCS 480-116925/5	Lab Control Sample	Total/NA	Water	9060	
MB 480-116925/4	Method Blank	Total/NA	Water	9060	

### Analysis Batch: 116998

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37534-1	G-1-050213	Total/NA	Water	300.0	
480-37534-2	MW-11-050213	Total/NA	Water	300.0	
480-37534-3	MW-13-050213	Total/NA	Water	300.0	
480-37534-3 MS	MW-13-050213	Total/NA	Water	300.0	
480-37534-3 MSD	MW-13-050213	Total/NA	Water	300.0	
LCS 480-116998/3	Lab Control Sample	Total/NA	Water	300.0	
MB 480-116998/4	Method Blank	Total/NA	Water	300.0	

### Analysis Batch: 117043

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37534-1	G-1-050213	Total/NA	Water	VFA-IC	
480-37534-1 MS	G-1-050213	Total/NA	Water	VFA-IC	
480-37534-1 MSD	G-1-050213	Total/NA	Water	VFA-IC	
LCS 480-117043/27	Lab Control Sample	Total/NA	Water	VFA-IC	
MB 480-117043/28	Method Blank	Total/NA	Water	VFA-IC	

### Analysis Batch: 117044

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37534-2	MW-11-050213	Total/NA	Water	VFA-IC	
LCS 480-117044/51	Lab Control Sample	Total/NA	Water	VFA-IC	
MB 480-117044/52	Method Blank	Total/NA	Water	VFA-IC	

TestAmerica Buffalo

## QC Association Summary

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

TestAmerica Job ID: 480-37534-1

### General Chemistry (Continued)

#### Analysis Batch: 117560

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37534-1	G-1-050213	Total/NA	Water	SM 2320B	
480-37534-2	MW-11-050213	Total/NA	Water	SM 2320B	
480-37534-3	MW-13-050213	Total/NA	Water	SM 2320B	
480-37534-3 MS	MW-13-050213	Total/NA	Water	SM 2320B	
480-37534-3 MSD	MW-13-050213	Total/NA	Water	SM 2320B	
LCS 480-117560/7	Lab Control Sample	Total/NA	Water	SM 2320B	
MB 480-117560/6	Method Blank	Total/NA	Water	SM 2320B	

#### Analysis Batch: 117667

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37534-3	MW-13-050213	Total/NA	Water	VFA-IC	
480-37534-3 MS	MW-13-050213	Total/NA	Water	VFA-IC	
480-37534-3 MSD	MW-13-050213	Total/NA	Water	VFA-IC	
LCS 480-117667/3	Lab Control Sample	Total/NA	Water	VFA-IC	
MB 480-117667/4	Method Blank	Total/NA	Water	VFA-IC	

# Lab Chronicle

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

TestAmerica Job ID: 480-37534-1

**Client Sample ID: G-1-050213**

**Date Collected: 05/02/13 08:50**

**Date Received: 05/02/13 17:30**

**Lab Sample ID: 480-37534-1**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	118039	05/10/13 23:45	TRF	TAL BUF
Total/NA	Analysis	8260B	DL	2	118065	05/11/13 11:42	RL	TAL BUF
Total/NA	Analysis	RSK-175		1	55142	05/07/13 14:12	NA	TAL BUR
Total/NA	Analysis	RSK-175		1	116579	05/03/13 11:46	JM	TAL BUF
Total/NA	Prep	3005A			116635	05/03/13 10:00	JM	TAL BUF
Total/NA	Analysis	6010B		1	116955	05/03/13 18:53	LH	TAL BUF
Total/NA	Analysis	353.2		1	116551	05/02/13 23:57	KS	TAL BUF
Total/NA	Analysis	353.2		1	116552	05/02/13 23:57	KS	TAL BUF
Total/NA	Analysis	SM 4500 S2 D		1	116743	05/03/13 15:36	KS	TAL BUF
Total/NA	Analysis	300.0		20	116750	05/04/13 13:59	KC	TAL BUF
Total/NA	Analysis	350.1		1	116849	05/04/13 14:19	KS	TAL BUF
Total/NA	Analysis	9060		1	116925	05/04/13 10:24	KC	TAL BUF
Total/NA	Analysis	300.0		100	116998	05/06/13 16:15	KC	TAL BUF
Total/NA	Analysis	VFA-IC		10	117043	05/07/13 14:12	KC	TAL BUF
Total/NA	Analysis	SM 2320B		1	117560	05/09/13 01:04	LK	TAL BUF

**Client Sample ID: MW-11-050213**

**Date Collected: 05/02/13 11:30**

**Date Received: 05/02/13 17:30**

**Lab Sample ID: 480-37534-2**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	118039	05/11/13 00:07	TRF	TAL BUF
Total/NA	Analysis	RSK-175		1	55142	05/07/13 14:21	NA	TAL BUR
Total/NA	Analysis	RSK-175		1	116579	05/03/13 12:03	JM	TAL BUF
Total/NA	Prep	3005A			116635	05/03/13 10:00	JM	TAL BUF
Total/NA	Analysis	6010B		1	116955	05/03/13 18:56	LH	TAL BUF
Total/NA	Analysis	353.2		1	116551	05/03/13 00:00	KS	TAL BUF
Total/NA	Analysis	353.2		1	116552	05/03/13 00:00	KS	TAL BUF
Total/NA	Analysis	SM 4500 S2 D		1	116743	05/03/13 15:36	KS	TAL BUF
Total/NA	Analysis	300.0		1	116750	05/04/13 14:09	KC	TAL BUF
Total/NA	Analysis	350.1		1	116849	05/04/13 14:20	KS	TAL BUF
Total/NA	Analysis	9060		1	116925	05/04/13 11:25	KC	TAL BUF
Total/NA	Analysis	300.0		5	116998	05/06/13 16:25	KC	TAL BUF
Total/NA	Analysis	VFA-IC		1	117044	05/07/13 17:36	KC	TAL BUF
Total/NA	Analysis	SM 2320B		1	117560	05/09/13 01:11	LK	TAL BUF

TestAmerica Buffalo

## Lab Chronicle

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

TestAmerica Job ID: 480-37534-1

**Client Sample ID: MW-13-050213**

**Lab Sample ID: 480-37534-3**

**Date Collected: 05/02/13 13:50**

**Matrix: Water**

**Date Received: 05/02/13 17:30**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	118039	05/11/13 00:29	TRF	TAL BUF
Total/NA	Analysis	RSK-175		1	55461	05/13/13 14:08	NA	TAL BUR
Total/NA	Analysis	RSK-175		10	116579	05/03/13 13:39	JM	TAL BUF
Total/NA	Prep	3005A			116635	05/03/13 10:00	JM	TAL BUF
Total/NA	Analysis	6010B		1	116955	05/03/13 18:58	LH	TAL BUF
Total/NA	Analysis	353.2		1	116551	05/03/13 00:06	KS	TAL BUF
Total/NA	Analysis	353.2		1	116552	05/03/13 00:06	KS	TAL BUF
Total/NA	Analysis	SM 4500 S2 D		1	116743	05/03/13 15:36	KS	TAL BUF
Total/NA	Analysis	300.0		5	116750	05/04/13 14:19	KC	TAL BUF
Total/NA	Analysis	350.1		1	116849	05/04/13 14:23	KS	TAL BUF
Total/NA	Analysis	9060		1	116925	05/04/13 14:00	KC	TAL BUF
Total/NA	Analysis	300.0		50	116998	05/06/13 16:35	KC	TAL BUF
Total/NA	Analysis	SM 2320B		1	117560	05/09/13 01:18	LK	TAL BUF
Total/NA	Analysis	VFA-IC		1	117667	05/09/13 14:03	KC	TAL BUF

**Client Sample ID: Trip Blank**

**Lab Sample ID: 480-37534-4**

**Date Collected: 05/02/13 00:00**

**Matrix: Water**

**Date Received: 05/02/13 17:30**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	118039	05/11/13 01:34	TRF	TAL BUF

### Laboratory References:

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

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



## Certification Summary

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

TestAmerica Job ID: 480-37534-1

### Laboratory: TestAmerica Buffalo

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

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

### Laboratory: TestAmerica Burlington

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

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

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

TestAmerica Buffalo

## Certification Summary

Client: Conestoga-Rovers & Associates, Inc.

TestAmerica Job ID: 480-37534-1

Project/Site: 058507, GM-Lockport Groundwater Sampling

### Laboratory: TestAmerica Burlington (Continued)

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

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

## Method Summary

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

TestAmerica Job ID: 480-37534-1

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

### Protocol References:

EPA = US Environmental Protection Agency

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

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

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

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

TestAmerica SOP = TestAmerica, Inc., Standard Operating Procedure

### Laboratory References:

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

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

## Sample Summary

Client: Conestoga-Rovers & Associates, Inc.

TestAmerica Job ID: 480-37534-1

Project/Site: 058507, GM-Lockport Groundwater Sampling

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-37534-1	G-1-050213	Water	05/02/13 08:50	05/02/13 17:30
480-37534-2	MW-11-050213	Water	05/02/13 11:30	05/02/13 17:30
480-37534-3	MW-13-050213	Water	05/02/13 13:50	05/02/13 17:30
480-37534-4	Trip Blank	Water	05/02/13 00:00	05/02/13 17:30

<b>Client Information</b> Client Contact: Mr. Christopher Boron Company: GZA GeoEnvironmental, Inc.		Sampler: Thomas Bohlen Phone: (716) 844-7050 E-Mail: melissa.deyo@testamericainc.com		Carrier Tracking No(s): COC No:		Page: 1 of 1 GZA Job #: 210056546.00 Task 24	
<b>Analysis Requested</b>				Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Anchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Z - other (specify) Other:			
Due Date Requested: TAT Requested (days): 3 Weeks		PO #: 4047065 WO #: 58507 Project #: 48004014 SSOW#: 256015		Total Number of Containers: AM20GAX		Special Instructions/Note:	
Site: <b>Delpi Harrison Thermal Systems site</b>		Project Name: 058507, GM-Loopport Groundwater Sampling		Total Number of Containers: AM20GAX		Special Instructions/Note:	
Sample Identification G-1-050213 MW-11-050213 MW-13-050213 MS/MSD Trip Blank		Sample Date 5/2/13 1130 1350		Sample Time 830 1130 1350		Matrix (W=water, S=solid, O=waste/oil) Water Water ↓	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Deliverable Requested: I, II, III, IV, Other (specify)		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months		Special Instructions/QC Requirements:	
Empty Kit Relinquished by:		Date:		Method of Shipment:		Received by:	
Relinquished by: <b>Thomas Bohlen</b>		Date/Time: <b>5/2/13 / 1730</b>		Company: <b>GZA</b>		Received by:	
Relinquished by:		Date/Time:		Company:		Received by:	
Relinquished by:		Date/Time:		Company:		Received by:	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:		Date/Time:	




# TestAmerica Buffalo

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

## Chain of Custody Record

TestAmerica

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<b>Client Information (Sub Contract Lab)</b> Client Contact: Shipping/Receiving Company: TestAmerica Laboratories, Inc. Address: 30 Community Drive, Suite 11, City: South Burlington State, Zip: VT, 05403 Phone: 802-660-1990(Tel) Email: Project Name: 058507, GIM-Lockport Groundwater Sampling Site:		Sampler: Lab PM Deyo, Melissa L. Phone: E-Mail: melissa.deyo@testamericainc.com		Camera Tracking No(s): COC No: 480-9891.1 Page: Page 1 of 1 Job #: 480-37534-1	
Due Date Requested: 5/14/2013 TAT Requested (days): PO #: WO #: Project #: 48004014 SSOW#:		<b>Analysis Requested</b>  480-37534 Chain of Custody			
Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Anchor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)		Total Number of containers:			
<b>Sample Identification - Client ID (Lab ID)</b>		Field Filled Sample (Yes or No)		Perform MS/MSD (Yes or No)	
Sample Date		Sample Time		Sample Type (C=Comp, G=grab) Matrix (W=water, S=solid, O=water/oil, ST=Stress, A=Air)	
G-1-050213 (480-37534-1)		5/2/13 08:50 Eastern		Water	
MW-1-050213 (480-37534-2)		5/2/13 11:30 Eastern		Water	
MW-13-050213 (480-37534-3)		5/2/13 13:50 Eastern		Water	
MW-13-050213 (480-37534-3MS)		5/2/13 13:50 Eastern		MS	
MW-13-050213 (480-37534-3MSD)		5/2/13 13:50 Eastern		MSD	
Possible Hazard Identification		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months		Special Instructions/Note:	
Unconfirmed Deliverable Requested: I, II, III, IV, Other (specify)		Special Instructions/Requirements:		Method of Shipment:	
Empty Kit Relinquished by:		Date:		Time:	
Relinquished by:		Date/Time: 5-3-13 1600		Received by:	
Relinquished by:		Date/Time:		Received by:	
Relinquished by:		Date/Time:		Received by:	
Custody Seals Intact:		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:	
Δ Yes Δ No		Company:		Company:	

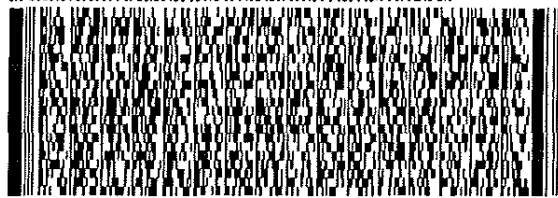
ORIGIN ID: DKKA (716) 691-2600  
KEN KINECKI  
TESTAMERICA  
10 HAZELWOOD DR

AMHERST, NY 14228  
UNITED STATES US

SHIP DATE: 03MAY13  
ACTWGT: 27.0 LB MAN  
CAD: 795603/CAFE2608  
DIMS: 26x15x14 IN

BIL RECIPIENT

TO MARK PHILLIPS  
TA BURLINGTON  
30 COMMUNITY DRIVE  
SUITE 11  
SOUTH BURLINGTON VT 05403  
(802) 680-1990 REF: BURLINGTON  
DEPT: SAMPLE CONTROL



FedEx  
Express



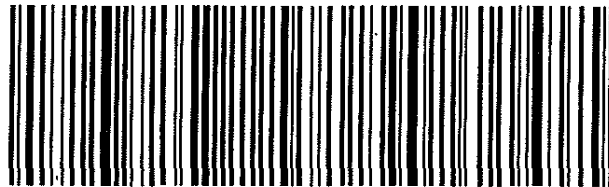
JT2131210050125

TRK# 4485 0264 3181  
0201

MON - 06 MAY 3:00P  
STANDARD OVERNIGHT

KS BTVA

05403  
VT-US BTV



Part # 154254-354 RIT2 02/13

## Login Sample Receipt Checklist

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 480-37534-1

**Login Number: 37534**

**List Source: TestAmerica Buffalo**

**List Number: 1**

**Creator: Kolb, Chris M**

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

## Login Sample Receipt Checklist

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 480-37534-1

**Login Number: 37534**

**List Source: TestAmerica Burlington**

**List Number: 1**

**List Creation: 05/06/13 10:24 AM**

**Creator: Poucher, Stephanie A**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	709086
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	2.0°C IR GUN ID 181. CF 0
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	Received project as a subcontract.
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	Check done at department level as required.
Residual Chlorine Checked.	N/A	

# TestAmerica

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## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Buffalo

10 Hazelwood Drive

Amherst, NY 14228-2298

Tel: (716)691-2600

TestAmerica Job ID: 480-37628-1

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

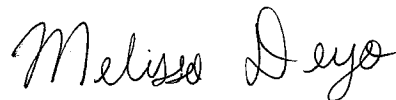
For:

Conestoga-Rovers & Associates, Inc.

2055 Niagara Falls Blvd., Suite 3

Niagara Falls, New York 14304

Attn: Kathleen Willy



Authorized for release by:

5/16/2013 3:41:46 PM

Melissa Deyo, Project Manager I

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

### LINKS

Review your project  
results through

TotalAccess

Have a Question?



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

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*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.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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## Definitions/Glossary

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

TestAmerica Job ID: 480-37628-1

### Qualifiers

#### GC VOA

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

#### Metals

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC exceeds the control limits.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

#### General Chemistry

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

### Glossary

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

## Case Narrative

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

TestAmerica Job ID: 480-37628-1

### Job ID: 480-37628-1

#### Laboratory: TestAmerica Buffalo

#### Narrative

#### Job Narrative 480-37628-1

#### Receipt

The samples were received on 5/3/2013 3:30 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.8° C.

#### GC/MS VOA

Method 8260B: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-12-050313 (480-37628-1 DL) and MW-7-050313 (480-37628-3) and Trip Blank (480-37628-4 DL). Elevated reporting limits (RLs) are provided.

Method 8260B: The following volatile samples were analyzed with headspace in the sample vial due to multiple injections and/or limited volume: Trip Blank (480-37628-4) and Trip Blank (480-37628-4 DL).

No other analytical or quality issues were noted.

#### IC

Method 300.0: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-12-050313 (480-37628-1), MW-14-050313 (480-37628-2), MW-7-050313 (480-37628-3) and (480-37628-3 MS). Elevated reporting limits (RLs) are provided.

No other analytical or quality issues were noted.

#### GC VOA

Method RSK-175: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-12-050313 (480-37628-1 DL). Elevated reporting limits (RLs) are provided.

No other analytical or quality issues were noted.

#### Metals

Method 6010B: The method blank for preparation batch 116862 contained Manganese above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

No other analytical or quality issues were noted.

#### General Chemistry

Method 350.1: The method blank for batch 116849 contained Ammonia above the reporting limit (RL). The associated samples contained detects for this analyte at concentrations greater than 10 times the value found in the method blank; therefore, re-extraction and/or re-analysis of samples was not performed

Method SM 4500 S2 D: The matrix spike (MS) recovery for batch 117205 was outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria.

No other analytical or quality issues were noted.

## Detection Summary

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

TestAmerica Job ID: 480-37628-1

**Client Sample ID: MW-12-050313**

**Lab Sample ID: 480-37628-1**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Hydrogen	1.1		0.60	0.074	nm	1		AM20GAX	Total/NA
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
trans-1,2-Dichloroethene	1.0		1.0	0.90	ug/L	1		8260B	Total/NA
Trichloroethene	2.0		1.0	0.46	ug/L	1		8260B	Total/NA
Vinyl chloride	73		1.0	0.90	ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene - DL	150		2.0	1.6	ug/L	2		8260B	Total/NA
Ethane	3.1	J	7.5	0.49	ug/L	1		RSK-175	Total/NA
Ethene	4.2	J	7.0	0.52	ug/L	1		RSK-175	Total/NA
Methane - DL	200		40	2.2	ug/L	10		RSK-175	Total/NA
Iron	8.1	^	0.050	0.019	mg/L	1		6010B	Total/NA
Magnesium	76.4		0.20	0.043	mg/L	1		6010B	Total/NA
Manganese	7.4	B	0.0030	0.00040	mg/L	1		6010B	Total/NA
Potassium	3.9		0.50	0.10	mg/L	1		6010B	Total/NA
Sodium	1260		1.0	0.32	mg/L	1		6010B	Total/NA
Chloride	3090		25.0	14.1	mg/L	50		300.0	Total/NA
Sulfate	120		10.0	1.7	mg/L	5		300.0	Total/NA
Ammonia	1.2	B	0.020	0.0090	mg/L	1		350.1	Total/NA
Total Organic Carbon	3.6		1.0	0.43	mg/L	1		9060	Total/NA
Total Alkalinity	323		5.0	0.79	mg/L	1		SM 2320B	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Carbon dioxide	14000		1000	1000	ug/L	1		RSK-175	Total/NA

**Client Sample ID: MW-14-050313**

**Lab Sample ID: 480-37628-2**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Hydrogen	16		0.60	0.074	nm	1		AM20GAX	Total/NA
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methane	50		4.0	0.22	ug/L	1		RSK-175	Total/NA
Iron	0.038	J	0.050	0.019	mg/L	1		6010B	Total/NA
Magnesium	59.4		0.20	0.043	mg/L	1		6010B	Total/NA
Manganese	0.20	B	0.0030	0.00040	mg/L	1		6010B	Total/NA
Potassium	5.1		0.50	0.10	mg/L	1		6010B	Total/NA
Sodium	850		1.0	0.32	mg/L	1		6010B	Total/NA
Chloride	1340		10.0	5.6	mg/L	20		300.0	Total/NA
Sulfate	60.0		10.0	1.7	mg/L	5		300.0	Total/NA
Ammonia	0.15		0.020	0.0090	mg/L	1		350.1	Total/NA
Nitrate	0.061		0.050	0.020	mg/L	1		353.2	Total/NA
Total Organic Carbon	1.7		1.0	0.43	mg/L	1		9060	Total/NA
Total Alkalinity	361		5.0	0.79	mg/L	1		SM 2320B	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Carbon dioxide	6200		1000	1000	ug/L	1		RSK-175	Total/NA

**Client Sample ID: MW-7-050313**

**Lab Sample ID: 480-37628-3**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	55000		10000	8100	ug/L	10000		8260B	Total/NA
Trichloroethene	880000		10000	4600	ug/L	10000		8260B	Total/NA
Ethane	32		7.5	0.49	ug/L	1		RSK-175	Total/NA
Ethene	250		7.0	0.52	ug/L	1		RSK-175	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Buffalo

## Detection Summary

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

TestAmerica Job ID: 480-37628-1

### Client Sample ID: MW-7-050313 (Continued)

### Lab Sample ID: 480-37628-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Methane	120		4.0	0.22	ug/L	1			RSK-175	Total/NA
Iron	0.021	J	0.050	0.019	mg/L	1			6010B	Total/NA
Magnesium	76.0		0.20	0.043	mg/L	1			6010B	Total/NA
Manganese	0.019	B	0.0030	0.00040	mg/L	1			6010B	Total/NA
Potassium	14.3		0.50	0.10	mg/L	1			6010B	Total/NA
Sodium	254		1.0	0.32	mg/L	1			6010B	Total/NA
Chloride	569		5.0	2.8	mg/L	10			300.0	Total/NA
Sulfate	253		10.0	1.7	mg/L	5			300.0	Total/NA
Ammonia	0.75	B	0.020	0.0090	mg/L	1			350.1	Total/NA
Total Organic Carbon	7.6		1.0	0.43	mg/L	1			9060	Total/NA
Total Alkalinity	242		5.0	0.79	mg/L	1			SM 2320B	Total/NA
Acetic acid	7.0		1.0	0.15	mg/L	1			VFA-IC	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil	Fac	D	Method	Prep Type
Carbon dioxide	4400		1000	1000	ug/L	1			RSK-175	Total/NA

### Client Sample ID: Trip Blank

### Lab Sample ID: 480-37628-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	4.7		1.0	0.81	ug/L	1			8260B	Total/NA
Trichloroethene - DL	62		2.0	0.92	ug/L	2			8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Buffalo



