



September 30, 2015

Reference No. 11103430

Mr. David Szymanski
New York State Department of Environmental Conservation
270 Michigan Avenue
Buffalo, New York 14203-2999

Dear Mr. Szymanski:

**Re: Annual Periodic Review, Site No. C915200
Former NL Industries Site, Depew, New York**

GHD Consulting Services, Inc. (GHD), on behalf of Norampac Industries, a division of Cascades, Inc., is submitting the attached Institutional and Engineering Controls Certification Form for the Former NL Industries Site (Site) in Depew, New York. In addition, the annual Periodic Review Report (PRR) is provided under separate cover. The report presents the results of the annual inspection and groundwater monitoring conducted at the Site in September 2015. Some minor maintenance issues were identified and will be addressed before winter so that conditions do not escalate resulting in deficiencies.

The groundwater monitoring results demonstrate that groundwater conditions are stable since the monitoring program began in 2010 and that the remedial measures have been effective. GHD recommends that the groundwater monitoring frequency be reduced from an annual to triennial basis.

Should you have any questions or require additional information, please do not hesitate to contact the undersigned.

Sincerely,

GHD

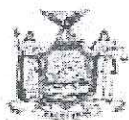
A handwritten signature in dark ink, reading "Katherine B. Galanti". The signature is fluid and cursive, with the first name being the most prominent.

Katherine B. Galanti

KBG/ck/1

Encl.

cc: L. Marineau (Cascades)
R. Adams (GHD)



Enclosure 2
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Site Management Periodic Review Report Notice
Institutional and Engineering Controls Certification Form



Site No. **C915200** **Site Details** **Box 1**

Site Name Former NL Industries Foundry

Site Address: 3241 Walden Avenue Zip Code: 14043
City/Town: Cheektowaga
County: Erie
Site Acreage: 7.5

Reporting Period: August 31, 2014 to August 31, 2015

- | | YES | NO |
|--|-------------------------------------|-------------------------------------|
| 1. Is the information above correct? | ☒ | ☐ |
| 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? | ☐ | ☒ |
| 3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))? | ☐ | ☒ |
| 4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period? | ☐ | ☒ |
| 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? | ☐ | ☒ |

Box 2

- | | YES | NO |
|--|-------------------------------------|--------------------------|
| 6. Is the current site use consistent with the use(s) listed below?
Commercial and Industrial | ☒ | ☐ |
| 7. Are all ICs/ECs in place and functioning as designed? | ☒ | ☐ |

**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

Date

Box 2A

YES NO

8. Has any new information revealed that assumptions made in the Qualitative Exposure Assessment regarding offsite contamination are no longer valid?

☐☒

If you answered YES to question 8, include documentation or evidence that documentation has been previously submitted with this certification form.

9. Are the assumptions in the Qualitative Exposure Assessment still valid?
(The Qualitative Exposure Assessment must be certified every five years)

☒☐

If you answered NO to question 9, the Periodic Review Report must include an updated Qualitative Exposure Assessment based on the new assumptions.

SITE NO. C915200

Box 3

Description of Institutional Controls

<u>Parcel</u>	<u>Owner</u>	<u>Institutional Control</u>
104.09-5-1	Cascades, Inc.	Ground Water Use Restriction Soil Management Plan Landuse Restriction Monitoring Plan Site Management Plan O&M Plan IC/EC Plan

[For details- see Section 5 in the Site Management Plan, dated October 16, 2009]
Environmental Easement is included in the FER in Appendix E. The Easement was recorded with the Erie County clerk on 12/1/2009.

- (i) Prohibition of groundwater use.
- (ii) Restrictions on property use.
- (iii) Maintenance of cover on the containment cell.
- (iv) Maintenance of asphalt cover over trucking yard, eastern parking lot, and rail siding areas.
- (v) Maintenance of concrete cover in the building and apron areas.

Box 4

Description of Engineering Controls

<u>Parcel</u>	<u>Engineering Control</u>
104.09-5-1	Cover System 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.

Signature of Owner, Remedial Party or Designated Representative

Date

IC CERTIFICATIONS
SITE NO. C915200

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 ROBERT G. ADAMS at GHD CONSULTING SERVICES, INC.
285 DELAWARE AVE, BUFFALO, NY
print name print business address
14202

am certifying as OWNER'S REPRESENTATIVE (Owner or Remedial Party)

for the Site named in the Site Details Section of this form.

Robert G. Adams
Signature of Owner, Remedial Party, or Designated Representative
Rendering Certification

09/29/15
Date

IC/EC CERTIFICATIONS

Box 7

Professional Engineer 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 ROBERT G. ADAMS at GHD CONSULTING SERVICES INC.
print name 285 DELAWARE AVE, BUFFALO NY
print business address 14202

am certifying as a Professional Engineer for the OWNER
(Owner or Remedial Party)



Robert G. Adams

Signature of Professional Engineer, for the Owner or
Remedial Party, Rendering Certification

09/29/15
Date

(Required for PE)



2015 Periodic Review Report

Former NL Industries Site
NYSDEC Site No. C915200
3241 Walden Avenue
Depew, New York

Cascades, Inc.