# Client Sample Results

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

TestAmerica Job ID: 480-37628-1

**Client Sample ID: MW-12-050313**

**Lab Sample ID: 480-37628-1**

**Date Collected: 05/03/13 09:00**

**Matrix: Water**

**Date Received: 05/03/13 15:30**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	ND		1.0	0.36	ug/L			05/11/13 18:30	1
trans-1,2-Dichloroethene	1.0		1.0	0.90	ug/L			05/11/13 18:30	1
Trichloroethene	2.0		1.0	0.46	ug/L			05/11/13 18:30	1
Vinyl chloride	73		1.0	0.90	ug/L			05/11/13 18:30	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		66 - 137					05/11/13 18:30	1
4-Bromofluorobenzene (Surr)	107		73 - 120					05/11/13 18:30	1
Toluene-d8 (Surr)	103		71 - 126					05/11/13 18:30	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	150		2.0	1.6	ug/L			05/13/13 12:56	2
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		66 - 137					05/13/13 12:56	2
4-Bromofluorobenzene (Surr)	97		73 - 120					05/13/13 12:56	2
Toluene-d8 (Surr)	94		71 - 126					05/13/13 12:56	2

## Method: AM20GAX - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hydrogen	1.1		0.60	0.074	nm			05/09/13 13:00	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	3.1	J	7.5	0.49	ug/L			05/06/13 08:23	1
Ethene	4.2	J	7.0	0.52	ug/L			05/06/13 08:23	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	14000		1000	1000	ug/L			05/07/13 13:46	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	200		40	2.2	ug/L			05/06/13 09:25	10

## Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	8.1	^	0.050	0.019	mg/L		05/06/13 07:40	05/06/13 21:59	1
Magnesium	76.4		0.20	0.043	mg/L		05/06/13 07:40	05/06/13 21:59	1
Manganese	7.4	B	0.0030	0.00040	mg/L		05/06/13 07:40	05/06/13 21:59	1
Potassium	3.9		0.50	0.10	mg/L		05/06/13 07:40	05/06/13 21:59	1
Sodium	1260		1.0	0.32	mg/L		05/06/13 07:40	05/06/13 21:59	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3090		25.0	14.1	mg/L			05/07/13 21:05	50
Sulfate	120		10.0	1.7	mg/L			05/07/13 03:03	5
Ammonia	1.2	B	0.020	0.0090	mg/L			05/04/13 15:15	1
Nitrate	ND		0.050	0.020	mg/L			05/03/13 19:32	1
Nitrite	ND		0.050	0.020	mg/L			05/03/13 19:32	1
Total Organic Carbon	3.6		1.0	0.43	mg/L			05/07/13 17:23	1
Total Alkalinity	323		5.0	0.79	mg/L			05/09/13 02:20	1

TestAmerica Buffalo

# Client Sample Results

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

TestAmerica Job ID: 480-37628-1

**Client Sample ID: MW-12-050313**

**Lab Sample ID: 480-37628-1**

**Date Collected: 05/03/13 09:00**

**Matrix: Water**

**Date Received: 05/03/13 15:30**

## General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		0.10	0.052	mg/L			05/07/13 12:09	1
Acetic acid	ND		1.0	0.15	mg/L			05/07/13 19:33	1
Formic-acid	ND		1.0	0.11	mg/L			05/07/13 19:33	1
Lactic acid	ND		1.0	0.14	mg/L			05/07/13 19:33	1
n-Butyric Acid	ND		1.0	0.16	mg/L			05/07/13 19:33	1
Propionic acid	ND		1.0	0.17	mg/L			05/07/13 19:33	1
Pyruvic Acid	ND		1.0	0.080	mg/L			05/07/13 19:33	1

**Client Sample ID: MW-14-050313**

**Lab Sample ID: 480-37628-2**

**Date Collected: 05/03/13 12:00**

**Matrix: Water**

**Date Received: 05/03/13 15:30**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			05/11/13 18:57	1
Tetrachloroethene	ND		1.0	0.36	ug/L			05/11/13 18:57	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			05/11/13 18:57	1
Trichloroethene	ND		1.0	0.46	ug/L			05/11/13 18:57	1
Vinyl chloride	ND		1.0	0.90	ug/L			05/11/13 18:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		66 - 137		05/11/13 18:57	1
4-Bromofluorobenzene (Surr)	106		73 - 120		05/11/13 18:57	1
Toluene-d8 (Surr)	100		71 - 126		05/11/13 18:57	1

## Method: AM20GAX - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hydrogen	16		0.60	0.074	nm		05/09/13 13:00	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	ND		7.5	0.49	ug/L			05/06/13 08:40	1
Ethene	ND		7.0	0.52	ug/L			05/06/13 08:40	1
Methane	50		4.0	0.22	ug/L			05/06/13 08:40	1

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	6200		1000	1000	ug/L		05/07/13 13:55	1

## Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.038	J	0.050	0.019	mg/L		05/06/13 07:40	05/07/13 19:57	1
Magnesium	59.4		0.20	0.043	mg/L		05/06/13 07:40	05/06/13 22:02	1
Manganese	0.20	B	0.0030	0.00040	mg/L		05/06/13 07:40	05/06/13 22:02	1
Potassium	5.1		0.50	0.10	mg/L		05/06/13 07:40	05/06/13 22:02	1
Sodium	850		1.0	0.32	mg/L		05/06/13 07:40	05/06/13 22:02	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1340		10.0	5.6	mg/L			05/07/13 21:15	20
Sulfate	60.0		10.0	1.7	mg/L			05/07/13 03:13	5
Ammonia	0.15		0.020	0.0090	mg/L			05/08/13 11:29	1
Nitrate	0.061		0.050	0.020	mg/L			05/03/13 21:12	1

TestAmerica Buffalo

# Client Sample Results

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

TestAmerica Job ID: 480-37628-1

**Client Sample ID: MW-14-050313**

**Lab Sample ID: 480-37628-2**

**Date Collected: 05/03/13 12:00**

**Matrix: Water**

**Date Received: 05/03/13 15:30**

## General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite	ND		0.050	0.020	mg/L			05/03/13 21:12	1
<b>Total Organic Carbon</b>	<b>1.7</b>		1.0	0.43	mg/L			05/07/13 17:54	1
<b>Total Alkalinity</b>	<b>361</b>		5.0	0.79	mg/L			05/09/13 02:28	1
Sulfide	ND		0.10	0.052	mg/L			05/07/13 12:12	1
Acetic acid	ND		1.0	0.15	mg/L			05/07/13 20:02	1
Formic-acid	ND		1.0	0.11	mg/L			05/07/13 20:02	1
Lactic acid	ND		1.0	0.14	mg/L			05/07/13 20:02	1
n-Butyric Acid	ND		1.0	0.16	mg/L			05/07/13 20:02	1
Propionic acid	ND		1.0	0.17	mg/L			05/07/13 20:02	1
Pyruvic Acid	ND		1.0	0.080	mg/L			05/07/13 20:02	1

**Client Sample ID: MW-7-050313**

**Lab Sample ID: 480-37628-3**

**Date Collected: 05/03/13 14:10**

**Matrix: Water**

**Date Received: 05/03/13 15:30**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>cis-1,2-Dichloroethene</b>	<b>55000</b>		10000	8100	ug/L			05/13/13 13:19	10000
Tetrachloroethene	ND		10000	3600	ug/L			05/13/13 13:19	10000
trans-1,2-Dichloroethene	ND		10000	9000	ug/L			05/13/13 13:19	10000
<b>Trichloroethene</b>	<b>880000</b>		10000	4600	ug/L			05/13/13 13:19	10000
Vinyl chloride	ND		10000	9000	ug/L			05/13/13 13:19	10000
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		66 - 137					05/13/13 13:19	10000
4-Bromofluorobenzene (Surr)	103		73 - 120					05/13/13 13:19	10000
Toluene-d8 (Surr)	100		71 - 126					05/13/13 13:19	10000

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Ethane</b>	<b>32</b>		7.5	0.49	ug/L			05/06/13 08:57	1
<b>Ethene</b>	<b>250</b>		7.0	0.52	ug/L			05/06/13 08:57	1
<b>Methane</b>	<b>120</b>		4.0	0.22	ug/L			05/06/13 08:57	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Carbon dioxide</b>	<b>4400</b>		1000	1000	ug/L			05/07/13 14:02	1

## Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Iron</b>	<b>0.021</b>	<b>J</b>	0.050	0.019	mg/L		05/06/13 07:40	05/07/13 19:59	1
<b>Magnesium</b>	<b>76.0</b>		0.20	0.043	mg/L		05/06/13 07:40	05/06/13 22:05	1
<b>Manganese</b>	<b>0.019</b>	<b>B</b>	0.0030	0.00040	mg/L		05/06/13 07:40	05/06/13 22:05	1
<b>Potassium</b>	<b>14.3</b>		0.50	0.10	mg/L		05/06/13 07:40	05/06/13 22:05	1
<b>Sodium</b>	<b>254</b>		1.0	0.32	mg/L		05/06/13 07:40	05/06/13 22:05	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>569</b>		5.0	2.8	mg/L			05/07/13 21:25	10
<b>Sulfate</b>	<b>253</b>		10.0	1.7	mg/L			05/07/13 03:24	5
<b>Ammonia</b>	<b>0.75</b>	<b>B</b>	0.020	0.0090	mg/L			05/04/13 15:17	1
Nitrate	ND		0.050	0.020	mg/L			05/03/13 19:34	1

TestAmerica Buffalo

# Client Sample Results

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

TestAmerica Job ID: 480-37628-1

**Client Sample ID: MW-7-050313**

**Lab Sample ID: 480-37628-3**

**Date Collected: 05/03/13 14:10**

**Matrix: Water**

**Date Received: 05/03/13 15:30**

## General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite	ND		0.050	0.020	mg/L			05/03/13 19:34	1
<b>Total Organic Carbon</b>	<b>7.6</b>		1.0	0.43	mg/L			05/07/13 18:25	1
<b>Total Alkalinity</b>	<b>242</b>		5.0	0.79	mg/L			05/09/13 02:34	1
Sulfide	ND		0.10	0.052	mg/L			05/07/13 12:17	1
<b>Acetic acid</b>	<b>7.0</b>		1.0	0.15	mg/L			05/07/13 20:31	1
Formic-acid	ND		1.0	0.11	mg/L			05/07/13 20:31	1
Lactic acid	ND		1.0	0.14	mg/L			05/07/13 20:31	1
n-Butyric Acid	ND		1.0	0.16	mg/L			05/07/13 20:31	1
Propionic acid	ND		1.0	0.17	mg/L			05/07/13 20:31	1
Pyruvic Acid	ND		1.0	0.080	mg/L			05/07/13 20:31	1

**Client Sample ID: Trip Blank**

**Lab Sample ID: 480-37628-4**

**Date Collected: 05/03/13 00:00**

**Matrix: Water**

**Date Received: 05/03/13 15:30**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>cis-1,2-Dichloroethene</b>	<b>4.7</b>		1.0	0.81	ug/L			05/13/13 13:42	1
Tetrachloroethene	ND		1.0	0.36	ug/L			05/13/13 13:42	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			05/13/13 13:42	1
Vinyl chloride	ND		1.0	0.90	ug/L			05/13/13 13:42	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		66 - 137					05/13/13 13:42	1
4-Bromofluorobenzene (Surr)	109		73 - 120					05/13/13 13:42	1
Toluene-d8 (Surr)	104		71 - 126					05/13/13 13:42	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Trichloroethene</b>	<b>62</b>		2.0	0.92	ug/L			05/14/13 02:28	2
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		66 - 137					05/14/13 02:28	2
4-Bromofluorobenzene (Surr)	106		73 - 120					05/14/13 02:28	2
Toluene-d8 (Surr)	102		71 - 126					05/14/13 02:28	2

TestAmerica Buffalo

## Surrogate Summary

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

TestAmerica Job ID: 480-37628-1

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		12DCE (66-137)	BFB (73-120)	TOL (71-126)
480-37628-1	MW-12-050313	101	107	103
480-37628-1 - DL	MW-12-050313	93	97	94
480-37628-2	MW-14-050313	102	106	100
480-37628-3	MW-7-050313	103	103	100
480-37628-4	Trip Blank	102	109	104
480-37628-4 - DL	Trip Blank	105	106	102
LCS 480-118132/3	Lab Control Sample	105	108	103
LCS 480-118211/4	Lab Control Sample	98	106	102
LCS 480-118351/4	Lab Control Sample	101	111	106
MB 480-118132/4	Method Blank	105	109	100
MB 480-118211/5	Method Blank	99	103	98
MB 480-118351/5	Method Blank	106	110	105

#### Surrogate Legend

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

BFB = 4-Bromofluorobenzene (Surr)

TOL = Toluene-d8 (Surr)



# QC Sample Results

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

TestAmerica Job ID: 480-37628-1

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

Lab Sample ID: MB 480-118132/4

Matrix: Water

Analysis Batch: 118132

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			05/11/13 16:26	1
Tetrachloroethene	ND		1.0	0.36	ug/L			05/11/13 16:26	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			05/11/13 16:26	1
Trichloroethene	ND		1.0	0.46	ug/L			05/11/13 16:26	1
Vinyl chloride	ND		1.0	0.90	ug/L			05/11/13 16:26	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		66 - 137		05/11/13 16:26	1
4-Bromofluorobenzene (Surr)	109		73 - 120		05/11/13 16:26	1
Toluene-d8 (Surr)	100		71 - 126		05/11/13 16:26	1

Lab Sample ID: LCS 480-118132/3

Matrix: Water

Analysis Batch: 118132

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
cis-1,2-Dichloroethene	25.0	25.3		ug/L		101	74 - 124
Tetrachloroethene	25.0	27.8		ug/L		111	74 - 122
trans-1,2-Dichloroethene	25.0	26.4		ug/L		106	73 - 127
Trichloroethene	25.0	25.6		ug/L		102	74 - 123

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	105		66 - 137
4-Bromofluorobenzene (Surr)	108		73 - 120
Toluene-d8 (Surr)	103		71 - 126

Lab Sample ID: MB 480-118211/5

Matrix: Water

Analysis Batch: 118211

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			05/13/13 10:49	1
Tetrachloroethene	ND		1.0	0.36	ug/L			05/13/13 10:49	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			05/13/13 10:49	1
Trichloroethene	ND		1.0	0.46	ug/L			05/13/13 10:49	1
Vinyl chloride	ND		1.0	0.90	ug/L			05/13/13 10:49	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		66 - 137		05/13/13 10:49	1
4-Bromofluorobenzene (Surr)	103		73 - 120		05/13/13 10:49	1
Toluene-d8 (Surr)	98		71 - 126		05/13/13 10:49	1

TestAmerica Buffalo

# QC Sample Results

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

TestAmerica Job ID: 480-37628-1

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

Lab Sample ID: LCS 480-118211/4

Matrix: Water

Analysis Batch: 118211

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
cis-1,2-Dichloroethene	25.0	24.5		ug/L		98	74 - 124
Tetrachloroethene	25.0	26.8		ug/L		107	74 - 122
trans-1,2-Dichloroethene	25.0	25.5		ug/L		102	73 - 127
Trichloroethene	25.0	24.1		ug/L		96	74 - 123

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	98		66 - 137
4-Bromofluorobenzene (Surr)	106		73 - 120
Toluene-d8 (Surr)	102		71 - 126

Lab Sample ID: MB 480-118351/5

Matrix: Water

Analysis Batch: 118351

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			05/13/13 21:57	1
Tetrachloroethene	ND		1.0	0.36	ug/L			05/13/13 21:57	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			05/13/13 21:57	1
Trichloroethene	ND		1.0	0.46	ug/L			05/13/13 21:57	1
Vinyl chloride	ND		1.0	0.90	ug/L			05/13/13 21:57	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		66 - 137		05/13/13 21:57	1
4-Bromofluorobenzene (Surr)	110		73 - 120		05/13/13 21:57	1
Toluene-d8 (Surr)	105		71 - 126		05/13/13 21:57	1

Lab Sample ID: LCS 480-118351/4

Matrix: Water

Analysis Batch: 118351

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
cis-1,2-Dichloroethene	25.0	27.7		ug/L		111	74 - 124
Tetrachloroethene	25.0	30.1		ug/L		120	74 - 122
trans-1,2-Dichloroethene	25.0	26.2		ug/L		105	73 - 127
Trichloroethene	25.0	28.4		ug/L		114	74 - 123

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	101		66 - 137
4-Bromofluorobenzene (Surr)	111		73 - 120
Toluene-d8 (Surr)	106		71 - 126

TestAmerica Buffalo

# QC Sample Results

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

TestAmerica Job ID: 480-37628-1

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

Lab Sample ID: MB 480-116879/2

Matrix: Water

Analysis Batch: 116879

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	ND		7.5	0.49	ug/L			05/06/13 07:17	1
Ethene	ND		7.0	0.52	ug/L			05/06/13 07:17	1
Methane	ND		4.0	0.22	ug/L			05/06/13 07:17	1

Lab Sample ID: LCS 480-116879/4

Matrix: Water

Analysis Batch: 116879

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethane	14.4	17.3		ug/L		120	67 - 128
Ethene	13.5	16.2		ug/L		120	60 - 137
Methane	7.69	8.73		ug/L		113	48 - 174

Lab Sample ID: LCSD 480-116879/5

Matrix: Water

Analysis Batch: 116879

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ethane	14.4	17.1		ug/L		119	67 - 128	1	50
Ethene	13.5	16.2		ug/L		120	60 - 137	0	50
Methane	7.69	8.74		ug/L		114	48 - 174	0	50

Lab Sample ID: MB 200-55142/3

Matrix: Water

Analysis Batch: 55142

Client Sample ID: Method Blank

Prep Type: Total/NA

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

Lab Sample ID: LCS 200-55142/2

Matrix: Water

Analysis Batch: 55142

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

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

## Method: 6010B - Metals (ICP)

Lab Sample ID: MB 480-116862/1-A

Matrix: Water

Analysis Batch: 117145

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 116862

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.050	0.019	mg/L		05/06/13 07:40	05/06/13 21:22	1
Magnesium	ND		0.20	0.043	mg/L		05/06/13 07:40	05/06/13 21:22	1
Manganese	0.000570	J	0.0030	0.00040	mg/L		05/06/13 07:40	05/06/13 21:22	1
Potassium	ND		0.50	0.10	mg/L		05/06/13 07:40	05/06/13 21:22	1
Sodium	ND		1.0	0.32	mg/L		05/06/13 07:40	05/06/13 21:22	1

TestAmerica Buffalo

# QC Sample Results

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

TestAmerica Job ID: 480-37628-1

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

Lab Sample ID: LCS 480-116862/2-A

Matrix: Water

Analysis Batch: 117145

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 116862

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	10.0	10.66		mg/L		107	80 - 120
Magnesium	10.0	10.42		mg/L		104	80 - 120
Manganese	0.200	0.210		mg/L		105	80 - 120
Potassium	10.0	10.89		mg/L		109	80 - 120
Sodium	10.0	10.74		mg/L		107	80 - 120

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 480-117004/76

Matrix: Water

Analysis Batch: 117004

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50	0.28	mg/L			05/07/13 02:13	1
Sulfate	ND		2.0	0.35	mg/L			05/07/13 02:13	1

Lab Sample ID: LCS 480-117004/75

Matrix: Water

Analysis Batch: 117004

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	20.67		mg/L		103	90 - 110
Sulfate	20.0	20.76		mg/L		104	90 - 110

Lab Sample ID: 480-37628-3 MS

Matrix: Water

Analysis Batch: 117004

Client Sample ID: MW-7-050313

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	253		125	376.3		mg/L		99	90 - 110

Lab Sample ID: MB 480-117251/28

Matrix: Water

Analysis Batch: 117251

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50	0.28	mg/L			05/07/13 20:24	1
Sulfate	ND		2.0	0.35	mg/L			05/07/13 20:24	1

Lab Sample ID: LCS 480-117251/27

Matrix: Water

Analysis Batch: 117251

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	20.52		mg/L		103	90 - 110
Sulfate	20.0	20.68		mg/L		103	90 - 110

TestAmerica Buffalo

# QC Sample Results

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

TestAmerica Job ID: 480-37628-1

## Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 480-116849/147

Matrix: Water

Analysis Batch: 116849

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.0246		0.020	0.0090	mg/L			05/04/13 14:58	1

Lab Sample ID: LCS 480-116849/148

Matrix: Water

Analysis Batch: 116849

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	1.00	0.975		mg/L		98	90 - 110

Lab Sample ID: MB 480-117465/27

Matrix: Water

Analysis Batch: 117465

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.020	0.0090	mg/L			05/08/13 11:17	1

Lab Sample ID: MB 480-117465/3

Matrix: Water

Analysis Batch: 117465

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.020	0.0090	mg/L			05/08/13 10:54	1

Lab Sample ID: LCS 480-117465/28

Matrix: Water

Analysis Batch: 117465

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	1.00	1.01		mg/L		101	90 - 110

Lab Sample ID: LCS 480-117465/4

Matrix: Water

Analysis Batch: 117465

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	1.00	1.01		mg/L		101	90 - 110

## Method: 353.2 - Nitrogen, Nitrite

Lab Sample ID: MB 480-116782/27

Matrix: Water

Analysis Batch: 116782

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite	ND		0.050	0.020	mg/L			05/03/13 20:58	1

TestAmerica Buffalo



## QC Sample Results

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

TestAmerica Job ID: 480-37628-1

### Method: 353.2 - Nitrogen, Nitrite (Continued)

Lab Sample ID: MB 480-116782/3

Matrix: Water

Analysis Batch: 116782

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite	ND		0.050	0.020	mg/L			05/03/13 20:32	1

Lab Sample ID: LCS 480-116782/28

Matrix: Water

Analysis Batch: 116782

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrite	1.50	1.50		mg/L		100	90 - 110

Lab Sample ID: LCS 480-116782/4

Matrix: Water

Analysis Batch: 116782

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrite	1.50	1.51		mg/L		101	90 - 110

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

Lab Sample ID: MB 480-117408/3

Matrix: Water

Analysis Batch: 117408

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		1.0	0.43	mg/L			05/07/13 16:22	1

Lab Sample ID: LCS 480-117408/4

Matrix: Water

Analysis Batch: 117408

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	60.0	60.25		mg/L		100	90 - 110

### Method: SM 2320B - Alkalinity

Lab Sample ID: MB 480-117560/6

Matrix: Water

Analysis Batch: 117560

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	ND		5.0	0.79	mg/L			05/09/13 00:52	1

Lab Sample ID: LCS 480-117560/7

Matrix: Water

Analysis Batch: 117560

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity	100	95.51		mg/L		96	90 - 110

TestAmerica Buffalo

# QC Sample Results

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

TestAmerica Job ID: 480-37628-1

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

Lab Sample ID: MB 480-117205/3

Matrix: Water

Analysis Batch: 117205

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		0.10	0.052	mg/L			05/07/13 12:02	1

Lab Sample ID: LCS 480-117205/4

Matrix: Water

Analysis Batch: 117205

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide	0.750	0.714		mg/L		95	90 - 110

Lab Sample ID: 480-37628-3 MS

Matrix: Water

Analysis Batch: 117205

Client Sample ID: MW-7-050313

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide	ND		0.500	0.382	F	mg/L		76	90 - 110

Lab Sample ID: 480-37628-2 DU

Matrix: Water

Analysis Batch: 117205

Client Sample ID: MW-14-050313

Prep Type: Total/NA

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

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

Lab Sample ID: MB 480-117044/52

Matrix: Water

Analysis Batch: 117044

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetic acid	ND		1.0	0.15	mg/L			05/07/13 17:07	1
Formic-acid	ND		1.0	0.11	mg/L			05/07/13 17:07	1
Lactic acid	ND		1.0	0.14	mg/L			05/07/13 17:07	1
n-Butyric Acid	ND		1.0	0.16	mg/L			05/07/13 17:07	1
Propionic acid	ND		1.0	0.17	mg/L			05/07/13 17:07	1
Pyruvic Acid	ND		1.0	0.080	mg/L			05/07/13 17:07	1

Lab Sample ID: LCS 480-117044/51

Matrix: Water

Analysis Batch: 117044

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetic acid	10.0	9.84		mg/L		98	80 - 120
Formic-acid	10.0	9.85		mg/L		98	80 - 120
Lactic acid	10.0	10.25		mg/L		103	80 - 120
n-Butyric Acid	10.0	9.67		mg/L		97	80 - 120
Propionic acid	10.0	10.31		mg/L		103	80 - 120
Pyruvic Acid	10.0	10.39		mg/L		104	80 - 120

TestAmerica Buffalo

## QC Association Summary

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

TestAmerica Job ID: 480-37628-1

### GC/MS VOA

#### Analysis Batch: 118132

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37628-1	MW-12-050313	Total/NA	Water	8260B	
480-37628-2	MW-14-050313	Total/NA	Water	8260B	
LCS 480-118132/3	Lab Control Sample	Total/NA	Water	8260B	
MB 480-118132/4	Method Blank	Total/NA	Water	8260B	

#### Analysis Batch: 118211

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37628-1 - DL	MW-12-050313	Total/NA	Water	8260B	
480-37628-3	MW-7-050313	Total/NA	Water	8260B	
480-37628-4	Trip Blank	Total/NA	Water	8260B	
LCS 480-118211/4	Lab Control Sample	Total/NA	Water	8260B	
MB 480-118211/5	Method Blank	Total/NA	Water	8260B	

#### Analysis Batch: 118351

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37628-4 - DL	Trip Blank	Total/NA	Water	8260B	
LCS 480-118351/4	Lab Control Sample	Total/NA	Water	8260B	
MB 480-118351/5	Method Blank	Total/NA	Water	8260B	

### GC VOA

#### Analysis Batch: 55142

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37628-1	MW-12-050313	Total/NA	Water	RSK-175	
480-37628-2	MW-14-050313	Total/NA	Water	RSK-175	
480-37628-3	MW-7-050313	Total/NA	Water	RSK-175	
LCS 200-55142/2	Lab Control Sample	Total/NA	Water	RSK-175	
MB 200-55142/3	Method Blank	Total/NA	Water	RSK-175	

#### Analysis Batch: 116879

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37628-1	MW-12-050313	Total/NA	Water	RSK-175	
480-37628-1 - DL	MW-12-050313	Total/NA	Water	RSK-175	
480-37628-2	MW-14-050313	Total/NA	Water	RSK-175	
480-37628-3	MW-7-050313	Total/NA	Water	RSK-175	
LCS 480-116879/4	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 480-116879/5	Lab Control Sample Dup	Total/NA	Water	RSK-175	
MB 480-116879/2	Method Blank	Total/NA	Water	RSK-175	

#### Analysis Batch: 119010

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37628-1	MW-12-050313	Total/NA	Water	AM20GAX	
480-37628-2	MW-14-050313	Total/NA	Water	AM20GAX	

### Metals

#### Prep Batch: 116862

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37628-1	MW-12-050313	Total/NA	Water	3005A	
480-37628-2	MW-14-050313	Total/NA	Water	3005A	

TestAmerica Buffalo

## QC Association Summary

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

TestAmerica Job ID: 480-37628-1

### Metals (Continued)

#### Prep Batch: 116862 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37628-3	MW-7-050313	Total/NA	Water	3005A	
LCS 480-116862/2-A	Lab Control Sample	Total/NA	Water	3005A	
MB 480-116862/1-A	Method Blank	Total/NA	Water	3005A	

#### Analysis Batch: 117145

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37628-1	MW-12-050313	Total/NA	Water	6010B	116862
480-37628-2	MW-14-050313	Total/NA	Water	6010B	116862
480-37628-3	MW-7-050313	Total/NA	Water	6010B	116862
LCS 480-116862/2-A	Lab Control Sample	Total/NA	Water	6010B	116862
MB 480-116862/1-A	Method Blank	Total/NA	Water	6010B	116862

#### Analysis Batch: 117369

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37628-2	MW-14-050313	Total/NA	Water	6010B	116862
480-37628-3	MW-7-050313	Total/NA	Water	6010B	116862

### General Chemistry

#### Analysis Batch: 116782

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37628-2	MW-14-050313	Total/NA	Water	353.2	
LCS 480-116782/28	Lab Control Sample	Total/NA	Water	353.2	
LCS 480-116782/4	Lab Control Sample	Total/NA	Water	353.2	
MB 480-116782/27	Method Blank	Total/NA	Water	353.2	
MB 480-116782/3	Method Blank	Total/NA	Water	353.2	

#### Analysis Batch: 116786

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37628-1	MW-12-050313	Total/NA	Water	353.2	
480-37628-2	MW-14-050313	Total/NA	Water	353.2	
480-37628-3	MW-7-050313	Total/NA	Water	353.2	

#### Analysis Batch: 116787

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37628-1	MW-12-050313	Total/NA	Water	353.2	
480-37628-3	MW-7-050313	Total/NA	Water	353.2	

#### Analysis Batch: 116849

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37628-1	MW-12-050313	Total/NA	Water	350.1	
480-37628-3	MW-7-050313	Total/NA	Water	350.1	
LCS 480-116849/148	Lab Control Sample	Total/NA	Water	350.1	
MB 480-116849/147	Method Blank	Total/NA	Water	350.1	

#### Analysis Batch: 117004

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37628-1	MW-12-050313	Total/NA	Water	300.0	
480-37628-2	MW-14-050313	Total/NA	Water	300.0	
480-37628-3	MW-7-050313	Total/NA	Water	300.0	

TestAmerica Buffalo

## QC Association Summary

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

TestAmerica Job ID: 480-37628-1

### General Chemistry (Continued)

#### Analysis Batch: 117004 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37628-3 MS	MW-7-050313	Total/NA	Water	300.0	
LCS 480-117004/75	Lab Control Sample	Total/NA	Water	300.0	
MB 480-117004/76	Method Blank	Total/NA	Water	300.0	

#### Analysis Batch: 117044

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37628-1	MW-12-050313	Total/NA	Water	VFA-IC	
480-37628-2	MW-14-050313	Total/NA	Water	VFA-IC	
480-37628-3	MW-7-050313	Total/NA	Water	VFA-IC	
LCS 480-117044/51	Lab Control Sample	Total/NA	Water	VFA-IC	
MB 480-117044/52	Method Blank	Total/NA	Water	VFA-IC	

#### Analysis Batch: 117205

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37628-1	MW-12-050313	Total/NA	Water	SM 4500 S2 D	
480-37628-2	MW-14-050313	Total/NA	Water	SM 4500 S2 D	
480-37628-2 DU	MW-14-050313	Total/NA	Water	SM 4500 S2 D	
480-37628-3	MW-7-050313	Total/NA	Water	SM 4500 S2 D	
480-37628-3 MS	MW-7-050313	Total/NA	Water	SM 4500 S2 D	
LCS 480-117205/4	Lab Control Sample	Total/NA	Water	SM 4500 S2 D	
MB 480-117205/3	Method Blank	Total/NA	Water	SM 4500 S2 D	

#### Analysis Batch: 117251

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37628-1	MW-12-050313	Total/NA	Water	300.0	
480-37628-2	MW-14-050313	Total/NA	Water	300.0	
480-37628-3	MW-7-050313	Total/NA	Water	300.0	
LCS 480-117251/27	Lab Control Sample	Total/NA	Water	300.0	
MB 480-117251/28	Method Blank	Total/NA	Water	300.0	

#### Analysis Batch: 117408

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37628-1	MW-12-050313	Total/NA	Water	9060	
480-37628-2	MW-14-050313	Total/NA	Water	9060	
480-37628-3	MW-7-050313	Total/NA	Water	9060	
LCS 480-117408/4	Lab Control Sample	Total/NA	Water	9060	
MB 480-117408/3	Method Blank	Total/NA	Water	9060	

#### Analysis Batch: 117465

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37628-2	MW-14-050313	Total/NA	Water	350.1	
LCS 480-117465/28	Lab Control Sample	Total/NA	Water	350.1	
LCS 480-117465/4	Lab Control Sample	Total/NA	Water	350.1	
MB 480-117465/27	Method Blank	Total/NA	Water	350.1	
MB 480-117465/3	Method Blank	Total/NA	Water	350.1	

#### Analysis Batch: 117560

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-37628-1	MW-12-050313	Total/NA	Water	SM 2320B	
480-37628-2	MW-14-050313	Total/NA	Water	SM 2320B	
480-37628-3	MW-7-050313	Total/NA	Water	SM 2320B	

TestAmerica Buffalo



## QC Association Summary

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

TestAmerica Job ID: 480-37628-1

### General Chemistry (Continued)

#### Analysis Batch: 117560 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 480-117560/7	Lab Control Sample	Total/NA	Water	SM 2320B	
MB 480-117560/6	Method Blank	Total/NA	Water	SM 2320B	

## Lab Chronicle

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

TestAmerica Job ID: 480-37628-1

**Client Sample ID: MW-12-050313**

**Date Collected: 05/03/13 09:00**

**Date Received: 05/03/13 15:30**

**Lab Sample ID: 480-37628-1**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	118132	05/11/13 18:30	CDC	TAL BUF
Total/NA	Analysis	8260B	DL	2	118211	05/13/13 12:56	RL	TAL BUF
Total/NA	Analysis	RSK-175		1	55142	05/07/13 13:46	NA	TAL BUR
Total/NA	Analysis	RSK-175		1	116879	05/06/13 08:23	JM	TAL BUF
Total/NA	Analysis	RSK-175	DL	10	116879	05/06/13 09:25	JM	TAL BUF
Total/NA	Analysis	AM20GAX		1	119010	05/09/13 13:00	CTB	SC0015
Total/NA	Prep	3005A			116862	05/06/13 07:40	SS	TAL BUF
Total/NA	Analysis	6010B		1	117145	05/06/13 21:59	LH	TAL BUF
Total/NA	Analysis	353.2		1	116786	05/03/13 19:32	NH	TAL BUF
Total/NA	Analysis	353.2		1	116787	05/03/13 19:32	NH	TAL BUF
Total/NA	Analysis	350.1		1	116849	05/04/13 15:15	KS	TAL BUF
Total/NA	Analysis	300.0		5	117004	05/07/13 03:03	KC	TAL BUF
Total/NA	Analysis	VFA-IC		1	117044	05/07/13 19:33	KC	TAL BUF
Total/NA	Analysis	SM 4500 S2 D		1	117205	05/07/13 12:09	KJ	TAL BUF
Total/NA	Analysis	300.0		50	117251	05/07/13 21:05	KAC	TAL BUF
Total/NA	Analysis	9060		1	117408	05/07/13 17:23	KC	TAL BUF
Total/NA	Analysis	SM 2320B		1	117560	05/09/13 02:20	LK	TAL BUF

**Client Sample ID: MW-14-050313**

**Date Collected: 05/03/13 12:00**

**Date Received: 05/03/13 15:30**

**Lab Sample ID: 480-37628-2**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	118132	05/11/13 18:57	CDC	TAL BUF
Total/NA	Analysis	RSK-175		1	55142	05/07/13 13:55	NA	TAL BUR
Total/NA	Analysis	RSK-175		1	116879	05/06/13 08:40	JM	TAL BUF
Total/NA	Analysis	AM20GAX		1	119010	05/09/13 13:00	CTB	SC0015
Total/NA	Prep	3005A			116862	05/06/13 07:40	SS	TAL BUF
Total/NA	Analysis	6010B		1	117145	05/06/13 22:02	LH	TAL BUF
Total/NA	Prep	3005A			116862	05/06/13 07:40	SS	TAL BUF
Total/NA	Analysis	6010B		1	117369	05/07/13 19:57	AH	TAL BUF
Total/NA	Analysis	353.2		1	116782	05/03/13 21:12	NH	TAL BUF
Total/NA	Analysis	353.2		1	116786	05/03/13 21:12	NH	TAL BUF
Total/NA	Analysis	300.0		5	117004	05/07/13 03:13	KC	TAL BUF
Total/NA	Analysis	VFA-IC		1	117044	05/07/13 20:02	KC	TAL BUF
Total/NA	Analysis	SM 4500 S2 D		1	117205	05/07/13 12:12	KJ	TAL BUF
Total/NA	Analysis	300.0		20	117251	05/07/13 21:15	KAC	TAL BUF
Total/NA	Analysis	9060		1	117408	05/07/13 17:54	KC	TAL BUF
Total/NA	Analysis	350.1		1	117465	05/08/13 11:29	SB	TAL BUF
Total/NA	Analysis	SM 2320B		1	117560	05/09/13 02:28	LK	TAL BUF

TestAmerica Buffalo

# Lab Chronicle

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

TestAmerica Job ID: 480-37628-1

**Client Sample ID: MW-7-050313**

**Lab Sample ID: 480-37628-3**

**Date Collected: 05/03/13 14:10**

**Matrix: Water**

**Date Received: 05/03/13 15:30**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10000	118211	05/13/13 13:19	RL	TAL BUF
Total/NA	Analysis	RSK-175		1	55142	05/07/13 14:02	NA	TAL BUR
Total/NA	Analysis	RSK-175		1	116879	05/06/13 08:57	JM	TAL BUF
Total/NA	Prep	3005A			116862	05/06/13 07:40	SS	TAL BUF
Total/NA	Analysis	6010B		1	117145	05/06/13 22:05	LH	TAL BUF
Total/NA	Prep	3005A			116862	05/06/13 07:40	SS	TAL BUF
Total/NA	Analysis	6010B		1	117369	05/07/13 19:59	AH	TAL BUF
Total/NA	Analysis	353.2		1	116786	05/03/13 19:34	NH	TAL BUF
Total/NA	Analysis	353.2		1	116787	05/03/13 19:34	NH	TAL BUF
Total/NA	Analysis	350.1		1	116849	05/04/13 15:17	KS	TAL BUF
Total/NA	Analysis	300.0		5	117004	05/07/13 03:24	KC	TAL BUF
Total/NA	Analysis	VFA-IC		1	117044	05/07/13 20:31	KC	TAL BUF
Total/NA	Analysis	SM 4500 S2 D		1	117205	05/07/13 12:17	KJ	TAL BUF
Total/NA	Analysis	300.0		10	117251	05/07/13 21:25	KAC	TAL BUF
Total/NA	Analysis	9060		1	117408	05/07/13 18:25	KC	TAL BUF
Total/NA	Analysis	SM 2320B		1	117560	05/09/13 02:34	LK	TAL BUF

**Client Sample ID: Trip Blank**

**Lab Sample ID: 480-37628-4**

**Date Collected: 05/03/13 00:00**

**Matrix: Water**

**Date Received: 05/03/13 15:30**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	118211	05/13/13 13:42	RL	TAL BUF
Total/NA	Analysis	8260B	DL	2	118351	05/14/13 02:28	TRF	TAL BUF

## Laboratory References:

SC0015 = Pittsburgh, PA, 220 William Pitt Way, Pittsburgh, PA 15238, TEL (412)826-5245

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

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

## Certification Summary

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

TestAmerica Job ID: 480-37628-1

### Laboratory: TestAmerica Buffalo

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

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

### Laboratory: TestAmerica Burlington

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

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

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

TestAmerica Buffalo

## Certification Summary

Client: Conestoga-Rovers & Associates, Inc.

TestAmerica Job ID: 480-37628-1

Project/Site: 058507, GM-Lockport Groundwater Sampling

### Laboratory: TestAmerica Burlington (Continued)

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

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



## Method Summary

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

TestAmerica Job ID: 480-37628-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL BUF
AM20GAX	Dissolved Gases (GC)	NONE	SC0015
RSK-175	Dissolved Gases (GC)	RSK	TAL BUR
RSK-175	Dissolved Gases (GC)	RSK	TAL BUF
6010B	Metals (ICP)	SW846	TAL BUF
300.0	Anions, Ion Chromatography	MCAWW	TAL BUF
350.1	Nitrogen, Ammonia	MCAWW	TAL BUF
353.2	Nitrate	EPA	TAL BUF
353.2	Nitrogen, Nitrite	MCAWW	TAL BUF
9060	Organic Carbon, Total (TOC)	SW846	TAL BUF
SM 2320B	Alkalinity	SM	TAL BUF
SM 4500 S2 D	Sulfide, Total	SM	TAL BUF
VFA-IC	Volatile Fatty Acids, Ion Chromatography	TestAmerica SOP	TAL BUF

### Protocol References:

EPA = US Environmental Protection Agency

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

NONE = NONE

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

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

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

TestAmerica SOP = TestAmerica, Inc., Standard Operating Procedure

### Laboratory References:

SC0015 = Pittsburgh, PA, 220 William Pitt Way, Pittsburgh, PA 15238, TEL (412)826-5245

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

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

## Sample Summary

Client: Conestoga-Rovers & Associates, Inc.

TestAmerica Job ID: 480-37628-1

Project/Site: 058507, GM-Lockport Groundwater Sampling

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-37628-1	MW-12-050313	Water	05/03/13 09:00	05/03/13 15:30
480-37628-2	MW-14-050313	Water	05/03/13 12:00	05/03/13 15:30
480-37628-3	MW-7-050313	Water	05/03/13 14:10	05/03/13 15:30
480-37628-4	Trip Blank	Water	05/03/13 00:00	05/03/13 15:30



Microseeps, Inc  
220 William Pitt Way  
Pittsburgh, PA 15238  
Phone: (412) 826-5245  
Fax: (412) 826-3433

May 14, 2013

Melissa Deyo  
Test America  
10 Hazelwood Drive  
Buffalo, NY 14228

RE: **480-37628**

*Microseeps Workorder: 8902*

Dear Melissa Deyo:

Enclosed are the analytical results for sample(s) received by the laboratory on Tuesday, May 07, 2013. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Robbin Robl  
rrobl@microseeps.com

05/14/2013 C.T. 5/15/13

Customer Service Representative

Enclosures

As a valued client we would appreciate your comments on our service.  
Please email [info@microseeps.com](mailto:info@microseeps.com).

Total Number of Pages \_\_\_\_

Report ID: 8902 - 382959

Page 1 of 8

#### CERTIFICATE OF ANALYSIS

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5/16/2013



## LABORATORY ACCREDITATIONS & CERTIFICATIONS

Accreditor:	Pennsylvania Department of Environmental Protection, Bureau of Laboratories		
Accreditation ID:	02-00538		
Scope:	NELAP Non-Potable Water and Solid & Hazardous Waste		
Accreditor:	NELAP: State of Florida, Department of Health, Bureau of Laboratories		
Accreditation ID:	E87832		
Scope:	Clean Water Act (CWA)	Resource Conservation and Recovery Act (RCRA)	
Accreditor:	South Carolina Department of Health and Environmental Control, Office of Environmental Laboratory Certification		
Accreditation ID:	89009003		
Scope:	Clean Water Act (CWA); Resource Conservation and Recovery Act (RCRA)		
Accreditor:	NELAP: State of Louisiana, Department of Environmental Quality		
Accreditation ID:	04104		
Scope:	Solid and Chemical Materials; Non-Potable Water		
Accreditor:	NELAP: New Jersey, Department of Environmental Protection		
Accreditation ID:	PA026		
Scope:	Non-Potable Water; Solid and Chemical Materials		
Accreditor:	NELAP: New York, Department of Health Wadsworth Center		
Accreditation ID:	11815		
Scope:	Non-Potable Water; Solid and Hazardous Waste		
Accreditor:	State of Connecticut, Department of Public Health, Division of Environmental Health		
Accreditation ID:	PH-0263		
Scope:	Clean Water Act (CWA) Resource Conservation and Recovery Act (RCRA)		
Accreditor:	NELAP: Texas, Commission on Environmental Quality		
Accreditation ID:	T104704453-09-TX		
Scope:	Non-Potable Water		
Accreditor:	State of New Hampshire		
Accreditation ID:	299409		
Scope:	Non-potable water		
Accreditor:	State of Georgia		
Accreditation ID:	Chapter 391-3-26		
Scope:	As per the Georgia EPD Rules and Regulations for Commercial Laboratories, Microseeps is accredited by the Pennsylvania Department of Environmental Protection Bureau of Laboratories under the National Environmental Laboratory Approval Program (NELAC).		

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220 William Pitt Way  
Pittsburgh, PA 15238  
Phone: (412) 826-5245  
Fax: (412) 826-3433

## SAMPLE SUMMARY

Workorder: 8902 480-37628

Lab ID	Sample ID	Matrix	Date Collected	Date Received
89020001	MW-12-050313(480-37628-1)	Bubble Strip	5/3/2013 09:00	5/7/2013 11:00
89020002	MW-14-050313(480-37628-2)	Bubble Strip	5/3/2013 12:00	5/7/2013 11:00

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## ANALYTICAL RESULTS

Workorder: 8902 480-37628

Lab ID: 89020001 Date Received: 5/7/2013 11:00 Matrix: Bubble Strip  
Sample ID: MW-12-050313(480-37628-1) Date Collected: 5/3/2013 09:00

Parameters	Results	Units	PQL	MDL	DF Prepared	By	Analyzed	By	Qual
<b>RISK - MICR</b>									
Analysis Desc: AM20GAX			Analytical Method: AM20GAX						
Hydrogen	1.1	nM	0.60	0.074	1		5/9/2013 13:00	GT	

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## ANALYTICAL RESULTS

Workorder: 8902 480-37628

Lab ID: 89020002 Date Received: 5/7/2013 11:00 Matrix: Bubble Strip  
Sample ID: MW-14-050313(480-37628-2) Date Collected: 5/3/2013 12:00

Parameters	Results	Units	PQL	MDL	DF Prepared	By	Analyzed	By	Qual
<b>RISK - MICR</b>									
Analysis Desc: AM20GAX			Analytical Method: AM20GAX						
Hydrogen	16	nM	0.60	0.074	1		5/9/2013 13:12	GT	

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## ANALYTICAL RESULTS QUALIFIERS

Workorder: 8902 480-37628

### DEFINITIONS/QUALIFIERS

**Disclaimer :** The Pennsylvania Department of Environmental Protection (PADEP) has decided to no longer recognize analyses that do not produce data for primary compliance, for NELAP accreditation. The methods affected by this decision are AM20GAX, AM21G, SW846 7199 and AM4.02. The laboratory shall continue to administer the NELAP/TNI standard requirements in the performance of these methods.