285 Delaware Avenue, Suite 500, Buffalo, New York 14202
11103430 | Report No 1 | September 30, 2015

Table of Contents

1.	Introduction.....	1
2.	Engineering and Institutional Controls	2
2.1	Engineering Controls (ECs)	2
2.2	Institutional Controls (ICs).....	2
3.	Inspections and Maintenance Activities	3
3.1	Asphalt Only Cover System	3
3.1.1	Trucking Yard	4
3.1.2	Parking Lot.....	4
3.1.3	Former Rail Siding.....	4
3.1.4	Corrective Action	4
3.2	Building and Apron Cover System.....	4
3.3	GCL and Soil Cover System.....	4
3.4	GCL and Asphalt Cover System.....	5
3.5	Retention Pond	5
3.6	Fencing	5
3.7	Vegetative Cover	5
4.	Groundwater Monitoring.....	6
4.1	Monitoring Well Inspection.....	6
4.2	Groundwater Elevation	6
4.3	Groundwater Sampling	6
4.4	Groundwater Data Evaluation.....	6
5.	Conclusions and Recommendations.....	7
6.	Certification	8

Figure Index

Figure 1.1	Site Location Map
Figure 2.1	Site Layout
Figure 2.2	Location of Engineering Control Systems
Figure 4.1	Monitoring Well Locations
Figure 4.2	Groundwater Contour Map

Table Index

Table 4.1	Monitoring Well Measurement Summary
Table 4.2	Summary of Hydraulic Monitoring Data
Table 4.3	Sample Collection and Analysis Summary
Table 4.4	Analytical Results Summary

Appendices

Appendix A	Site Inspection Form
Appendix B	Photographs
Appendix C	Groundwater Monitoring Field Forms
Appendix D	Analytical Data Report
Appendix E	Data Usability Summary Report

1. Introduction

The former NL Industries facility (Site) is located at 3241 Walden Avenue in Depew, New York (Figure 1.1). The property and facility are currently owned by Norampac Industries, Inc., a division of Cascades, Inc. (Cascades), and operated by Metro Waste Paper Recovery, Inc. Remediation of the Site was completed in 2008 under the oversight of the New York State Department of Environmental Conservation (NYSDEC) in accordance with Brownfield Cleanup Agreement (BCA) Index #B9-0554-98-12, Site #C-915200. A Site Management Plan (SMP) was developed upon completion of the remedial construction to ensure implementation and management of the institutional controls (ICs) and engineering controls (ECs) in place at the Site. This Periodic Review Report (PRR) is being prepared to certify that site management activities are being conducted in accordance with the SMP.

The final remedial alternative for the Site, as described in the SMP dated October 2009, included the following components:

1. Excavation of impacted soils from the western section of the Site and consolidation within a containment cell constructed within the central portion of the Site.
2. Capping of the containment cell with imported clean fill, geo-synthetic clay liner (GCL), and soil/vegetative or asphalt cover.
3. Construction of a GCL and soil cover system on all non-paved areas of the containment cell (i.e., side slopes).
4. Construction of a GCL and asphalt cover system on all paved areas of the containment cell.
5. Execution and recording of an Environmental Easement to restrict land use and prevent future exposure to remaining impacted materials for the central and eastern portions of the Site.
6. Development and implementation of a SMP for long-term management of the ECs/ICs at the Site.

The SMP, designed to serve as a work plan for Site monitoring and maintenance, was prepared and approved by NYSDEC in December 2009.

This report presents the results of the groundwater monitoring event and the Site inspection conducted in September 2015, and recordkeeping conducted through August 2015. The report is organized as follows:

- Section 1 – Introduction: The background and brief remedial history of the Site.
- Section 2 – Engineering and Institutional Controls: The ECs/ICs for this Site are described.
- Section 3 – Inspections and Maintenance Activities: Activities performed during the current reporting period and their results.
- Section 4 – Groundwater Monitoring: Discussion of groundwater monitoring data and analytical results generated from the current monitoring period.
- Section 5 – Conclusions and Recommendations: Conclusions and recommendations based upon the data and results of the current monitoring period

2. Engineering and Institutional Controls

Engineering controls are required to protect human health and the environment because impacted fill is still present below various structures at the Site. Figure 2.1 shows the Site layout, and Figure 2.2 shows the various EC systems in place at the Site.

2.1 Engineering Controls (ECs)

The purpose of the EC systems is to eliminate the potential for human contact with fill material, prevent percolation of precipitation through the impacted fill, and eliminate the potential for contaminated runoff from the Site. The EC systems in place at the Site consist of the following:

- **Asphalt Only**: The trucking yard within the eastern section of the Site was paved in 2004 and is covered by 4.5 inches of sub-base material and 6 inches of asphalt (4.5 inches binder coat and 1.5 inches top coat). The eastern parking lot was historically paved with asphalt for employee parking, and was repaved in August 2011. In addition, the area identified as the “rail siding area” was paved with 6 inches of asphalt (4 inches binder coat and 2 inches top coat) in August 2008.
- **Building and Apron Concrete**: The concrete floor of the existing building and exterior concrete pads/aprons are believed to be a minimum of 6 inches in thickness.
- **GCL and Soil**: All non-paved areas (side slopes) of the containment cell are covered by approximately 12 inches of clean soil underlain by a GCL covering with a 6-inch sand layer between the GCL and impacted fill. All exposed environmentally clean soil/fill has been hydro seeded as an erosion control methodology.
- **GCL and Asphalt**: All paved areas of the central section containment cell are covered by 6 inches of asphalt (4 inches binder coat and 2 inches top coat) underlain by 12 inches of clean fill, followed by a GCL covering with a 6-inch sand layer between the GCL and the impacted fill.