MDL	Method Detection Limit. Can be used synonymously with LOD; Limit Of Detection.
PQL	Practical Quantitation Limit. Can be used synonymously with LOQ; Limit Of Quantitation.
ND	Not detected at or above reporting limit.
DF	Dilution Factor.
S	Surrogate.
RPD	Relative Percent Difference.
% Rec	Percent Recovery.
U	Indicates the compound was analyzed for, but not detected at or above the noted concentration.
J	Estimated concentration greater than the set method detection limit (MDL) and less than the set reporting limit (PQL).

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Fax: (412) 826-3433

## QUALITY CONTROL DATA

Workorder: 8902 480-37628

QC Batch: DISG/2986 Analysis Method: AM20GAX  
QC Batch Method: AM20GAX  
Associated Lab Samples: 89020001, 89020002

METHOD BLANK: 20146

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
RISK Hydrogen	nM	0.60 U	0.60	

LABORATORY CONTROL SAMPLE & LCSD: 20147 20148

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
RISK Hydrogen	nM	24	26	26	108	107	80-120	0.93	20	

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Phone: (412) 826-5245  
Fax: (412) 826-3433

## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 8902 480-37628

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
89020001	MW-12-050313(480-37628-1)			AM20GAX	DISG/2986
89020002	MW-14-050313(480-37628-2)			AM20GAX	DISG/2986

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202

10 Hazelwood Drive

Amherst, NY 14228-2298

Phone (716) 691-2600 Fax (716) 691-7991

## Chain of Custody Record

<b>Client Information (Sub Contract Lab)</b> Client Contact: Shipping/Receiving Company: Microseeps Address: 220 William Pitt Way, City: Pittsburgh State, Zip: PA, 15238 Phone: 412-826-5245(Tel) Email:		Lab PM: Deyo, Melissa L E-Mail: melissa.deyo@testamericainc.com Job #: 480-37628-1		Carrier Tracking No(s): Page: 1 of 1 Job #: 480-37628-1	
Due Date Requested: 5/15/2013 TAT Requested (days): PO #: WO #: Project #: 48004014 SSOW#:		<b>Analysis Requested</b>			
Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:		Preservation Codes: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2SO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - ph 4-5 Z - other (specify)			
<b>Sample Identification - Client ID (Lab ID)</b>		<b>Special Instructions/Note:</b>			
MW-12-050313 (480-37628-1) MW-14-050313 (480-37628-2)		Total Number of containers: 1			
Sample Date: 5/3/13 Sample Time: 09:00 Eastern Sample Type (C=Comp, G=grab): Matrix (W=water, S=solid, O=oil, BT=Tissue, A=All): Preservation Code:		Perform MS/MSD (Yes or No) AM20GAX/Hydrogen Field Filtered Sample (Yes or No)			
Sample Date: 5/3/13 Sample Time: 12:00 Eastern Sample Type (C=Comp, G=grab): Matrix (W=water, S=solid, O=oil, BT=Tissue, A=All): Preservation Code:		Perform MS/MSD (Yes or No) AM20GAX/Hydrogen Field Filtered Sample (Yes or No)			
Sample Date: 5/3/13 Sample Time: 12:00 Eastern Sample Type (C=Comp, G=grab): Matrix (W=water, S=solid, O=oil, BT=Tissue, A=All): Preservation Code:		Perform MS/MSD (Yes or No) AM20GAX/Hydrogen Field Filtered Sample (Yes or No)			
Sample Date: 5/3/13 Sample Time: 12:00 Eastern Sample Type (C=Comp, G=grab): Matrix (W=water, S=solid, O=oil, BT=Tissue, A=All): Preservation Code:		Perform MS/MSD (Yes or No) AM20GAX/Hydrogen Field Filtered Sample (Yes or No)			
Sample Date: 5/3/13 Sample Time: 12:00 Eastern Sample Type (C=Comp, G=grab): Matrix (W=water, S=solid, O=oil, BT=Tissue, A=All): Preservation Code:		Perform MS/MSD (Yes or No) AM20GAX/Hydrogen Field Filtered Sample (Yes or No)			
Sample Date: 5/3/13 Sample Time: 12:00 Eastern Sample Type (C=Comp, G=grab): Matrix (W=water, S=solid, O=oil, BT=Tissue, A=All): Preservation Code:		Perform MS/MSD (Yes or No) AM20GAX/Hydrogen Field Filtered Sample (Yes or No)			
Sample Date: 5/3/13 Sample Time: 12:00 Eastern Sample Type (C=Comp, G=grab): Matrix (W=water, S=solid, O=oil, BT=Tissue, A=All): Preservation Code:		Perform MS/MSD (Yes or No) AM20GAX/Hydrogen Field Filtered Sample (Yes or No)			
Sample Date: 5/3/13 Sample Time: 12:00 Eastern Sample Type (C=Comp, G=grab): Matrix (W=water, S=solid, O=oil, BT=Tissue, A=All): Preservation Code:		Perform MS/MSD (Yes or No) AM20GAX/Hydrogen Field Filtered Sample (Yes or No)			
Sample Date: 5/3/13 Sample Time: 12:00 Eastern Sample Type (C=Comp, G=grab): Matrix (W=water, S=solid, O=oil, BT=Tissue, A=All): Preservation Code:		Perform MS/MSD (Yes or No) AM20GAX/Hydrogen Field Filtered Sample (Yes or No)			
Sample Date: 5/3/13 Sample Time: 12:00 Eastern Sample Type (C=Comp, G=grab): Matrix (W=water, S=solid, O=oil, BT=Tissue, A=All): Preservation Code:		Perform MS/MSD (Yes or No) AM20GAX/Hydrogen Field Filtered Sample (Yes or No)			
Sample Date: 5/3/13 Sample Time: 12:00 Eastern Sample Type (C=Comp, G=grab): Matrix (W=water, S=solid, O=oil, BT=Tissue, A=All): Preservation Code:		Perform MS/MSD (Yes or No) AM20GAX/Hydrogen Field Filtered Sample (Yes or No)			
Sample Date: 5/3/13 Sample Time: 12:00 Eastern Sample Type (C=Comp, G=grab): Matrix (W=water, S=solid, O=oil, BT=Tissue, A=All): Preservation Code:		Perform MS/MSD (Yes or No) AM20GAX/Hydrogen Field Filtered Sample (Yes or No)			
Sample Date: 5/3/13 Sample Time: 12:00 Eastern Sample Type (C=Comp, G=grab): Matrix (W=water, S=solid, O=oil, BT=Tissue, A=All): Preservation Code:		Perform MS/MSD (Yes or No) AM20GAX/Hydrogen Field Filtered Sample (Yes or No)			
Sample Date: 5/3/13 Sample Time: 12:00 Eastern Sample Type (C=Comp, G=grab): Matrix (W=water, S=solid, O=oil, BT=Tissue, A=All): Preservation Code:		Perform MS/MSD (Yes or No) AM20GAX/Hydrogen Field Filtered Sample (Yes or No)			
Sample Date: 5/3/13 Sample Time: 12:00 Eastern Sample Type (C=Comp, G=grab): Matrix (W=water, S=solid, O=oil, BT=Tissue, A=All): Preservation Code:		Perform MS/MSD (Yes or No) AM20GAX/Hydrogen Field Filtered Sample (Yes or No)			
Sample Date: 5/3/13 Sample Time: 12:00 Eastern Sample Type (C=Comp, G=grab): Matrix (W=water, S=solid, O=oil, BT=Tissue, A=All): Preservation Code:		Perform MS/MSD (Yes or No) AM20GAX/Hydrogen Field Filtered Sample (Yes or No)			
Sample Date: 5/3/13 Sample Time: 12:00 Eastern Sample Type (C=Comp, G=grab): Matrix (W=water, S=solid, O=oil, BT=Tissue, A=All): Preservation Code:		Perform MS/MSD (Yes or No) AM20GAX/Hydrogen Field Filtered Sample (Yes or No)			
Sample Date: 5/3/13 Sample Time: 12:00 Eastern Sample Type (C=Comp, G=grab): Matrix (W=water, S=solid, O=oil, BT=Tissue, A=All): Preservation Code:		Perform MS/MSD (Yes or No) AM20GAX/Hydrogen Field Filtered Sample (Yes or No)			
Sample Date: 5/3/13 Sample Time: 12:00 Eastern Sample Type (C=Comp, G=grab): Matrix (W=water, S=solid, O=oil, BT=Tissue, A=All): Preservation Code:		Perform MS/MSD (Yes or No) AM20GAX/Hydrogen Field Filtered Sample (Yes or No)			
Sample Date: 5/3/13 Sample Time: 12:00 Eastern Sample Type (C=Comp, G=grab): Matrix (W=water, S=solid, O=oil, BT=Tissue, A=All): Preservation Code:		Perform MS/MSD (Yes or No) AM20GAX/Hydrogen Field Filtered Sample (Yes or No)			
Sample Date: 5/3/13 Sample Time: 12:00 Eastern Sample Type (C=Comp, G=grab): Matrix (W=water, S=solid, O=oil, BT=Tissue, A=All): Preservation Code:		Perform MS/MSD (Yes or No) AM20GAX/Hydrogen Field Filtered Sample (Yes or No)			
Sample Date: 5/3/13 Sample Time: 12:00 Eastern Sample Type (C=Comp, G=grab): Matrix (W=water, S=solid, O=oil, BT=Tissue, A=All): Preservation Code:		Perform MS/MSD (Yes or No) AM20GAX/Hydrogen Field Filtered Sample (Yes or No)			
Sample Date: 5/3/13 Sample Time: 12:00 Eastern Sample Type (C=Comp, G=grab): Matrix (W=water, S=solid, O=oil, BT=Tissue, A=All): Preservation Code:		Perform MS/MSD (Yes or No) AM20GAX/Hydrogen Field Filtered Sample (Yes or No)			
Sample Date: 5/3/13 					

# TestAmerica Buffalo

10 Hazelwood Drive  
Amherst, NY 14228-2298  
Phone (716) 691-2600 Fax (716) 691-7981

## Chain of Custody Record



480-37628 Chain of Custody

<b>Client Information</b>		<b>Lab PM:</b>	
Company: GZA GeoEnvironmental, Inc.		Deyo, Melissa L	
Address: 535 Washington Street, 11th Floor		E-Mail: melissa.deyo@testamericainc.com	
City: Buffalo		Carrier	
State, Zip: NY, 14203			
Phone: (716) 685-2300			
Email: christopher.boron@gza.com			
Project Name: Delpchi Harrison Thermal Systems site			
Project #: 058507, GM-Lockport Groundwater Sampling			
Site: 48004014			
SSOW#: 258015			

Analysis Requested				Due Date Requested:				Field Filtered Sample (Yes or No)				Sample Identification				Sample Type				Sample Time				Sample Date				Matrix				Preservation Code:				Special Instructions/Note:							
TAT Requested (days): 3 Weeks				PO #: 4047065				WO #: 58507				Project #: 48004014				SSOW#: 258015				Sample Date				Sample Time				Sample Date				Matrix				Preservation Code:				Special Instructions/Note:			
MW-10-050313				5/31/13				900				Water				4				900				Water				4				X Microscopes											
MW-14-050313				↓				1200				Water				↓				1200				Water				↓				X Dissolved H <sub>2</sub>											
MW-7-050313				↓				1410				↓				↓				↓				↓				X															
Trip Blank																																											

<b>Possible Hazard Identification</b> <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological				<b>Deliverable Requested:</b> I, II, III, IV, Other (specify)				<b>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)</b> <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months			
<b>Empty Kit Relinquished by:</b>				<b>Date:</b>				<b>Method of Shipment:</b>			
<b>Relinquished by:</b> Thomas Boron				<b>Date/Time:</b> 5/31/13 1530				<b>Company:</b> GZA			
<b>Relinquished by:</b>				<b>Date/Time:</b>				<b>Company:</b>			
<b>Relinquished by:</b>				<b>Date/Time:</b>				<b>Company:</b>			
<b>Custody Seal Intact:</b> Δ Yes Δ No				<b>Custody Seal No.:</b>				<b>Cooler Temperature(s) °C and Other Remarks:</b> # 1 3.8			

## Chain of Custody Record



# THE TUG OF WAR BETWEEN HOME-OWNERS AND TESTING

[illegible]

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

AMHERST, NY 14228  
UNITED STATES US

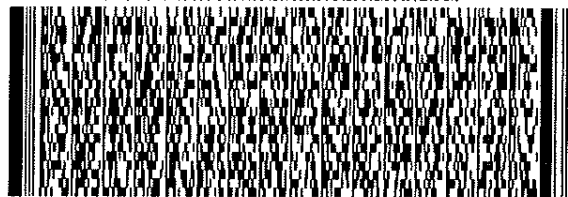
SHIP DATE: 03MAY13  
ACTWGT: 27.0 LB MAN  
CAD: 735603/CAFE2608  
DIMS: 26x15x14 IN

BILL RECIPIENT

TO **MARK PHILLIPS**  
**TA BURLINGTON**  
**30 COMMUNITY DRIVE**  
**SUITE 11**  
**SOUTH BURLINGTON VT 05403**  
(802) 680-1890 REF: BURLINGTON  
DEPT: SAMPLE CONTROL

512E1/9983/CF20

11 12 13 14 15 16



**FedEx**  
Express



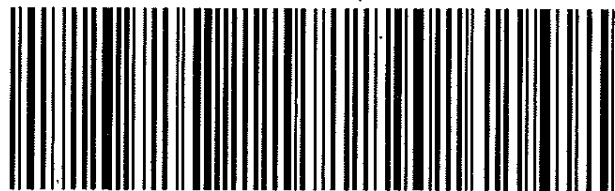
J1213121 0050125

TRK# 4485 0264 3181  
0201

MON - 06 MAY 3:00P  
STANDARD OVERNIGHT

**KS BTVA**

05403  
VT-US BTV



Part # 154254-354 RIT2 02/13

## Login Sample Receipt Checklist

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 480-37628-1

**Login Number: 37628**

**List Source: TestAmerica Buffalo**

**List Number: 1**

**Creator: Stau, Brandon**

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



## Login Sample Receipt Checklist

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 480-37628-1

**Login Number: 37628**

**List Source: TestAmerica Burlington**

**List Number: 1**

**List Creation: 05/06/13 10:24 AM**

**Creator: Poucher, Stephanie A**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	709086
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	2.0°C IR GUN ID 181. CF 0
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	Received project as a subcontract.
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	Check done at department level as required.
Residual Chlorine Checked.	N/A	

# 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: 480-38450-1

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

For:

Conestoga-Rovers & Associates, Inc.

2055 Niagara Falls Blvd., Suite 3

Niagara Falls, New York 14304

Attn: Kathleen Willy



Authorized for release by:

5/30/2013 10:39:51 AM

Rebecca Jones, Project Mgmt. Assistant

[rebecca.jones@testamericainc.com](mailto:rebecca.jones@testamericainc.com)

Designee for

Melissa Deyo, Project Manager I

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

### LINKS

Review your project  
results through

TotalAccess

Have a Question?



Visit us at:

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

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. 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.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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## Definitions/Glossary

Client: Conestoga-Rovers & Associates, Inc.

TestAmerica Job ID: 480-38450-1

Project/Site: 058507, GM-Lockport Groundwater Sampling

### Glossary

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

## Case Narrative

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

TestAmerica Job ID: 480-38450-1

**Job ID: 480-38450-1**

**Laboratory: TestAmerica Buffalo**

### Narrative

**Job Narrative**  
**480-38450-1**

### Comments

No additional comments.

### Receipt

The samples were received on 5/16/2013 4:45 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 5.0° C.

No analytical or quality issues were noted.



## Detection Summary

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

TestAmerica Job ID: 480-38450-1

### Client Sample ID: MW-10-051613

### Lab Sample ID: 480-38450-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Hydrogen	0.77		0.60	0.074 nm	1		AM20GAX	Total/NA

### Client Sample ID: MW-4-051613

### Lab Sample ID: 480-38450-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Hydrogen	0.63		0.60	0.074 nm	1		AM20GAX	Total/NA

### Client Sample ID: MW-15-051613

### Lab Sample ID: 480-38450-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Hydrogen	0.75		0.60	0.074 nm	1		AM20GAX	Total/NA

### Client Sample ID: MW-11-051613

### Lab Sample ID: 480-38450-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Hydrogen	0.91		0.60	0.074 nm	1		AM20GAX	Total/NA

### Client Sample ID: MW-13-051613

### Lab Sample ID: 480-38450-5

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Hydrogen	0.69		0.60	0.074 nm	1		AM20GAX	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Buffalo

## Client Sample Results

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

TestAmerica Job ID: 480-38450-1

**Client Sample ID: MW-10-051613**

Date Collected: 05/16/13 09:12

Date Received: 05/16/13 16:45

**Lab Sample ID: 480-38450-1**

Matrix: Water

**Method: AM20GAX - Dissolved Gases (GC)**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hydrogen	0.77		0.60	0.074 nm			05/23/13 11:02	1

**Client Sample ID: MW-4-051613**

Date Collected: 05/16/13 10:08

Date Received: 05/16/13 16:45

**Lab Sample ID: 480-38450-2**

Matrix: Water

**Method: AM20GAX - Dissolved Gases (GC)**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hydrogen	0.63		0.60	0.074 nm			05/23/13 11:15	1

**Client Sample ID: MW-15-051613**

Date Collected: 05/16/13 11:17

Date Received: 05/16/13 16:45

**Lab Sample ID: 480-38450-3**

Matrix: Water

**Method: AM20GAX - Dissolved Gases (GC)**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hydrogen	0.75		0.60	0.074 nm			05/23/13 11:27	1

**Client Sample ID: MW-11-051613**

Date Collected: 05/16/13 12:10

Date Received: 05/16/13 16:45

**Lab Sample ID: 480-38450-4**

Matrix: Water

**Method: AM20GAX - Dissolved Gases (GC)**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hydrogen	0.91		0.60	0.074 nm			05/23/13 11:40	1

**Client Sample ID: MW-13-051613**

Date Collected: 05/16/13 13:06

Date Received: 05/16/13 16:45

**Lab Sample ID: 480-38450-5**

Matrix: Water

**Method: AM20GAX - Dissolved Gases (GC)**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hydrogen	0.69		0.60	0.074 nm			05/23/13 15:14	1

## QC Association Summary

Client: Conestoga-Rovers & Associates, Inc.

TestAmerica Job ID: 480-38450-1

Project/Site: 058507, GM-Lockport Groundwater Sampling

### GC VOA

#### Analysis Batch: 121001

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-38450-1	MW-10-051613	Total/NA	Water	AM20GAX	
480-38450-2	MW-4-051613	Total/NA	Water	AM20GAX	
480-38450-3	MW-15-051613	Total/NA	Water	AM20GAX	
480-38450-4	MW-11-051613	Total/NA	Water	AM20GAX	
480-38450-5	MW-13-051613	Total/NA	Water	AM20GAX	

## Lab Chronicle

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

TestAmerica Job ID: 480-38450-1

**Client Sample ID: MW-10-051613**

**Date Collected: 05/16/13 09:12**

**Date Received: 05/16/13 16:45**

**Lab Sample ID: 480-38450-1**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	AM20GAX		1	121001	05/23/13 11:02	CTB	SC0015

**Client Sample ID: MW-4-051613**

**Date Collected: 05/16/13 10:08**

**Date Received: 05/16/13 16:45**

**Lab Sample ID: 480-38450-2**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	AM20GAX		1	121001	05/23/13 11:15	CTB	SC0015

**Client Sample ID: MW-15-051613**

**Date Collected: 05/16/13 11:17**

**Date Received: 05/16/13 16:45**

**Lab Sample ID: 480-38450-3**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	AM20GAX		1	121001	05/23/13 11:27	CTB	SC0015

**Client Sample ID: MW-11-051613**

**Date Collected: 05/16/13 12:10**

**Date Received: 05/16/13 16:45**

**Lab Sample ID: 480-38450-4**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	AM20GAX		1	121001	05/23/13 11:40	CTB	SC0015

**Client Sample ID: MW-13-051613**

**Date Collected: 05/16/13 13:06**

**Date Received: 05/16/13 16:45**

**Lab Sample ID: 480-38450-5**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	AM20GAX		1	121001	05/23/13 15:14	CTB	SC0015

### Laboratory References:

SC0015 = Pittsburgh, PA, 220 William Pitt Way, Pittsburgh, PA 15238, TEL (412)826-5245

## Certification Summary

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

TestAmerica Job ID: 480-38450-1

### Laboratory: TestAmerica Buffalo

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

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

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

TestAmerica Buffalo



## Method Summary

Client: Conestoga-Rovers & Associates, Inc.

TestAmerica Job ID: 480-38450-1

Project/Site: 058507, GM-Lockport Groundwater Sampling

Method	Method Description	Protocol	Laboratory
AM20GAX	Dissolved Gases (GC)	NONE	SC0015

**Protocol References:**

NONE = NONE

**Laboratory References:**

SC0015 = Pittsburgh, PA, 220 William Pitt Way, Pittsburgh, PA 15238, TEL (412)826-5245

## Sample Summary

Client: Conestoga-Rovers & Associates, Inc.

TestAmerica Job ID: 480-38450-1

Project/Site: 058507, GM-Lockport Groundwater Sampling

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-38450-1	MW-10-051613	Water	05/16/13 09:12	05/16/13 16:45
480-38450-2	MW-4-051613	Water	05/16/13 10:08	05/16/13 16:45
480-38450-3	MW-15-051613	Water	05/16/13 11:17	05/16/13 16:45
480-38450-4	MW-11-051613	Water	05/16/13 12:10	05/16/13 16:45
480-38450-5	MW-13-051613	Water	05/16/13 13:06	05/16/13 16:45



May 28, 2013

Melissa Deyo  
Test America  
10 Hazelwood Drive  
Buffalo, NY 14228

Microseeps, Inc  
220 William Pitt Way  
Pittsburgh, PA 15238  
Phone: (412) 826-5245  
Fax: (412) 826-3433

RE: **480-38450**

*Microseeps Workorder: 9017*

Dear Melissa Deyo:

Enclosed are the analytical results for sample(s) received by the laboratory on Friday, May 17, 2013. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

*Robbin Robl*  
C.A. 5/28/13

Robbin Robl 05/28/2013  
rrobl@microseeps.com

Customer Service Representative

Enclosures

As a valued client we would appreciate your comments on our service.

Please email [info@microseeps.com](mailto:info@microseeps.com).

Total Number of Pages 14

Report ID: 9017 - 388117

Page 1 of 12

### CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,  
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Page 1 of 12  
5/30/2013

5/30/2013



## LABORATORY ACCREDITATIONS & CERTIFICATIONS

<b>Accreditor:</b>	Pennsylvania Department of Environmental Protection, Bureau of Laboratories
<b>Accreditation ID:</b>	02-00538
<b>Scope:</b>	NELAP Non-Potable Water and Solid & Hazardous Waste
<b>Accreditor:</b>	NELAP: State of Florida, Department of Health, Bureau of Laboratories
<b>Accreditation ID:</b>	E87832
<b>Scope:</b>	Clean Water Act (CWA)      Resource Conservation and Recovery Act (RCRA)
<b>Accreditor:</b>	South Carolina Department of Health and Environmental Control, Office of Environmental Laboratory Certification
<b>Accreditation ID:</b>	89009003
<b>Scope:</b>	Clean Water Act (CWA); Resource Conservation and Recovery Act (RCRA)
<b>Accreditor:</b>	NELAP: State of Louisiana, Department of Environmental Quality
<b>Accreditation ID:</b>	04104
<b>Scope:</b>	Solid and Chemical Materials; Non-Potable Water
<b>Accreditor:</b>	NELAP: New Jersey, Department of Environmental Protection
<b>Accreditation ID:</b>	PA026
<b>Scope:</b>	Non-Potable Water; Solid and Chemical Materials
<b>Accreditor:</b>	NELAP: New York, Department of Health Wadsworth Center
<b>Accreditation ID:</b>	11815
<b>Scope:</b>	Non-Potable Water; Solid and Hazardous Waste
<b>Accreditor:</b>	State of Connecticut, Department of Public Health, Division of Environmental Health
<b>Accreditation ID:</b>	PH-0263
<b>Scope:</b>	Clean Water Act (CWA) Resource Conservation and Recovery Act (RCRA)
<b>Accreditor:</b>	NELAP: Texas, Commission on Environmental Quality
<b>Accreditation ID:</b>	T104704453-09-TX
<b>Scope:</b>	Non-Potable Water
<b>Accreditor:</b>	State of New Hampshire
<b>Accreditation ID:</b>	299409
<b>Scope:</b>	Non-potable water
<b>Accreditor:</b>	State of Georgia
<b>Accreditation ID:</b>	Chapter 391-3-26
<b>Scope:</b>	As per the Georgia EPD Rules and Regulations for Commercial Laboratories, Microseeps is accredited by the Pennsylvania Department of Environmental Protection Bureau of Laboratories under the National Environmental Laboratory Approval Program (NELAP).

### CERTIFICATE OF ANALYSIS

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Microseeps, Inc  
220 William Pitt Way  
Pittsburgh, PA 15238  
Phone: (412) 826-5245  
Fax: (412) 826-3433

## SAMPLE SUMMARY

Workorder: 9017 480-38450

Lab ID	Sample ID	Matrix	Date Collected	Date Received
90170001	MW-10-051613(480-38450-1)	Bubble Strip	5/16/2013 09:12	5/17/2013 11:00
90170002	MW-4-051613(480-38450-2)	Bubble Strip	5/16/2013 10:08	5/17/2013 11:00
90170003	MW-15-051613(480-38450-3)	Bubble Strip	5/16/2013 11:17	5/17/2013 11:00
90170004	MW-11-051613(480-38450-4)	Bubble Strip	5/16/2013 12:10	5/17/2013 11:00
90170005	MW-13-051613(480-38450-5)	Bubble Strip	5/16/2013 13:06	5/17/2013 11:00

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## ANALYTICAL RESULTS

Workorder: 9017 480-38450

Lab ID: 90170001 Date Received: 5/17/2013 11:00 Matrix: Bubble Strip  
Sample ID: MW-10-051613(480-38450-1) Date Collected: 5/16/2013 09:12

Parameters	Results	Units	PQL	MDL	DF Prepared	By	Analyzed	By	Qual
<b>RISK - MICR</b>									
Analysis Desc: AM20GAX		Analytical Method: AM20GAX							
Hydrogen	0.77	nM	0.60	0.074	1		5/23/2013 11:02	GT	

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## ANALYTICAL RESULTS

Workorder: 9017 480-38450

Lab ID: 90170002 Date Received: 5/17/2013 11:00 Matrix: Bubble Strip  
Sample ID: MW-4-051613(480-38450-2) Date Collected: 5/16/2013 10:08

Parameters	Results	Units	PQL	MDL	DF Prepared	By	Analyzed	By	Qual
<b>RISK - MICR</b>									
Analysis Desc: AM20GAX			Analytical Method: AM20GAX						
Hydrogen	0.63	nM	0.60	0.074	1		5/23/2013 11:15	GT	

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## ANALYTICAL RESULTS

Workorder: 9017 480-38450

Lab ID: 90170003 Date Received: 5/17/2013 11:00 Matrix: Bubble Strip  
Sample ID: MW-15-051613(480-38450-3) Date Collected: 5/16/2013 11:17

Parameters	Results	Units	PQL	MDL	DF Prepared	By	Analyzed	By	Qual
RISK - MICR									
Analysis Desc: AM20GAX			Analytical Method: AM20GAX						
Hydrogen	0.75	nM	0.60	0.074	1		5/23/2013 11:27	GT	

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## ANALYTICAL RESULTS

Workorder: 9017 480-38450

Lab ID: 90170004 Date Received: 5/17/2013 11:00 Matrix: Bubble Strip  
Sample ID: MW-11-051613(480-38450-4) Date Collected: 5/16/2013 12:10

Parameters	Results	Units	PQL	MDL	DF Prepared	By	Analyzed	By	Qual
RISK - MICR									
Analysis Desc: AM20GAX			Analytical Method: AM20GAX						
Hydrogen	0.91	nM	0.60	0.074	1		5/23/2013 11:40	GT	

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## ANALYTICAL RESULTS

Workorder: 9017 480-38450

Lab ID: 90170005

Date Received: 5/17/2013 11:00 Matrix: Bubble Strip

Sample ID: MW-13-051613(480-38450-5)

Date Collected: 5/16/2013 13:06

Parameters	Results	Units	PQL	MDL	DF Prepared	By	Analyzed	By	Qual
<b>RISK - MICR</b>									
Analysis Desc: AM20GAX		Analytical Method: AM20GAX							
Hydrogen	0.69	nM	0.60	0.074	1		5/23/2013 15:14	GT	

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## ANALYTICAL RESULTS QUALIFIERS

Workorder: 9017 480-38450

### DEFINITIONS/QUALIFIERS

**Disclaimer :** The Pennsylvania Department of Environmental Protection (PADEP) has decided to no longer recognize analyses that do not produce data for primary compliance, for NELAP accreditation. The methods affected by this decision are AM20GAX, AM21G, SW846 7199 and AM4.02. The laboratory shall continue to administer the NELAP/TNI standard requirements in the performance of these methods.

**MDL** Method Detection Limit. Can be used synonymously with LOD; Limit Of Detection.

**PQL** Practical Quantitation Limit. Can be used synonymously with LOQ; Limit Of Quantitation.

**ND** Not detected at or above reporting limit.

**DF** Dilution Factor.

**S** Surrogate.

**RPD** Relative Percent Difference.

**% Rec** Percent Recovery.

**U** Indicates the compound was analyzed for, but not detected at or above the noted concentration.

**J** Estimated concentration greater than the set method detection limit (MDL) and less than the set reporting limit (PQL).

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## QUALITY CONTROL DATA

Workorder: 9017 480-38450

QC Batch: DISG/3011 Analysis Method: AM20GAX  
QC Batch Method: AM20GAX  
Associated Lab Samples: 90170001, 90170002, 90170003, 90170004

METHOD BLANK: 20387

Parameter	Units	Blank Result	Reporting Limit Qualifiers
RISK Hydrogen	nM	0.60 U	0.60

LABORATORY CONTROL SAMPLE & LCSD: 20388 20389

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD Qualifiers
RISK Hydrogen	nM	24	25	25	103	103	80-120	0	20

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## QUALITY CONTROL DATA

Workorder: 9017 480-38450

QC Batch: DISG/3012 Analysis Method: AM20GAX  
QC Batch Method: AM20GAX  
Associated Lab Samples: 90170005

METHOD BLANK: 20394

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
RISK Hydrogen	nM	0.60 U	0.60	

LABORATORY CONTROL SAMPLE & LCSD: 20395 20396

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
RISK Hydrogen	nM	24	26	26	107	106	80-120	0.94	20	

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 9017 480-38450

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
90170001	MW-10-051613(480-38450-1)			AM20GAX	DISG/3011
90170002	MW-4-051613(480-38450-2)			AM20GAX	DISG/3011
90170003	MW-15-051613(480-38450-3)			AM20GAX	DISG/3011
90170004	MW-11-051613(480-38450-4)			AM20GAX	DISG/3011
90170005	MW-13-051613(480-38450-5)			AM20GAX	DISG/3012

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Phone (716) 691-2600 Fax (716) 691-7991

## Chain of Custody Record

TestAmerica

## THE LEADER IN ENVIRONMENTAL TESTING

[illegible]

NON-CONFORMANCE FORM

Microseeps Project Number: 9017

Date: 5-17-13 Time of Receipt: 1100 Receiver: LY

Client: TA

REASON FOR NON-CONFORMANCE:

No time of collection on vials.

Time taken from COC.

ACTION TAKEN:

Client name: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

OK to proceed.

Customer Service Initials: RR

Date: 5/20/13

## Chain of Custody Record

<b>Client Information</b> Client Contact: Thomas Bohlen Phone: (716) 844-7050 Mr. Christopher Boron Company: GZA GeoEnvironmental, Inc.		Lab PM: Deyo, Melissa L. E-Mail: melissa.deyo@testamericainc.com		Carrier Tracking No(s): COC No:	
Address: 535 Washington Street, 11th Floor City: Buffalo State, Zip: NY, 14203 Phone: (716) 685-2300 Email: christopher.boron@gza.com Project Name: 058507, GM-Lockport Groundwater Sampling Site: Delphi Harrison Thermal Systems Site		Due Date Requested: TAT Requested (days): 3 Weeks PO #: 4047065 WO #: 58507 Project #: 48004014 SSOW#: 256015		Analysis Requested RSK_175_CO2 - Carbon dioxide VFA_IC - Volatile Fatty Acids 350.1 - Ammonia 6010B - Metals - Fe, Mn, Mg, K & Na 8260B - PCE, TCE, DCE (trans and cis), Vinyl Chloride 9660 - Total Organic Carbon RSK_175 - Methane, Ethane, Ethene SM4500_S2_D - Sulfide 353.2, 353.2 Nitrite, Nitrate, Calc 2320B - Total Alkalinity 300.0, 28D - Anions (Chloride & Sulfate) AM20GAX	
Sample Identification MW-10-057613 MW-4-057613 MW-15-057613 MW-11-057613 MW-13-057613		Sample Date 5/14/13 5/14/13 5/14/13 5/14/13 5/14/13		Sample Time 912 1108 1117 1210 1306	
Matrix (Water, Solid, Overhead, A-Air) Preservation Code Water Water		Sample Type (C=comp, G=grab) Preservation Code Water Water		Field Filtered Sample (Yes or No) N N N N N	
Special Instructions/Note: X- Dissolved H <sub>2</sub> for Microseps		Total Number of Containers X X X X X		Special Instructions/Note: 480-38450 Chain of Custody	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological					
Deliverable Requested: 1, II, III, IV, Other (specify)					
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For Months					
Special Instructions/QC Requirements:					
Empty Kit Relinquished by:					
Relinquished by: Thomas Bohlen Date: 5/16/13/1615 Company: GZA		Relinquished by: Thomas Bohlen Date: 5/16/13/1615 Company: GZA		Relinquished by: Thomas Bohlen Date: 5/16/13/1615 Company: GZA	
Relinquished by: Thomas Bohlen Date: 5/16/13/1615 Company: GZA		Relinquished by: Thomas Bohlen Date: 5/16/13/1615 Company: GZA		Relinquished by: Thomas Bohlen Date: 5/16/13/1615 Company: GZA	
Relinquished by: Thomas Bohlen Date: 5/16/13/1615 Company: GZA		Relinquished by: Thomas Bohlen Date: 5/16/13/1615 Company: GZA		Relinquished by: Thomas Bohlen Date: 5/16/13/1615 Company: GZA	
Custody Seals Intact: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Cooler Temperature(s) °C and Other Remarks: 5.0 FCE #1		Date: 5/16/13/1615 Company: GZA	

## Login Sample Receipt Checklist

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 480-38450-1

Login Number: 38450

List Source: TestAmerica Buffalo

List Number: 1

Creator: Kolb, Chris M

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



## **APPENDIX D**

### **ANAEROBIC BIODEGRADATION SCREENING TABLES**

EPA cVOC MONITORED NATURAL ATTENUATION RANKING SYSTEM

Strength of Evidence Scorecard  
Delphi Harrison Thermal Systems Site  
GM Component Holdings, LLC  
Lockport, New York

Analysis	Concentration in Most Contaminated Zone	Value	EXAMPLE Lab or Field Analysis Value (mg/L)	EXAMPLE Score	MW-7	MW-4	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15
DO	<0.5 mg/L	3	3.5			3			3		3	3
DO	>5 mg/l	-3										
Nitrate	<1 mg/L	2	ND	2	2	2	2	2	2	2	2	
Iron II	>1 mg/l	2	0.2			2			2	2		
Sulfate	<20 mg/L	2	243									
Sulfide	>1 mg/L	3	0.6									
Methane	<0.5 mg/L	0	0.26	0	0	0	0	0	0	0	0	0
Methane	>0.5 mg/L	3										
ORP	<50 mV	1	-98.5	1	1	1		2	1	1	1	
ORP	<-100 mV	2										
pH	5< pH <9	0	6.8	0	0	0	0	0	0	0	0	0
pH	5> pH >10	-2										
TOC	>20 mg/L	2	1.5									
Temp	> 20°C	1	20.4	1								
Carbon Dioxide	>2 times background (4.2)	1	6.8			1			1			1
Alkalinity	>2 times background (200)	1	372									1
Chloride	>2 times background (1440)	2	338			2			2			
Hydrogen	>1 nM	3	NT						3		3	
Hydrogen	<1nM	0	NT									
Volatile Fatty Acids	>0.1 mg/L	2	ND		2							
BTEX	>0.1 mg/L	2	ND									
PCE		0	ND									
TCE	If Daughter Product	2	190									
DCE	If Daughter Product	2	10,034	2	2	2	2	2	2			
VC	If Daughter Product	2	380.00	2	2	2	2	2	2			
1,1,1-TCA		0	ND									
DCA	If Daughter Product	2	ND									
Carbon Tetrachloride		0	ND									
Chloroethane	If Daughter Product	2	ND									
Ethene/Ethane	>0.01 mg/L or	2	0.0097		3							
	>0.1 mg/L	3										
Chloroform	If Daughter Product	2	ND									
Dichloromethane	If Daughter Product	2	ND									
				8	12	15	6	8	18	5	9	5
Scoring Interpretation												
0 to 5	Inadequate evidence for anaerobic biodegradation* of chlorinated organics											
6 to 14	Limited evidence for anaerobic biodegradation* of chlorinated organics											
15 to 20	Adequate evidence for anaerobic biodegradation* of chlorinated organics											
>20	Strong evidence for anaerobic biodegradation* of chlorinated organics											
*reductive dechlorination												
Values Taken from EPA Document <b>EPA/600/R-98/128</b> , <i>Technical Protocol for Evaluating Natural Attenuation of Chlorinated Solvents in Ground Water</i> , 1998, Table 2.3 and Table 2.4												

- Notes:  
1. ND=not detected  
2. NT=not tested

## **APPENDIX E**

Building 6 Utility Separation Project  
Hand Auger Waste Characterization Sample Results  
Delphi Harrison Thermal System Site Environmental Easement Area  
Upper Mountain Road  
Lockport, New York

Parameter	NYSDEC Part 375 Unrestricted Use SCOs	EPAs Maximum Concentration of Contaminants	HAND AUGER LOCATION								
			B-1	B-2	B-3	B-4	B-5	B-7	B-8	B-22	B-23
Volatile Organic Compounds - EPA Method 8260B -TCLP (mg/L)											
Benzene	NA	0.5	<	<	<	<	<	<	<	<	<
Carbon tetrachloride	NA	0.5	<	<	<	<	<	<	<	<	<
Chlorobenzene	NA	100	<	<	<	<	<	<	<	<	<
Chloroform	NA	6	<	<	<	<	<	<	<	<	<
1,2-Dichloroethane	NA	0.5	<	<	<	<	<	<	<	<	<
1,1-Dichloroethene	NA	0.7	<	<	<	<	<	<	<	<	<
2-Butanone (MEK)	NA	200	<	<	<	<	<	<	<	<	<
Tetrachloroethene	NA	0.7	<	<	<	<	<	<	<	<	<
Trichloroethene	NA	0.5	<	<	<	<	<	<	<	<	<
Vinyl chloride	NA	0.2	<	<	<	<	<	<	<	<	<
Semi-Volatile Organic Compounds - EPA Method 8270C-TCLP (mg/L)											
1,4-Dichlorobenzene	NA	7.5	<	<	<	<	<	<	<	<	<
2,4-Dinitrotoluene	NA	0.13	<	<	<	<	<	<	<	<	<
Hexachlorobenzene	NA	0.13	<	<	<	<	<	<	<	<	<
Hexachlorobutadiene	NA	0.5	<	<	<	<	<	0.095 B	0.031 B	<	<
Hexachloroethane	NA	3	<	<	<	<	<	<	<	<	<
3-Methylphenol	NA	200	<	<	<	<	<	<	<	<	<
2-Methylphenol	NA	200	<	<	<	<	<	<	<	<	<
4-Methylphenol	NA	200	<	<	<	<	<	<	<	<	<
Nitrobenzene	NA	2	<	<	<	<	<	<	<	<	<
Pentachlorophenol	NA	100	<	<	<	<	0.48 B	< 2	<	<	<
Pyridine	NA	5	<	<	<	<	<	<	<	<	<
2,4,5-Trichlorophenol	NA	400	<	<	<	<	<	<	<	<	<
2,4,6-Trichlorophenol	NA	2	<	<	<	<	<	<	<	<	<
Polychlorinated Biphenyls (PCBs) - EPA Method 8082 (mg/kg)											
PCB 1016	NV	NV	<	<	<	<	<	<	<	<	<
PCB 1221	NV	NV	<	<	<	<	<	<	<	<	<
PCB 1232	NV	NV	<	<	<	<	<	<	<	<	<
PCB 1242	NV	NV	<	<	<	<	<	<	<	<	<
PCB 1248	NV	NV	<	<	<	<	<	<	<	<	<
PCB 1254	NV	NV	<	<	<	<	<	<	<	<	<
PCB 1260	NV	NV	<	<	<	<	<	<	<	<	<
Total PCBs	0.1	NV	<	<	<	<	<	<	<	<	<
RCRA 8 Metals - EPA Method 6010B/7470A-TCLP (mg/L)											
Arsenic	NA	5	0.019	0.060	0.010	0.035	0.0089 J	0.057	0.0064 J	0.014	0.0083 J
Barium	NA	100	0.74 B	1.4 B	0.54 B	1.3 B	0.48 B	2.3 B	0.76 B	0.54 B	0.72 B
Cadmium	NA	1	0.0028	0.0049	0.0042	0.0049	0.0032	0.0029	0.0029	0.0014	0.0037
Chromium	NA	5	0.034 B	0.20 B	0.053 B	0.12 B	0.038 B	0.29 B	0.0049 B	0.037 B	0.011 B
Lead	NA	5	0.081	1.1	0.069	0.35	0.061	0.095 B	0.031 B	0.037 B	0.019
Selenium	NA	1	<	<	<	<	<	0.010 J	0.0089 J	<	<
Silver	NA	5	<	<	<	<	<	<	<	<	<
Mercury	NA	0.2	<	0.00035	0.00032	<	<	<	<	<	<
General Chemistry											
Flashpoint	NV	NV	>176	>176	>176	>176	>176	>176	>176	>176	>176
Notes:											
1. Analytical testing completed by Test America, Amherst, New York.											
2. mg/kg = part per million, mg/L = parts per million											
3. NA = Not Applicable, NV = No Value.											
4. "J" qualifier = Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.											
5. "B" qualifier = Compound was found in the blank sample.											
6. < = Sample result was not detected above respective method detection limits.											
7. TCLP = Toxicity Characteristic Leaching Procedure.											
8. PCB concentrations were compared to NYSDEC Part 375, Subpart 375-6: Unrestricted Use Soil Cleanup Objectives (SCOs).											
9. Soil cleanup objective is for the sum of the Aroclor compound concentrations detected (Total PCBs).											
10. TCLP concentrations were compared to the Environmental Protection Agency's (EPA) "Table 1 - Maximum Concentration of Contaminants for the Toxicity Characteristic".											
11. Samples were collected by Op-Tech on behalf of Delphi Corporation.											

# Client Sample Results

Client: Heritage Interactive Services LLC  
Project/Site: Delphi Lockport

TestAmerica Job ID: 480-35180-1

**Client Sample ID: B-1**

**Lab Sample ID: 480-35180-1**

**Date Collected: 03/28/13 08:45**

**Matrix: Solid**

**Date Received: 03/28/13 13:30**

## Method: 8260B - TCLP Volatiles - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.010	0.0041	mg/L			04/01/13 12:10	10
Carbon tetrachloride	ND		0.010	0.0027	mg/L			04/01/13 12:10	10
Chlorobenzene	ND		0.010	0.0075	mg/L			04/01/13 12:10	10
Chloroform	ND		0.010	0.0034	mg/L			04/01/13 12:10	10
1,2-Dichloroethane	ND		0.010	0.0021	mg/L			04/01/13 12:10	10
1,1-Dichloroethene	ND		0.010	0.0029	mg/L			04/01/13 12:10	10
2-Butanone (MEK)	ND		0.050	0.013	mg/L			04/01/13 12:10	10
Tetrachloroethene	ND		0.010	0.0036	mg/L			04/01/13 12:10	10
Trichloroethene	ND		0.010	0.0046	mg/L			04/01/13 12:10	10
Vinyl chloride	ND		0.010	0.0090	mg/L			04/01/13 12:10	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	118		66 - 137		04/01/13 12:10	10
Toluene-d8 (Surr)	112		71 - 126		04/01/13 12:10	10
4-Bromofluorobenzene (Surr)	99		73 - 120		04/01/13 12:10	10

## Method: 8270C - TCLP Semivolatiles - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.010	0.00046	mg/L		04/01/13 07:54	04/02/13 13:35	1
2,4-Dinitrotoluene	ND		0.0050	0.00045	mg/L		04/01/13 07:54	04/02/13 13:35	1
Hexachlorobenzene	ND *		0.0050	0.00051	mg/L		04/01/13 07:54	04/02/13 13:35	1
Hexachlorobutadiene	ND		0.0050	0.00068	mg/L		04/01/13 07:54	04/02/13 13:35	1
Hexachloroethane	ND		0.0050	0.00059	mg/L		04/01/13 07:54	04/02/13 13:35	1
3-Methylphenol	ND		0.010	0.00040	mg/L		04/01/13 07:54	04/02/13 13:35	1
2-Methylphenol	ND		0.0050	0.00040	mg/L		04/01/13 07:54	04/02/13 13:35	1
4-Methylphenol	ND		0.010	0.00036	mg/L		04/01/13 07:54	04/02/13 13:35	1
Nitrobenzene	ND		0.0050	0.00029	mg/L		04/01/13 07:54	04/02/13 13:35	1
Pentachlorophenol	ND		0.010	0.0022	mg/L		04/01/13 07:54	04/02/13 13:35	1
Pyridine	ND		0.025	0.00041	mg/L		04/01/13 07:54	04/02/13 13:35	1
2,4,5-Trichlorophenol	ND		0.0050	0.00048	mg/L		04/01/13 07:54	04/02/13 13:35	1
2,4,6-Trichlorophenol	ND		0.0050	0.00061	mg/L		04/01/13 07:54	04/02/13 13:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	87		52 - 132	04/01/13 07:54	04/02/13 13:35	1
2-Fluorobiphenyl	91		48 - 120	04/01/13 07:54	04/02/13 13:35	1
2-Fluorophenol	45		20 - 120	04/01/13 07:54	04/02/13 13:35	1
Nitrobenzene-d5	94		46 - 120	04/01/13 07:54	04/02/13 13:35	1
p-Terphenyl-d14	102		67 - 150	04/01/13 07:54	04/02/13 13:35	1
Phenol-d5	32		16 - 120	04/01/13 07:54	04/02/13 13:35	1

## Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.24	0.046	mg/Kg	☼	03/29/13 14:31	04/01/13 11:16	1
PCB-1221	ND		0.24	0.046	mg/Kg	☼	03/29/13 14:31	04/01/13 11:16	1
PCB-1232	ND		0.24	0.046	mg/Kg	☼	03/29/13 14:31	04/01/13 11:16	1
PCB-1242	ND		0.24	0.046	mg/Kg	☼	03/29/13 14:31	04/01/13 11:16	1
PCB-1248	ND		0.24	0.046	mg/Kg	☼	03/29/13 14:31	04/01/13 11:16	1
PCB-1254	ND		0.24	0.11	mg/Kg	☼	03/29/13 14:31	04/01/13 11:16	1
PCB-1260	ND		0.24	0.11	mg/Kg	☼	03/29/13 14:31	04/01/13 11:16	1

TestAmerica Buffalo

# Client Sample Results

Client: Heritage Interactive Services LLC  
Project/Site: Delphi Lockport

TestAmerica Job ID: 480-35180-1

## Client Sample ID: B-1

Date Collected: 03/28/13 08:45

Date Received: 03/28/13 13:30

## Lab Sample ID: 480-35180-1

Matrix: Solid

Percent Solids: 91.3

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	69		47 - 176	03/29/13 14:31	04/01/13 11:16	1
Tetrachloro-m-xylene	104		46 - 175	03/29/13 14:31	04/01/13 11:16	1

### Method: 6010B - TCLP RCRA Metals - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.019		0.010	0.0056	mg/L		03/30/13 12:45	04/01/13 14:42	1
Barium	0.74	B	0.0020	0.00070	mg/L		03/30/13 12:45	04/01/13 14:42	1
Cadmium	0.0028		0.0010	0.00050	mg/L		03/30/13 12:45	04/01/13 14:42	1
Chromium	0.034	B	0.0040	0.0010	mg/L		03/30/13 12:45	04/01/13 14:42	1
Lead	0.081		0.0050	0.0030	mg/L		03/30/13 12:45	04/01/13 14:42	1
Selenium	ND		0.015	0.0087	mg/L		03/30/13 12:45	04/01/13 14:42	1
Silver	ND		0.0030	0.0017	mg/L		03/30/13 12:45	04/01/13 14:42	1

### Method: 7470A - TCLP Mercury - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		04/01/13 07:30	04/01/13 15:01	1

### General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Flashpoint	>176.0		50.0	50.0	Degrees F			03/29/13 08:45	1

## Client Sample ID: B-2

Date Collected: 03/28/13 09:10

Date Received: 03/28/13 13:30

## Lab Sample ID: 480-35180-2

Matrix: Solid

### Method: 8260B - TCLP Volatiles - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.010	0.0041	mg/L			04/01/13 12:38	10
Carbon tetrachloride	ND		0.010	0.0027	mg/L			04/01/13 12:38	10
Chlorobenzene	ND		0.010	0.0075	mg/L			04/01/13 12:38	10
Chloroform	ND		0.010	0.0034	mg/L			04/01/13 12:38	10
1,2-Dichloroethane	ND		0.010	0.0021	mg/L			04/01/13 12:38	10
1,1-Dichloroethene	ND		0.010	0.0029	mg/L			04/01/13 12:38	10
2-Butanone (MEK)	ND		0.050	0.013	mg/L			04/01/13 12:38	10
Tetrachloroethene	ND		0.010	0.0036	mg/L			04/01/13 12:38	10
Trichloroethene	ND		0.010	0.0046	mg/L			04/01/13 12:38	10
Vinyl chloride	ND		0.010	0.0090	mg/L			04/01/13 12:38	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	121		66 - 137		04/01/13 12:38	10
Toluene-d8 (Surr)	111		71 - 126		04/01/13 12:38	10
4-Bromofluorobenzene (Surr)	99		73 - 120		04/01/13 12:38	10

### Method: 8270C - TCLP Semivolatiles - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.010	0.00046	mg/L		04/01/13 07:54	04/02/13 14:00	1
2,4-Dinitrotoluene	ND		0.0050	0.00045	mg/L		04/01/13 07:54	04/02/13 14:00	1
Hexachlorobenzene	ND	*	0.0050	0.00051	mg/L		04/01/13 07:54	04/02/13 14:00	1
Hexachlorobutadiene	ND		0.0050	0.00068	mg/L		04/01/13 07:54	04/02/13 14:00	1
Hexachloroethane	ND		0.0050	0.00059	mg/L		04/01/13 07:54	04/02/13 14:00	1
3-Methylphenol	ND		0.010	0.00040	mg/L		04/01/13 07:54	04/02/13 14:00	1

TestAmerica Buffalo



# Client Sample Results

Client: Heritage Interactive Services LLC  
Project/Site: Delphi Lockport

TestAmerica Job ID: 480-35180-1

**Client Sample ID: B-2**

**Lab Sample ID: 480-35180-2**

**Date Collected: 03/28/13 09:10**

**Matrix: Solid**

**Date Received: 03/28/13 13:30**

## Method: 8270C - TCLP Semivolatiles - TCLP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	ND		0.0050	0.00040	mg/L		04/01/13 07:54	04/02/13 14:00	1
4-Methylphenol	ND		0.010	0.00036	mg/L		04/01/13 07:54	04/02/13 14:00	1
Nitrobenzene	ND		0.0050	0.00029	mg/L		04/01/13 07:54	04/02/13 14:00	1
Pentachlorophenol	ND		0.010	0.0022	mg/L		04/01/13 07:54	04/02/13 14:00	1
Pyridine	ND		0.025	0.00041	mg/L		04/01/13 07:54	04/02/13 14:00	1
2,4,5-Trichlorophenol	ND		0.0050	0.00048	mg/L		04/01/13 07:54	04/02/13 14:00	1
2,4,6-Trichlorophenol	ND		0.0050	0.00061	mg/L		04/01/13 07:54	04/02/13 14:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	77		52 - 132	04/01/13 07:54	04/02/13 14:00	1
2-Fluorobiphenyl	73		48 - 120	04/01/13 07:54	04/02/13 14:00	1
2-Fluorophenol	41		20 - 120	04/01/13 07:54	04/02/13 14:00	1
Nitrobenzene-d5	76		46 - 120	04/01/13 07:54	04/02/13 14:00	1
p-Terphenyl-d14	91		67 - 150	04/01/13 07:54	04/02/13 14:00	1
Phenol-d5	29		16 - 120	04/01/13 07:54	04/02/13 14:00	1

## Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.21	0.040	mg/Kg	✱	03/29/13 14:31	04/01/13 11:31	1
PCB-1221	ND		0.21	0.040	mg/Kg	✱	03/29/13 14:31	04/01/13 11:31	1
PCB-1232	ND		0.21	0.040	mg/Kg	✱	03/29/13 14:31	04/01/13 11:31	1
PCB-1242	ND		0.21	0.040	mg/Kg	✱	03/29/13 14:31	04/01/13 11:31	1
PCB-1248	ND		0.21	0.040	mg/Kg	✱	03/29/13 14:31	04/01/13 11:31	1
PCB-1254	ND		0.21	0.096	mg/Kg	✱	03/29/13 14:31	04/01/13 11:31	1
PCB-1260	ND		0.21	0.096	mg/Kg	✱	03/29/13 14:31	04/01/13 11:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	67		47 - 176	03/29/13 14:31	04/01/13 11:31	1
Tetrachloro-m-xylene	103		46 - 175	03/29/13 14:31	04/01/13 11:31	1

## Method: 6010B - TCLP RCRA Metals - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.060		0.010	0.0056	mg/L		03/30/13 12:45	04/01/13 14:45	1
Barium	1.4	B	0.0020	0.00070	mg/L		03/30/13 12:45	04/01/13 14:45	1
Cadmium	0.0049		0.0010	0.00050	mg/L		03/30/13 12:45	04/01/13 14:45	1
Chromium	0.20	B	0.0040	0.0010	mg/L		03/30/13 12:45	04/01/13 14:45	1
Lead	1.1		0.0050	0.0030	mg/L		03/30/13 12:45	04/01/13 14:45	1
Selenium	ND		0.015	0.0087	mg/L		03/30/13 12:45	04/01/13 14:45	1
Silver	ND		0.0030	0.0017	mg/L		03/30/13 12:45	04/01/13 14:45	1

## Method: 7470A - TCLP Mercury - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00035		0.00020	0.00012	mg/L		04/01/13 07:30	04/01/13 15:03	1

## General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Flashpoint	>176.0		50.0	50.0	Degrees F			03/29/13 08:45	1

TestAmerica Buffalo

# Client Sample Results

Client: Heritage Interactive Services LLC  
Project/Site: Delphi Lockport

TestAmerica Job ID: 480-35180-1

**Client Sample ID: B-3**

**Lab Sample ID: 480-35180-3**

**Date Collected: 03/28/13 09:25**

**Matrix: Solid**

**Date Received: 03/28/13 13:30**

## Method: 8260B - TCLP Volatiles - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.010	0.0041	mg/L			04/01/13 13:05	10
Carbon tetrachloride	ND		0.010	0.0027	mg/L			04/01/13 13:05	10
Chlorobenzene	ND		0.010	0.0075	mg/L			04/01/13 13:05	10
Chloroform	ND		0.010	0.0034	mg/L			04/01/13 13:05	10
1,2-Dichloroethane	ND		0.010	0.0021	mg/L			04/01/13 13:05	10
1,1-Dichloroethene	ND		0.010	0.0029	mg/L			04/01/13 13:05	10
2-Butanone (MEK)	ND		0.050	0.013	mg/L			04/01/13 13:05	10
Tetrachloroethene	ND		0.010	0.0036	mg/L			04/01/13 13:05	10
Trichloroethene	ND		0.010	0.0046	mg/L			04/01/13 13:05	10
Vinyl chloride	ND		0.010	0.0090	mg/L			04/01/13 13:05	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	124		66 - 137					04/01/13 13:05	10
Toluene-d8 (Surr)	112		71 - 126					04/01/13 13:05	10
4-Bromofluorobenzene (Surr)	99		73 - 120					04/01/13 13:05	10

## Method: 8270C - TCLP Semivolatiles - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.010	0.00046	mg/L		04/01/13 07:54	04/02/13 14:26	1
2,4-Dinitrotoluene	ND		0.0050	0.00045	mg/L		04/01/13 07:54	04/02/13 14:26	1
Hexachlorobenzene	ND *		0.0050	0.00051	mg/L		04/01/13 07:54	04/02/13 14:26	1
Hexachlorobutadiene	ND		0.0050	0.00068	mg/L		04/01/13 07:54	04/02/13 14:26	1
Hexachloroethane	ND		0.0050	0.00059	mg/L		04/01/13 07:54	04/02/13 14:26	1
3-Methylphenol	ND		0.010	0.00040	mg/L		04/01/13 07:54	04/02/13 14:26	1
2-Methylphenol	ND		0.0050	0.00040	mg/L		04/01/13 07:54	04/02/13 14:26	1
4-Methylphenol	ND		0.010	0.00036	mg/L		04/01/13 07:54	04/02/13 14:26	1
Nitrobenzene	ND		0.0050	0.00029	mg/L		04/01/13 07:54	04/02/13 14:26	1
Pentachlorophenol	ND		0.010	0.0022	mg/L		04/01/13 07:54	04/02/13 14:26	1
Pyridine	ND		0.025	0.00041	mg/L		04/01/13 07:54	04/02/13 14:26	1
2,4,5-Trichlorophenol	ND		0.0050	0.00048	mg/L		04/01/13 07:54	04/02/13 14:26	1
2,4,6-Trichlorophenol	ND		0.0050	0.00061	mg/L		04/01/13 07:54	04/02/13 14:26	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	90		52 - 132				04/01/13 07:54	04/02/13 14:26	1
2-Fluorobiphenyl	88		48 - 120				04/01/13 07:54	04/02/13 14:26	1
2-Fluorophenol	49		20 - 120				04/01/13 07:54	04/02/13 14:26	1
Nitrobenzene-d5	98		46 - 120				04/01/13 07:54	04/02/13 14:26	1
p-Terphenyl-d14	104		67 - 150				04/01/13 07:54	04/02/13 14:26	1
Phenol-d5	35		16 - 120				04/01/13 07:54	04/02/13 14:26	1

## Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.33	0.064	mg/Kg	☼	03/29/13 14:31	04/01/13 11:46	1
PCB-1221	ND		0.33	0.064	mg/Kg	☼	03/29/13 14:31	04/01/13 11:46	1
PCB-1232	ND		0.33	0.064	mg/Kg	☼	03/29/13 14:31	04/01/13 11:46	1
PCB-1242	ND		0.33	0.064	mg/Kg	☼	03/29/13 14:31	04/01/13 11:46	1
PCB-1248	ND		0.33	0.064	mg/Kg	☼	03/29/13 14:31	04/01/13 11:46	1
PCB-1254	ND		0.33	0.15	mg/Kg	☼	03/29/13 14:31	04/01/13 11:46	1
PCB-1260	ND		0.33	0.15	mg/Kg	☼	03/29/13 14:31	04/01/13 11:46	1

TestAmerica Buffalo

# Client Sample Results

Client: Heritage Interactive Services LLC  
Project/Site: Delphi Lockport

TestAmerica Job ID: 480-35180-1

**Client Sample ID: B-3**

**Lab Sample ID: 480-35180-3**

**Date Collected: 03/28/13 09:25**

**Matrix: Solid**

**Date Received: 03/28/13 13:30**

**Percent Solids: 69.1**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	68		47 - 176	03/29/13 14:31	04/01/13 11:46	1
Tetrachloro-m-xylene	106		46 - 175	03/29/13 14:31	04/01/13 11:46	1

## Method: 6010B - TCLP RCRA Metals - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.010		0.010	0.0056	mg/L		03/30/13 12:45	04/01/13 14:47	1
Barium	0.54	B	0.0020	0.00070	mg/L		03/30/13 12:45	04/01/13 14:47	1
Cadmium	0.0042		0.0010	0.00050	mg/L		03/30/13 12:45	04/01/13 14:47	1
Chromium	0.053	B	0.0040	0.0010	mg/L		03/30/13 12:45	04/01/13 14:47	1
Lead	0.069		0.0050	0.0030	mg/L		03/30/13 12:45	04/01/13 14:47	1
Selenium	ND		0.015	0.0087	mg/L		03/30/13 12:45	04/01/13 14:47	1
Silver	ND		0.0030	0.0017	mg/L		03/30/13 12:45	04/01/13 14:47	1

## Method: 7470A - TCLP Mercury - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00032		0.00020	0.00012	mg/L		04/01/13 07:30	04/01/13 15:05	1

## General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Flashpoint	>176.0		50.0	50.0	Degrees F			03/29/13 08:45	1

**Client Sample ID: B-4**

**Lab Sample ID: 480-35180-4**

**Date Collected: 03/28/13 09:40**

**Matrix: Solid**

**Date Received: 03/28/13 13:30**

## Method: 8260B - TCLP Volatiles - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.010	0.0041	mg/L			04/01/13 13:33	10
Carbon tetrachloride	ND		0.010	0.0027	mg/L			04/01/13 13:33	10
Chlorobenzene	ND		0.010	0.0075	mg/L			04/01/13 13:33	10
Chloroform	ND		0.010	0.0034	mg/L			04/01/13 13:33	10
1,2-Dichloroethane	ND		0.010	0.0021	mg/L			04/01/13 13:33	10
1,1-Dichloroethene	ND		0.010	0.0029	mg/L			04/01/13 13:33	10
2-Butanone (MEK)	ND		0.050	0.013	mg/L			04/01/13 13:33	10
Tetrachloroethene	ND		0.010	0.0036	mg/L			04/01/13 13:33	10
Trichloroethene	ND		0.010	0.0046	mg/L			04/01/13 13:33	10
Vinyl chloride	ND		0.010	0.0090	mg/L			04/01/13 13:33	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	123		66 - 137		04/01/13 13:33	10
Toluene-d8 (Surr)	112		71 - 126		04/01/13 13:33	10
4-Bromofluorobenzene (Surr)	99		73 - 120		04/01/13 13:33	10

## Method: 8270C - TCLP Semivolatiles - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.010	0.00046	mg/L		04/01/13 07:54	04/02/13 14:51	1
2,4-Dinitrotoluene	ND		0.0050	0.00045	mg/L		04/01/13 07:54	04/02/13 14:51	1
Hexachlorobenzene	ND	*	0.0050	0.00051	mg/L		04/01/13 07:54	04/02/13 14:51	1
Hexachlorobutadiene	ND		0.0050	0.00068	mg/L		04/01/13 07:54	04/02/13 14:51	1
Hexachloroethane	ND		0.0050	0.00059	mg/L		04/01/13 07:54	04/02/13 14:51	1
3-Methylphenol	ND		0.010	0.00040	mg/L		04/01/13 07:54	04/02/13 14:51	1

TestAmerica Buffalo

# Client Sample Results

Client: Heritage Interactive Services LLC  
Project/Site: Delphi Lockport

TestAmerica Job ID: 480-35180-1

**Client Sample ID: B-4**

**Lab Sample ID: 480-35180-4**

**Date Collected: 03/28/13 09:40**

**Matrix: Solid**

**Date Received: 03/28/13 13:30**

## Method: 8270C - TCLP Semivolatiles - TCLP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	ND		0.0050	0.00040	mg/L		04/01/13 07:54	04/02/13 14:51	1
4-Methylphenol	ND		0.010	0.00036	mg/L		04/01/13 07:54	04/02/13 14:51	1
Nitrobenzene	ND		0.0050	0.00029	mg/L		04/01/13 07:54	04/02/13 14:51	1
Pentachlorophenol	ND		0.010	0.0022	mg/L		04/01/13 07:54	04/02/13 14:51	1
Pyridine	ND		0.025	0.00041	mg/L		04/01/13 07:54	04/02/13 14:51	1
2,4,5-Trichlorophenol	ND		0.0050	0.00048	mg/L		04/01/13 07:54	04/02/13 14:51	1
2,4,6-Trichlorophenol	ND		0.0050	0.00061	mg/L		04/01/13 07:54	04/02/13 14:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	85		52 - 132	04/01/13 07:54	04/02/13 14:51	1
2-Fluorobiphenyl	85		48 - 120	04/01/13 07:54	04/02/13 14:51	1
2-Fluorophenol	42		20 - 120	04/01/13 07:54	04/02/13 14:51	1
Nitrobenzene-d5	87		46 - 120	04/01/13 07:54	04/02/13 14:51	1
p-Terphenyl-d14	103		67 - 150	04/01/13 07:54	04/02/13 14:51	1
Phenol-d5	31		16 - 120	04/01/13 07:54	04/02/13 14:51	1

## Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.47	0.091	mg/Kg	✱	03/29/13 14:31	04/01/13 12:13	1
PCB-1221	ND		0.47	0.091	mg/Kg	✱	03/29/13 14:31	04/01/13 12:13	1
PCB-1232	ND		0.47	0.091	mg/Kg	✱	03/29/13 14:31	04/01/13 12:13	1
PCB-1242	ND		0.47	0.091	mg/Kg	✱	03/29/13 14:31	04/01/13 12:13	1
PCB-1248	ND		0.47	0.091	mg/Kg	✱	03/29/13 14:31	04/01/13 12:13	1
PCB-1254	ND		0.47	0.22	mg/Kg	✱	03/29/13 14:31	04/01/13 12:13	1
PCB-1260	ND		0.47	0.22	mg/Kg	✱	03/29/13 14:31	04/01/13 12:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	81		47 - 176	03/29/13 14:31	04/01/13 12:13	1
Tetrachloro-m-xylene	98		46 - 175	03/29/13 14:31	04/01/13 12:13	1

## Method: 6010B - TCLP RCRA Metals - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.035		0.010	0.0056	mg/L		03/30/13 12:45	04/01/13 14:50	1
Barium	1.3	B	0.0020	0.00070	mg/L		03/30/13 12:45	04/01/13 14:50	1
Cadmium	0.0049		0.0010	0.00050	mg/L		03/30/13 12:45	04/01/13 14:50	1
Chromium	0.12	B	0.0040	0.0010	mg/L		03/30/13 12:45	04/01/13 14:50	1
Lead	0.35		0.0050	0.0030	mg/L		03/30/13 12:45	04/01/13 14:50	1
Selenium	ND		0.015	0.0087	mg/L		03/30/13 12:45	04/01/13 14:50	1
Silver	ND		0.0030	0.0017	mg/L		03/30/13 12:45	04/01/13 14:50	1

## Method: 7470A - TCLP Mercury - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		04/01/13 07:30	04/01/13 15:06	1

## General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Flashpoint	>176.0		50.0	50.0	Degrees F			03/29/13 08:45	1

TestAmerica Buffalo

# Client Sample Results

Client: Heritage Interactive Services LLC  
Project/Site: Delphi Lockport

TestAmerica Job ID: 480-35185-1

**Client Sample ID: B-5**

**Date Collected: 03/28/13 10:10**

**Date Received: 03/28/13 13:30**

**Lab Sample ID: 480-35185-1**

**Matrix: Solid**

## Method: 8260B - TCLP Volatiles - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.010	0.0041	mg/L			04/01/13 14:00	10
Carbon tetrachloride	ND		0.010	0.0027	mg/L			04/01/13 14:00	10
Chlorobenzene	ND		0.010	0.0075	mg/L			04/01/13 14:00	10
Chloroform	ND		0.010	0.0034	mg/L			04/01/13 14:00	10
1,2-Dichloroethane	ND		0.010	0.0021	mg/L			04/01/13 14:00	10
1,1-Dichloroethene	ND		0.010	0.0029	mg/L			04/01/13 14:00	10
2-Butanone (MEK)	ND		0.050	0.013	mg/L			04/01/13 14:00	10
Tetrachloroethene	ND		0.010	0.0036	mg/L			04/01/13 14:00	10
Trichloroethene	ND		0.010	0.0046	mg/L			04/01/13 14:00	10
Vinyl chloride	ND		0.010	0.0090	mg/L			04/01/13 14:00	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	121		66 - 137		04/01/13 14:00	10
Toluene-d8 (Surr)	110		71 - 126		04/01/13 14:00	10
4-Bromofluorobenzene (Surr)	98		73 - 120		04/01/13 14:00	10

## Method: 8270C - TCLP Semivolatiles - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.010	0.00046	mg/L		04/01/13 07:54	04/02/13 15:16	1
2,4-Dinitrotoluene	ND		0.0050	0.00045	mg/L		04/01/13 07:54	04/02/13 15:16	1
Hexachlorobenzene	ND *		0.0050	0.00051	mg/L		04/01/13 07:54	04/02/13 15:16	1
Hexachlorobutadiene	ND		0.0050	0.00068	mg/L		04/01/13 07:54	04/02/13 15:16	1
Hexachloroethane	ND		0.0050	0.00059	mg/L		04/01/13 07:54	04/02/13 15:16	1
3-Methylphenol	ND		0.010	0.00040	mg/L		04/01/13 07:54	04/02/13 15:16	1
2-Methylphenol	ND		0.0050	0.00040	mg/L		04/01/13 07:54	04/02/13 15:16	1
4-Methylphenol	ND		0.010	0.00036	mg/L		04/01/13 07:54	04/02/13 15:16	1
Nitrobenzene	ND		0.0050	0.00029	mg/L		04/01/13 07:54	04/02/13 15:16	1
Pentachlorophenol	ND		0.010	0.0022	mg/L		04/01/13 07:54	04/02/13 15:16	1
Pyridine	ND		0.025	0.00041	mg/L		04/01/13 07:54	04/02/13 15:16	1
2,4,5-Trichlorophenol	ND		0.0050	0.00048	mg/L		04/01/13 07:54	04/02/13 15:16	1
2,4,6-Trichlorophenol	ND		0.0050	0.00061	mg/L		04/01/13 07:54	04/02/13 15:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	85		52 - 132	04/01/13 07:54	04/02/13 15:16	1
2-Fluorobiphenyl	87		48 - 120	04/01/13 07:54	04/02/13 15:16	1
2-Fluorophenol	48		20 - 120	04/01/13 07:54	04/02/13 15:16	1
Nitrobenzene-d5	93		46 - 120	04/01/13 07:54	04/02/13 15:16	1
p-Terphenyl-d14	102		67 - 150	04/01/13 07:54	04/02/13 15:16	1
Phenol-d5	34		16 - 120	04/01/13 07:54	04/02/13 15:16	1

## Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.29	0.057	mg/Kg	☼	03/29/13 14:31	04/01/13 12:28	1
PCB-1221	ND		0.29	0.057	mg/Kg	☼	03/29/13 14:31	04/01/13 12:28	1
PCB-1232	ND		0.29	0.057	mg/Kg	☼	03/29/13 14:31	04/01/13 12:28	1
PCB-1242	ND		0.29	0.057	mg/Kg	☼	03/29/13 14:31	04/01/13 12:28	1
PCB-1248	ND		0.29	0.057	mg/Kg	☼	03/29/13 14:31	04/01/13 12:28	1
PCB-1254	ND		0.29	0.14	mg/Kg	☼	03/29/13 14:31	04/01/13 12:28	1
PCB-1260	ND		0.29	0.14	mg/Kg	☼	03/29/13 14:31	04/01/13 12:28	1

TestAmerica Buffalo

# Client Sample Results

Client: Heritage Interactive Services LLC  
Project/Site: Delphi Lockport

TestAmerica Job ID: 480-35185-1

**Client Sample ID: B-5**

**Lab Sample ID: 480-35185-1**

**Date Collected: 03/28/13 10:10**

**Matrix: Solid**

**Date Received: 03/28/13 13:30**

**Percent Solids: 75.7**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	86		47 - 176	03/29/13 14:31	04/01/13 12:28	1
Tetrachloro-m-xylene	115		46 - 175	03/29/13 14:31	04/01/13 12:28	1

## Method: 6010B - TCLP RCRA Metals - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0089	J	0.010	0.0056	mg/L		03/30/13 12:45	04/01/13 14:52	1
Barium	0.48	B	0.0020	0.00070	mg/L		03/30/13 12:45	04/01/13 14:52	1
Cadmium	0.0032		0.0010	0.00050	mg/L		03/30/13 12:45	04/01/13 14:52	1
Chromium	0.038	B	0.0040	0.0010	mg/L		03/30/13 12:45	04/01/13 14:52	1
Lead	0.061		0.0050	0.0030	mg/L		03/30/13 12:45	04/01/13 14:52	1
Selenium	ND		0.015	0.0087	mg/L		03/30/13 12:45	04/01/13 14:52	1
Silver	ND		0.0030	0.0017	mg/L		03/30/13 12:45	04/01/13 14:52	1

## Method: 7470A - TCLP Mercury - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		04/01/13 07:30	04/01/13 15:08	1

## General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Flashpoint	>176.0		50.0	50.0	Degrees F			03/29/13 08:45	1

TestAmerica Buffalo



# Client Sample Results

Client: Heritage Interactive Services LLC  
Project/Site: Delphi Lockport

TestAmerica Job ID: 480-35270-2

**Client Sample ID: B-7**

**Lab Sample ID: 480-35270-2**

**Date Collected: 03/29/13 08:55**

**Matrix: Solid**

**Date Received: 03/29/13 12:45**

## Method: 8260B - TCLP Volatiles - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.010	0.0041	mg/L			04/03/13 06:58	10
Carbon tetrachloride	ND		0.010	0.0027	mg/L			04/03/13 06:58	10
Chlorobenzene	ND		0.010	0.0075	mg/L			04/03/13 06:58	10
Chloroform	ND		0.010	0.0034	mg/L			04/03/13 06:58	10
1,2-Dichloroethane	ND		0.010	0.0021	mg/L			04/03/13 06:58	10
1,1-Dichloroethene	ND		0.010	0.0029	mg/L			04/03/13 06:58	10
2-Butanone (MEK)	ND		0.050	0.013	mg/L			04/03/13 06:58	10
Tetrachloroethene	ND		0.010	0.0036	mg/L			04/03/13 06:58	10
Trichloroethene	ND		0.010	0.0046	mg/L			04/03/13 06:58	10
Vinyl chloride	ND		0.010	0.0090	mg/L			04/03/13 06:58	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		66 - 137		04/03/13 06:58	10
Toluene-d8 (Surr)	98		71 - 126		04/03/13 06:58	10
4-Bromofluorobenzene (Surr)	89		73 - 120		04/03/13 06:58	10

## Method: 8270C - TCLP Semivolatiles - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.010	0.00046	mg/L		04/02/13 14:16	04/03/13 18:32	1
2,4-Dinitrotoluene	ND		0.0050	0.00045	mg/L		04/02/13 14:16	04/03/13 18:32	1
Hexachlorobenzene	ND		0.0050	0.00051	mg/L		04/02/13 14:16	04/03/13 18:32	1
Hexachlorobutadiene	ND		0.0050	0.00068	mg/L		04/02/13 14:16	04/03/13 18:32	1
Hexachloroethane	ND		0.0050	0.00059	mg/L		04/02/13 14:16	04/03/13 18:32	1
3-Methylphenol	ND		0.010	0.00040	mg/L		04/02/13 14:16	04/03/13 18:32	1
2-Methylphenol	ND		0.0050	0.00040	mg/L		04/02/13 14:16	04/03/13 18:32	1
4-Methylphenol	ND		0.010	0.00036	mg/L		04/02/13 14:16	04/03/13 18:32	1
Nitrobenzene	ND		0.0050	0.00029	mg/L		04/02/13 14:16	04/03/13 18:32	1
Pentachlorophenol	ND		0.010	0.0022	mg/L		04/02/13 14:16	04/03/13 18:32	1
Pyridine	ND		0.025	0.00041	mg/L		04/02/13 14:16	04/03/13 18:32	1
2,4,5-Trichlorophenol	ND		0.0050	0.00048	mg/L		04/02/13 14:16	04/03/13 18:32	1
2,4,6-Trichlorophenol	ND		0.0050	0.00061	mg/L		04/02/13 14:16	04/03/13 18:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	97		52 - 132	04/02/13 14:16	04/03/13 18:32	1
2-Fluorobiphenyl	88		48 - 120	04/02/13 14:16	04/03/13 18:32	1
2-Fluorophenol	47		20 - 120	04/02/13 14:16	04/03/13 18:32	1
Nitrobenzene-d5	89		46 - 120	04/02/13 14:16	04/03/13 18:32	1
p-Terphenyl-d14	106		67 - 150	04/02/13 14:16	04/03/13 18:32	1
Phenol-d5	35		16 - 120	04/02/13 14:16	04/03/13 18:32	1

## Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.28	0.055	mg/Kg	☼	04/01/13 19:04	04/02/13 18:40	1
PCB-1221	ND		0.28	0.055	mg/Kg	☼	04/01/13 19:04	04/02/13 18:40	1
PCB-1232	ND		0.28	0.055	mg/Kg	☼	04/01/13 19:04	04/02/13 18:40	1
PCB-1242	ND		0.28	0.055	mg/Kg	☼	04/01/13 19:04	04/02/13 18:40	1
PCB-1248	ND		0.28	0.055	mg/Kg	☼	04/01/13 19:04	04/02/13 18:40	1
PCB-1254	ND		0.28	0.13	mg/Kg	☼	04/01/13 19:04	04/02/13 18:40	1
PCB-1260	ND		0.28	0.13	mg/Kg	☼	04/01/13 19:04	04/02/13 18:40	1

TestAmerica Buffalo

# Client Sample Results

Client: Heritage Interactive Services LLC  
Project/Site: Delphi Lockport

TestAmerica Job ID: 480-35270-2

**Client Sample ID: B-7**

**Date Collected: 03/29/13 08:55**

**Date Received: 03/29/13 12:45**

**Lab Sample ID: 480-35270-2**

**Matrix: Solid**

**Percent Solids: 81.9**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	96		47 - 176	04/01/13 19:04	04/02/13 18:40	1
Tetrachloro-m-xylene	111		46 - 175	04/01/13 19:04	04/02/13 18:40	1

## Method: 6010B - TCLP RCRA Metals - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.057		0.010	0.0056	mg/L		04/02/13 12:55	04/03/13 11:42	1
Barium	2.3	B	0.0020	0.00070	mg/L		04/02/13 12:55	04/03/13 11:42	1
Cadmium	0.0029		0.0010	0.00050	mg/L		04/02/13 12:55	04/03/13 11:42	1
Chromium	0.29	B	0.0040	0.0010	mg/L		04/02/13 12:55	04/03/13 11:42	1
Lead	0.095	B	0.0050	0.0030	mg/L		04/02/13 12:55	04/03/13 11:42	1
Selenium	0.010	J	0.015	0.0087	mg/L		04/02/13 12:55	04/03/13 11:42	1
Silver	ND		0.0030	0.0017	mg/L		04/02/13 12:55	04/03/13 11:42	1

## Method: 7470A - TCLP Mercury - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		04/02/13 13:15	04/02/13 15:53	1

## General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Flashpoint	>176.0		50.0	50.0	Degrees F			03/30/13 10:50	1

**Client Sample ID: B-6**

**Date Collected: 03/29/13 09:35**

**Date Received: 03/29/13 12:45**

**Lab Sample ID: 480-35270-4**

**Matrix: Solid**

## Method: 8260B - TCLP Volatiles - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.010	0.0041	mg/L			04/03/13 07:22	10
Carbon tetrachloride	ND		0.010	0.0027	mg/L			04/03/13 07:22	10
Chlorobenzene	ND		0.010	0.0075	mg/L			04/03/13 07:22	10
Chloroform	ND		0.010	0.0034	mg/L			04/03/13 07:22	10
1,2-Dichloroethane	ND		0.010	0.0021	mg/L			04/03/13 07:22	10
1,1-Dichloroethene	ND		0.010	0.0029	mg/L			04/03/13 07:22	10
2-Butanone (MEK)	ND		0.050	0.013	mg/L			04/03/13 07:22	10
Tetrachloroethene	ND		0.010	0.0036	mg/L			04/03/13 07:22	10
Trichloroethene	ND		0.010	0.0046	mg/L			04/03/13 07:22	10
Vinyl chloride	ND		0.010	0.0090	mg/L			04/03/13 07:22	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		66 - 137		04/03/13 07:22	10
Toluene-d8 (Surr)	100		71 - 126		04/03/13 07:22	10
4-Bromofluorobenzene (Surr)	91		73 - 120		04/03/13 07:22	10

## Method: 8270C - TCLP Semivolatiles - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.010	0.00046	mg/L		04/02/13 14:16	04/03/13 17:46	1
2,4-Dinitrotoluene	ND		0.0050	0.00045	mg/L		04/02/13 14:16	04/03/13 17:46	1
Hexachlorobenzene	ND		0.0050	0.00051	mg/L		04/02/13 14:16	04/03/13 17:46	1
Hexachlorobutadiene	ND		0.0050	0.00068	mg/L		04/02/13 14:16	04/03/13 17:46	1
Hexachloroethane	ND		0.0050	0.00059	mg/L		04/02/13 14:16	04/03/13 17:46	1
3-Methylphenol	ND		0.010	0.00040	mg/L		04/02/13 14:16	04/03/13 17:46	1

TestAmerica Buffalo

# Client Sample Results

Client: Heritage Interactive Services LLC  
Project/Site: Delphi Lockport

TestAmerica Job ID: 480-35270-1

**Client Sample ID: B-21**

**Lab Sample ID: 480-35270-1**

**Date Collected: 03/29/13 08:25**

**Matrix: Solid**

**Date Received: 03/29/13 12:45**

**Percent Solids: 80.9**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	83		47 - 176	04/01/13 19:04	04/02/13 18:25	1
Tetrachloro-m-xylene	87		46 - 175	04/01/13 19:04	04/02/13 18:25	1

## Method: 6010B - TCLP RCRA Metals - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0066	J	0.010	0.0056	mg/L		04/02/13 12:55	04/03/13 11:40	1
Barium	0.22	B	0.0020	0.00070	mg/L		04/02/13 12:55	04/03/13 11:40	1
Cadmium	0.0084		0.0010	0.00050	mg/L		04/02/13 12:55	04/03/13 11:40	1
Chromium	0.019	B	0.0040	0.0010	mg/L		04/02/13 12:55	04/03/13 11:40	1
Lead	0.44	B	0.0050	0.0030	mg/L		04/02/13 12:55	04/03/13 11:40	1
Selenium	ND		0.015	0.0087	mg/L		04/02/13 12:55	04/03/13 11:40	1
Silver	ND		0.0030	0.0017	mg/L		04/02/13 12:55	04/03/13 11:40	1

## Method: 7470A - TCLP Mercury - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		04/02/13 13:15	04/02/13 15:51	1

## General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Flashpoint	>176.0		50.0	50.0	Degrees F			04/01/13 09:00	1

**Client Sample ID: B-8**

**Lab Sample ID: 480-35270-3**

**Date Collected: 03/29/13 09:10**

**Matrix: Solid**

**Date Received: 03/29/13 12:45**

## Method: 8260B - TCLP Volatiles - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.010	0.0041	mg/L			04/03/13 12:38	10
Carbon tetrachloride	ND		0.010	0.0027	mg/L			04/03/13 12:38	10
Chlorobenzene	ND		0.010	0.0075	mg/L			04/03/13 12:38	10
Chloroform	ND		0.010	0.0034	mg/L			04/03/13 12:38	10
1,2-Dichloroethane	ND		0.010	0.0021	mg/L			04/03/13 12:38	10
1,1-Dichloroethene	ND		0.010	0.0029	mg/L			04/03/13 12:38	10
2-Butanone (MEK)	ND		0.050	0.013	mg/L			04/03/13 12:38	10
Tetrachloroethene	ND		0.010	0.0036	mg/L			04/03/13 12:38	10
Trichloroethene	ND		0.010	0.0046	mg/L			04/03/13 12:38	10
Vinyl chloride	ND		0.010	0.0090	mg/L			04/03/13 12:38	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		66 - 137		04/03/13 12:38	10
Toluene-d8 (Surr)	97		71 - 126		04/03/13 12:38	10
4-Bromofluorobenzene (Surr)	91		73 - 120		04/03/13 12:38	10

## Method: 8270C - TCLP Semivolatiles - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.010	0.00046	mg/L		04/02/13 14:16	04/03/13 18:55	1
2,4-Dinitrotoluene	ND		0.0050	0.00045	mg/L		04/02/13 14:16	04/03/13 18:55	1
Hexachlorobenzene	ND		0.0050	0.00051	mg/L		04/02/13 14:16	04/03/13 18:55	1
Hexachlorobutadiene	ND		0.0050	0.00068	mg/L		04/02/13 14:16	04/03/13 18:55	1
Hexachloroethane	ND		0.0050	0.00059	mg/L		04/02/13 14:16	04/03/13 18:55	1
3-Methylphenol	ND		0.010	0.00040	mg/L		04/02/13 14:16	04/03/13 18:55	1

TestAmerica Buffalo

# Client Sample Results

Client: Heritage Interactive Services LLC  
Project/Site: Delphi Lockport

TestAmerica Job ID: 480-35270-1

**Client Sample ID: B-8**

**Lab Sample ID: 480-35270-3**

**Date Collected: 03/29/13 09:10**

**Matrix: Solid**

**Date Received: 03/29/13 12:45**

## Method: 8270C - TCLP Semivolatiles - TCLP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	ND		0.0050	0.00040	mg/L		04/02/13 14:16	04/03/13 18:55	1
4-Methylphenol	ND		0.010	0.00036	mg/L		04/02/13 14:16	04/03/13 18:55	1
Nitrobenzene	ND		0.0050	0.00029	mg/L		04/02/13 14:16	04/03/13 18:55	1
Pentachlorophenol	ND		0.010	0.0022	mg/L		04/02/13 14:16	04/03/13 18:55	1
Pyridine	ND		0.025	0.00041	mg/L		04/02/13 14:16	04/03/13 18:55	1
2,4,5-Trichlorophenol	ND		0.0050	0.00048	mg/L		04/02/13 14:16	04/03/13 18:55	1
2,4,6-Trichlorophenol	ND		0.0050	0.00061	mg/L		04/02/13 14:16	04/03/13 18:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	84		52 - 132	04/02/13 14:16	04/03/13 18:55	1
2-Fluorobiphenyl	76		48 - 120	04/02/13 14:16	04/03/13 18:55	1
2-Fluorophenol	42		20 - 120	04/02/13 14:16	04/03/13 18:55	1
Nitrobenzene-d5	79		46 - 120	04/02/13 14:16	04/03/13 18:55	1
p-Terphenyl-d14	82		67 - 150	04/02/13 14:16	04/03/13 18:55	1
Phenol-d5	30		16 - 120	04/02/13 14:16	04/03/13 18:55	1

## Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.28	0.055	mg/Kg	✱	04/01/13 19:04	04/02/13 18:56	1
PCB-1221	ND		0.28	0.055	mg/Kg	✱	04/01/13 19:04	04/02/13 18:56	1
PCB-1232	ND		0.28	0.055	mg/Kg	✱	04/01/13 19:04	04/02/13 18:56	1
PCB-1242	ND		0.28	0.055	mg/Kg	✱	04/01/13 19:04	04/02/13 18:56	1
PCB-1248	ND		0.28	0.055	mg/Kg	✱	04/01/13 19:04	04/02/13 18:56	1
PCB-1254	ND		0.28	0.13	mg/Kg	✱	04/01/13 19:04	04/02/13 18:56	1
PCB-1260	ND		0.28	0.13	mg/Kg	✱	04/01/13 19:04	04/02/13 18:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	102		47 - 176	04/01/13 19:04	04/02/13 18:56	1
Tetrachloro-m-xylene	117		46 - 175	04/01/13 19:04	04/02/13 18:56	1

## Method: 6010B - TCLP RCRA Metals - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0064	J	0.010	0.0056	mg/L		04/02/13 12:55	04/03/13 11:45	1
Barium	0.76	B	0.0020	0.00070	mg/L		04/02/13 12:55	04/03/13 11:45	1
Cadmium	0.0029		0.0010	0.00050	mg/L		04/02/13 12:55	04/03/13 11:45	1
Chromium	0.0049	B	0.0040	0.0010	mg/L		04/02/13 12:55	04/03/13 11:45	1
Lead	0.031	B	0.0050	0.0030	mg/L		04/02/13 12:55	04/03/13 11:45	1
Selenium	0.0089	J	0.015	0.0087	mg/L		04/02/13 12:55	04/03/13 11:45	1
Silver	ND		0.0030	0.0017	mg/L		04/02/13 12:55	04/03/13 11:45	1

## Method: 7470A - TCLP Mercury - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		04/02/13 13:15	04/02/13 15:55	1

## General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Flashpoint	>176.0		50.0	50.0	Degrees F			04/01/13 09:00	1

TestAmerica Buffalo

# Client Sample Results

Client: Heritage Interactive Services LLC  
Project/Site: Delphi Lockport

TestAmerica Job ID: 480-35186-1

**Client Sample ID: B-20**

**Lab Sample ID: 480-35186-7**

**Date Collected: 03/28/13 12:55**

**Matrix: Solid**

**Date Received: 03/28/13 13:30**

**Percent Solids: 85.5**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	85		47 - 176	03/29/13 14:31	04/01/13 15:26	1
Tetrachloro-m-xylene	110		46 - 175	03/29/13 14:31	04/01/13 15:26	1

## Method: 6010B - TCLP RCRA Metals - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.010	0.0056	mg/L		04/02/13 12:55	04/03/13 12:37	1
Barium	0.21	B	0.0020	0.00070	mg/L		04/02/13 12:55	04/03/13 12:37	1
Cadmium	0.0061		0.0010	0.00050	mg/L		04/02/13 12:55	04/03/13 12:37	1
Chromium	0.0038	J B	0.0040	0.0010	mg/L		04/02/13 12:55	04/03/13 12:37	1
Lead	0.082	B	0.0050	0.0030	mg/L		04/02/13 12:55	04/03/13 12:37	1
Selenium	ND		0.015	0.0087	mg/L		04/02/13 12:55	04/03/13 12:37	1
Silver	ND		0.0030	0.0017	mg/L		04/02/13 12:55	04/03/13 12:37	1

## Method: 7470A - TCLP Mercury - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		04/02/13 13:15	04/02/13 16:23	1

## General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Flashpoint	>176.0		50.0	50.0	Degrees F			04/01/13 09:00	1

**Client Sample ID: B-22**

**Lab Sample ID: 480-35186-8**

**Date Collected: 03/28/13 10:25**

**Matrix: Solid**

**Date Received: 03/28/13 13:30**

## Method: 8260B - TCLP Volatiles - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.010	0.0041	mg/L			04/04/13 13:33	10
Carbon tetrachloride	ND		0.010	0.0027	mg/L			04/04/13 13:33	10
Chlorobenzene	ND		0.010	0.0075	mg/L			04/04/13 13:33	10
Chloroform	ND		0.010	0.0034	mg/L			04/04/13 13:33	10
1,2-Dichloroethane	ND		0.010	0.0021	mg/L			04/04/13 13:33	10
1,1-Dichloroethene	ND		0.010	0.0029	mg/L			04/04/13 13:33	10
2-Butanone (MEK)	ND		0.050	0.013	mg/L			04/04/13 13:33	10
Tetrachloroethene	ND		0.010	0.0036	mg/L			04/04/13 13:33	10
Trichloroethene	ND		0.010	0.0046	mg/L			04/04/13 13:33	10
Vinyl chloride	ND		0.010	0.0090	mg/L			04/04/13 13:33	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		66 - 137		04/04/13 13:33	10
Toluene-d8 (Surr)	117		71 - 126		04/04/13 13:33	10
4-Bromofluorobenzene (Surr)	108		73 - 120		04/04/13 13:33	10

## Method: 8270C - TCLP Semivolatiles - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.010	0.00046	mg/L		04/02/13 14:16	04/03/13 23:07	1
2,4-Dinitrotoluene	ND		0.0050	0.00045	mg/L		04/02/13 14:16	04/03/13 23:07	1
Hexachlorobenzene	ND		0.0050	0.00051	mg/L		04/02/13 14:16	04/03/13 23:07	1
Hexachlorobutadiene	ND		0.0050	0.00068	mg/L		04/02/13 14:16	04/03/13 23:07	1
Hexachloroethane	ND		0.0050	0.00059	mg/L		04/02/13 14:16	04/03/13 23:07	1
3-Methylphenol	ND		0.010	0.00040	mg/L		04/02/13 14:16	04/03/13 23:07	1

TestAmerica Buffalo

# Client Sample Results

Client: Heritage Interactive Services LLC  
Project/Site: Delphi Lockport

TestAmerica Job ID: 480-35186-1

**Client Sample ID: B-22**

**Lab Sample ID: 480-35186-8**

**Date Collected: 03/28/13 10:25**

**Matrix: Solid**

**Date Received: 03/28/13 13:30**

## Method: 8270C - TCLP Semivolatiles - TCLP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	ND		0.0050	0.00040	mg/L		04/02/13 14:16	04/03/13 23:07	1
4-Methylphenol	ND		0.010	0.00036	mg/L		04/02/13 14:16	04/03/13 23:07	1
Nitrobenzene	ND		0.0050	0.00029	mg/L		04/02/13 14:16	04/03/13 23:07	1
Pentachlorophenol	ND		0.010	0.0022	mg/L		04/02/13 14:16	04/03/13 23:07	1
Pyridine	ND		0.025	0.00041	mg/L		04/02/13 14:16	04/03/13 23:07	1
2,4,5-Trichlorophenol	ND		0.0050	0.00048	mg/L		04/02/13 14:16	04/03/13 23:07	1
2,4,6-Trichlorophenol	ND		0.0050	0.00061	mg/L		04/02/13 14:16	04/03/13 23:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	88		52 - 132	04/02/13 14:16	04/03/13 23:07	1
2-Fluorobiphenyl	70		48 - 120	04/02/13 14:16	04/03/13 23:07	1
2-Fluorophenol	34		20 - 120	04/02/13 14:16	04/03/13 23:07	1
Nitrobenzene-d5	68		46 - 120	04/02/13 14:16	04/03/13 23:07	1
p-Terphenyl-d14	94		67 - 150	04/02/13 14:16	04/03/13 23:07	1
Phenol-d5	26		16 - 120	04/02/13 14:16	04/03/13 23:07	1

## Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.25	0.048	mg/Kg	✱	03/29/13 14:31	04/01/13 15:41	1
PCB-1221	ND		0.25	0.048	mg/Kg	✱	03/29/13 14:31	04/01/13 15:41	1
PCB-1232	ND		0.25	0.048	mg/Kg	✱	03/29/13 14:31	04/01/13 15:41	1
PCB-1242	ND		0.25	0.048	mg/Kg	✱	03/29/13 14:31	04/01/13 15:41	1
PCB-1248	ND		0.25	0.048	mg/Kg	✱	03/29/13 14:31	04/01/13 15:41	1
PCB-1254	ND		0.25	0.11	mg/Kg	✱	03/29/13 14:31	04/01/13 15:41	1
PCB-1260	ND		0.25	0.11	mg/Kg	✱	03/29/13 14:31	04/01/13 15:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	89		47 - 176	03/29/13 14:31	04/01/13 15:41	1
Tetrachloro-m-xylene	131		46 - 175	03/29/13 14:31	04/01/13 15:41	1

## Method: 6010B - TCLP RCRA Metals - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.014		0.010	0.0056	mg/L		04/02/13 12:55	04/03/13 12:39	1
Barium	0.54	B	0.0020	0.00070	mg/L		04/02/13 12:55	04/03/13 12:39	1
Cadmium	0.0014		0.0010	0.00050	mg/L		04/02/13 12:55	04/03/13 12:39	1
Chromium	0.037	B	0.0040	0.0010	mg/L		04/02/13 12:55	04/03/13 12:39	1
Lead	0.037	B	0.0050	0.0030	mg/L		04/02/13 12:55	04/03/13 12:39	1
Selenium	ND		0.015	0.0087	mg/L		04/02/13 12:55	04/03/13 12:39	1
Silver	ND		0.0030	0.0017	mg/L		04/02/13 12:55	04/03/13 12:39	1

## Method: 7470A - TCLP Mercury - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		04/02/13 13:15	04/02/13 16:28	1

## General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Flashpoint	>176.0		50.0	50.0	Degrees F			04/01/13 09:00	1

TestAmerica Buffalo



# Client Sample Results

Client: Heritage Interactive Services LLC  
Project/Site: Delphi Lockport

TestAmerica Job ID: 480-35274-1

**Client Sample ID: B-23**

**Lab Sample ID: 480-35274-1**

**Date Collected: 03/29/13 12:25**

**Matrix: Solid**

**Date Received: 03/29/13 16:15**

## Method: 8260B - TCLP Volatiles - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.010	0.0041	mg/L			04/04/13 13:55	10
Carbon tetrachloride	ND		0.010	0.0027	mg/L			04/04/13 13:55	10
Chlorobenzene	ND		0.010	0.0075	mg/L			04/04/13 13:55	10
Chloroform	ND		0.010	0.0034	mg/L			04/04/13 13:55	10
1,2-Dichloroethane	ND		0.010	0.0021	mg/L			04/04/13 13:55	10
1,1-Dichloroethene	ND		0.010	0.0029	mg/L			04/04/13 13:55	10
2-Butanone (MEK)	ND		0.050	0.013	mg/L			04/04/13 13:55	10
Tetrachloroethene	ND		0.010	0.0036	mg/L			04/04/13 13:55	10
Trichloroethene	ND		0.010	0.0046	mg/L			04/04/13 13:55	10
Vinyl chloride	ND		0.010	0.0090	mg/L			04/04/13 13:55	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		66 - 137		04/04/13 13:55	10
Toluene-d8 (Surr)	118		71 - 126		04/04/13 13:55	10
4-Bromofluorobenzene (Surr)	110		73 - 120		04/04/13 13:55	10

## Method: 8270C - TCLP Semivolatiles - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.010	0.00046	mg/L		04/04/13 06:11	04/09/13 17:06	1
2,4-Dinitrotoluene	ND		0.0050	0.00045	mg/L		04/04/13 06:11	04/09/13 17:06	1
Hexachlorobenzene	ND		0.0050	0.00051	mg/L		04/04/13 06:11	04/09/13 17:06	1
Hexachlorobutadiene	ND		0.0050	0.00068	mg/L		04/04/13 06:11	04/09/13 17:06	1
Hexachloroethane	ND		0.0050	0.00059	mg/L		04/04/13 06:11	04/09/13 17:06	1
3-Methylphenol	ND		0.010	0.00040	mg/L		04/04/13 06:11	04/09/13 17:06	1
2-Methylphenol	ND		0.0050	0.00040	mg/L		04/04/13 06:11	04/09/13 17:06	1
4-Methylphenol	ND		0.010	0.00036	mg/L		04/04/13 06:11	04/09/13 17:06	1
Nitrobenzene	ND		0.0050	0.00029	mg/L		04/04/13 06:11	04/09/13 17:06	1
Pentachlorophenol	ND		0.010	0.0022	mg/L		04/04/13 06:11	04/09/13 17:06	1
Pyridine	ND		0.025	0.00041	mg/L		04/04/13 06:11	04/09/13 17:06	1
2,4,5-Trichlorophenol	ND		0.0050	0.00048	mg/L		04/04/13 06:11	04/09/13 17:06	1
2,4,6-Trichlorophenol	ND		0.0050	0.00061	mg/L		04/04/13 06:11	04/09/13 17:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	89		52 - 132	04/04/13 06:11	04/09/13 17:06	1
2-Fluorobiphenyl	94		48 - 120	04/04/13 06:11	04/09/13 17:06	1
2-Fluorophenol	46		20 - 120	04/04/13 06:11	04/09/13 17:06	1
Nitrobenzene-d5	84		46 - 120	04/04/13 06:11	04/09/13 17:06	1
p-Terphenyl-d14	107		67 - 150	04/04/13 06:11	04/09/13 17:06	1
Phenol-d5	33		16 - 120	04/04/13 06:11	04/09/13 17:06	1

## Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.27	0.053	mg/Kg	☼	04/01/13 19:04	04/02/13 20:48	1
PCB-1221	ND		0.27	0.053	mg/Kg	☼	04/01/13 19:04	04/02/13 20:48	1
PCB-1232	ND		0.27	0.053	mg/Kg	☼	04/01/13 19:04	04/02/13 20:48	1
PCB-1242	ND		0.27	0.053	mg/Kg	☼	04/01/13 19:04	04/02/13 20:48	1
PCB-1248	ND		0.27	0.053	mg/Kg	☼	04/01/13 19:04	04/02/13 20:48	1
PCB-1254	ND		0.27	0.13	mg/Kg	☼	04/01/13 19:04	04/02/13 20:48	1
PCB-1260	ND		0.27	0.13	mg/Kg	☼	04/01/13 19:04	04/02/13 20:48	1

TestAmerica Buffalo

# Client Sample Results

Client: Heritage Interactive Services LLC  
Project/Site: Delphi Lockport

TestAmerica Job ID: 480-35274-1

**Client Sample ID: B-23**

**Lab Sample ID: 480-35274-1**

**Date Collected: 03/29/13 12:25**

**Matrix: Solid**

**Date Received: 03/29/13 16:15**

**Percent Solids: 84.0**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	97		47 - 176	04/01/13 19:04	04/02/13 20:48	1
Tetrachloro-m-xylene	110		46 - 175	04/01/13 19:04	04/02/13 20:48	1

## Method: 6010B - TCLP RCRA Metals - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0083	J	0.010	0.0056	mg/L		04/03/13 12:10	04/04/13 12:47	1
Barium	0.72	B	0.0020	0.00070	mg/L		04/03/13 12:10	04/04/13 12:47	1
Cadmium	0.0037		0.0010	0.00050	mg/L		04/03/13 12:10	04/04/13 12:47	1
Chromium	0.011	B	0.0040	0.0010	mg/L		04/03/13 12:10	04/04/13 12:47	1
Lead	0.019		0.0050	0.0030	mg/L		04/03/13 12:10	04/04/13 12:47	1
Selenium	ND		0.015	0.0087	mg/L		04/03/13 12:10	04/04/13 12:47	1
Silver	ND		0.0030	0.0017	mg/L		04/03/13 12:10	04/04/13 12:47	1

## Method: 7470A - TCLP Mercury - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		04/03/13 12:45	04/03/13 15:33	1

## General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Flashpoint	>176.0		50.0	50.0	Degrees F			04/01/13 09:00	1

**Client Sample ID: B-27**

**Lab Sample ID: 480-35274-2**

**Date Collected: 03/29/13 12:45**

**Matrix: Solid**

**Date Received: 03/29/13 16:15**

## Method: 8260B - TCLP Volatiles - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.010	0.0041	mg/L			04/04/13 14:16	10
Carbon tetrachloride	ND		0.010	0.0027	mg/L			04/04/13 14:16	10
Chlorobenzene	ND		0.010	0.0075	mg/L			04/04/13 14:16	10
Chloroform	ND		0.010	0.0034	mg/L			04/04/13 14:16	10
1,2-Dichloroethane	ND		0.010	0.0021	mg/L			04/04/13 14:16	10
1,1-Dichloroethene	ND		0.010	0.0029	mg/L			04/04/13 14:16	10
2-Butanone (MEK)	ND		0.050	0.013	mg/L			04/04/13 14:16	10
Tetrachloroethene	ND		0.010	0.0036	mg/L			04/04/13 14:16	10
Trichloroethene	ND		0.010	0.0046	mg/L			04/04/13 14:16	10
Vinyl chloride	ND		0.010	0.0090	mg/L			04/04/13 14:16	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		66 - 137		04/04/13 14:16	10
Toluene-d8 (Surr)	117		71 - 126		04/04/13 14:16	10
4-Bromofluorobenzene (Surr)	109		73 - 120		04/04/13 14:16	10

## Method: 8270C - TCLP Semivolatiles - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.010	0.00046	mg/L		04/04/13 06:11	04/09/13 17:29	1
2,4-Dinitrotoluene	ND		0.0050	0.00045	mg/L		04/04/13 06:11	04/09/13 17:29	1
Hexachlorobenzene	ND		0.0050	0.00051	mg/L		04/04/13 06:11	04/09/13 17:29	1
Hexachlorobutadiene	ND		0.0050	0.00068	mg/L		04/04/13 06:11	04/09/13 17:29	1
Hexachloroethane	ND		0.0050	0.00059	mg/L		04/04/13 06:11	04/09/13 17:29	1
3-Methylphenol	ND		0.010	0.00040	mg/L		04/04/13 06:11	04/09/13 17:29	1

TestAmerica Buffalo



Enclosure 2  
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION  
Site Management Periodic Review Report Notice  
Institutional and Engineering Controls Certification Form



Site Details		Box 1
Site No.	932113	
Site Name Delphi Harrison Thermal Systems		
Site Address: 200 Upper Mountain Road		Zip Code: 14094
City/Town: Lockport		
County: Niagara		
Site Acreage: 22.7		
Reporting Period: <del>September 01, 2000</del> to <del>December 16, 2013</del> January 1, 2013 to December 31, 2013		
		YES NO
1. Is the information above correct?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
If NO, include handwritten above or on a separate sheet.		
2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.		
5. Is the site currently undergoing development?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
		Box 2
		YES NO
6. Is the current site use consistent with the use(s) listed below? Commercial and Industrial	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7. Are all ICs/ECs in place and functioning as designed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.		
A Corrective Measures Work Plan must be submitted along with this form to address these issues.		
Signature of Owner, Remedial Party or Designated Representative <i>William J. Farland</i>		Date <i>1-9-14</i>

**Description of Institutional Controls**Parcel

108.13-1-1

Owner

GM Components Holdings, LLC

Institutional ControlSite Management Plan  
Landuse Restriction  
Monitoring PlanGround Water Use Restriction  
Soil Management Plan  
IC/EC Plan

In March 2005, a Record of Decision was issued for this site. The selected remedy was Monitored Natural Attenuation (MNA). Long-term groundwater monitoring is required to evaluate the continued effectiveness of MNA at the site.

An Environmental Easement was filed with the Niagara County Clerk's Office on October 6, 2011. This easement states that the Controlled Property may be used for commercial or industrial use as long as the following engineering controls are employed and the land use restrictions specified below are adhered to: (1) implement and comply with all elements of the Department approved Site Management Plan, (2) restrict use of groundwater at the Controlled Property as a source of potable or process water without necessary water quality treatment as determined by the Niagara County Department of Health, and (3) evaluate the potential for vapor intrusion into any buildings developed on the Controlled Property. Provision for mitigation (if determined to be necessary), such as installation of a vapor barrier and sub-slab vapor system or other engineering controls shall be implemented on all structures on the Controlled Property prior to occupancy.

**Description of Engineering Controls**Parcel

108.13-1-1

Engineering Control

Fencing/Access Control

**Periodic Review Report (PRR) Certification Statements**

1. I certify by checking "YES" below that:

- a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;
- b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and complete.

YES NO

☒ ☐

2. If this site has an IC/EC Plan (or equivalent as required in the Decision Document), for each Institutional or Engineering control listed in Boxes 3 and/or 4, I certify by checking "YES" below that all of the following statements are true:

- (a) the Institutional Control and/or Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;
- (b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;
- (c) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control;
- (d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and
- (e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

YES NO

☒ ☐

**IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and  
DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.**

**A Corrective Measures Work Plan must be submitted along with this form to address these issues.**

William J. McFarland  
Signature of Owner, Remedial Party or Designated Representative

1-9-14  
Date

IC CERTIFICATIONS  
SITE NO. 932113

Box 6

**SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE**

I certify that all information and statements in Boxes 1, 2, and 3 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I William J McFarland at 30200 Mand Rd MC 480-111-1N,  
print name print business address  
Warren, Michigan 48090

am certifying as Owner (Owner or Remedial Party)

for the Site named in the Site Details Section of this form.

William J McFarland  
Signature of Owner, Remedial Party, or Designated Representative  
Rendering Certification

1-9-14  
Date



IC/EC CERTIFICATIONS

Box 7

Qualified Environmental Professional Signature

I certify that all information in Boxes 4 and 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Bart A. Klettke at 535 Washington Street, 11th floor  
print name print business address

am certifying as a Qualified Environmental Professional for the Owner, GIM Components Holdings, LLC.  
(Owner or Remedial Party)

Bart A. Klettke

Signature of Qualified Environmental Professional, for  
the Owner or Remedial Party, Rendering Certification



12-9-13  
Date

**New York State Department of Environmental Conservation**  
**Division of Water**  
**Bureau of Water Permits, 4th Floor**  
625 Broadway, Albany, New York 12233-3505  
Phone: (518) 402-8111 • Fax: (518) 402-9029  
Website: www.dec.ny.gov



4/12/2013

**DELPHI AUTOMOTIVE SYSTEMS LLC**  
**STACEY JENNEVE**  
**200 UPPER MOUNTAIN ROAD**  
**LOCKPORT NY 14094-**

**Re: ACKNOWLEDGMENT of NOTICE of INTENT for**  
**Coverage Under SPDES General Permit for Storm**  
**Water Discharges from CONSTRUCTION**  
**ACTIVITY General Permit No. GP-0-10-001**

Dear Prospective Permittee:

This is to acknowledge that the New York State Department of Environmental Conservation (Department) has received a complete Notice of Intent (NOI) for coverage under General Permit No. GP-0-10-001 for the construction activities located at:

**BUILDING 6 SITE SEPARATION**  
**200 UPPER MOUNTAIN ROAD**  
**LOCKPORT NY 14094-**

**County: NIAGARA**

Pursuant to Environmental Conservation Law (ECL) Article 17, Titles 7 and 8, ECL Article 70, discharges in accordance with GP-0-10-001 from the above construction site will be authorized 5 business days from 2/28/2013 which is the date we received your final NOI, unless notified differently by the Department.

The permit identification number for this site is: NYR 10W425. Be sure to include this permit identification number on any forms or correspondence you send us. When coverage under the permit is no longer needed, you must submit a Notice of Termination to the Department.

This authorization is conditioned upon the following:

1. The information submitted in the NOI received by the Department on 2/28/2013 is accurate and complete.
2. You have developed a Storm Water Pollution Prevention Plan (SWPPP) that complies with GP-0-10-001 which must be implemented as the first element of construction at the above-noted construction site.
3. Activities related to the above construction site comply with all other requirements of GP-0-10-001.

**RECEIVED**

**APR 18 2013**

**WATTS ARCHITECTURE**  
**& ENGINEERING**

4. Payment of the annual \$100 regulatory fee, which is billed separately by the Department in the late fall. The regulatory fee covers a period of one calendar year. In addition, since September 1, 2004, construction stormwater permittees have been assessed an initial authorization fee which is now \$100 per acre of land disturbed and \$600 per acre of future impervious area. The initial authorization fee covers the duration of the authorized disturbance.

5. When applicable, project review pursuant to the State Environmental Quality Review Act (SEQRA) has been satisfied.

6. You have obtained all necessary Department permits subject to the Uniform Procedures Act (UPA). You should check with your Regional Permit Administrator for further information.

\*Note: Construction activities cannot commence until project review pursuant to SEQRA has been satisfied, when SEQRA is applicable; and, where required, all necessary Department permits subject to the UPA have been obtained.

Please be advised that the Department may request a copy of your SWPPP for review.

Should you have any questions regarding any aspect of the requirements specified in GP-0-10-001, please contact Dave Gasper at (518) 402-8114 or the undersigned at (518) 402-8109.

Sincerely,



Toni Cioffi

Environmental Program Specialist 1

cc: RWE - 9

SWPPP Preparer

WATTS ARCHITECTURE & ENGINEERING  
MATRICARDI ALAN  
95 PERRY STREET, SUITE 300  
BUFFALO NY 14203-