2.2 Institutional Controls (ICs)

The purpose of the ICs is to:

- Implement, maintain, and monitor the ECs.
- Prevent future exposure to remaining on-Site contamination by controlling disturbance of the subsurface contamination.
- Limit the use and development of portions of the Site to industrial uses only.

The ICs that have been established for the Site must be:

- In compliance with the Environmental Easement and the SMP by the Grantor (currently Norampac, Inc.) and the Grantor’s successors and assigns.
- Operated and maintained as specified in the SMP.
- Inspected at a frequency and in a manner defined in the SMP.

Data and information pertinent to management of the Site must be reported at the frequency and in a manner defined in the SMP.

Adherence to the ICs is required by the Environmental Easement. The ICs may not be discontinued without an amendment to or extinguishment of the Environmental Easement.

In addition, the Site has a series of ICs in the form of site restrictions as required by the Environmental Easement. Site restrictions that apply to the Site are:

- The central and eastern portions of the property may only be used for commercial/industrial purposes provided that the long-term ECs/ICs included in the SMP are employed.
- The central and eastern portions of the property may not be used for a higher level of use, such as unrestricted or restricted residential use without additional remediation and amendment of the Environmental Easement, as approved by the NYSDEC.
- All future activities on the property that will disturb remaining impacted material must be conducted in accordance with the SMP.
- The Site owner or remedial party will submit to the NYSDEC a written statement that certifies, under penalty of perjury, that: (1) controls employed at the Site are unchanged from the previous certification or that any changes to the controls were approved by the NYSDEC; and, (2) nothing has occurred that impairs the ability of the controls to protect public health and environment or that constitute a violation or failure to comply with the SMP.
- The groundwater beneath the central and eastern sections of the property may not be used for potable or non-potable purposes.

3. Inspections and Maintenance Activities

A comprehensive Site-wide inspection is required to be conducted annually, as specified in the SMP. The intent of the annual inspection is to determine whether:

- The ECs continue to perform as designed.
- The ECs continue to be protective of human health and the environment.
- The Site is operated and maintained in compliance with the SMP and Environmental Easement.
- The remedial performance criteria have been achieved.
- Sampling and analysis of appropriate media were conducted.
- Site records are complete and current.
- Changes to the remedial systems or monitoring are needed.

The inspection was performed by GHD personnel in accordance with the requirements of the SMP.

The annual comprehensive Site inspection was conducted on September 14 and 25, 2015. The following sections discuss the findings of the 2015 inspection. The completed Site Inspection Form is provided as Appendix A to this report.

3.1 Asphalt Only Cover System

The three areas of asphalt only cover consist of the Trucking Yard (west of the main building), Parking Lot (east of the main building), and Former Rail Siding (south of the main building) as

shown on Figure 2.2. The areas of asphalt only cover were visually inspected for cracks and deterioration.

3.1.1 Trucking Yard

The asphalt surface in the trucking yard was generally free of cracks and deterioration and appeared in satisfactory condition. Some minor surficial cracking is starting to occur. Larger cracks (greater than 0.25 inch in width) are scheduled to be sealed as a routine maintenance activity before the end of the calendar year. Some shallow depressions/divots from roll-off box wheels and trailer supports are present; however, no corrective action is necessary at this time. The test pit locations excavated in 2009 were repaved in 2011 and remain in good condition. Photos of the trucking yard are provided in Appendix B.

3.1.2 Parking Lot

The Parking Lot was repaved in 2011 and is generally free of cracks and deterioration. Photos of the pavement are provided in Appendix B.

3.1.3 Former Rail Siding

The asphalt cover on the Former Rail Siding was generally free of cracks and deterioration and appeared in good condition. Photos of the pavement are provided in Appendix B.

3.1.4 Corrective Action

Routine maintenance to seal larger cracks (>0.25 inch) will be completed before the end of the calendar year. No other corrective action is necessary for the asphalt only cover system at this time.

3.2 Building and Apron Cover System

The building floor slab and apron concrete were visually inspected for cracks and deterioration. Some deterioration of the exterior concrete surfaces is present at the southwest corner of the building. Photos of the concrete are provided in Appendix B. Damaged areas will be patched with asphalt as part of the routine maintenance activities to be completed before the end of the calendar year to prevent further deterioration over the winter. A more permanent repair/replacement should be scheduled for 2016.

No other corrective action is necessary for the building and apron concrete cover system at this time.

3.3 GCL and Soil Cover System

The GCL and soil cover system was visually inspected as part of the annual comprehensive Site inspection. As noted below in Section 3.7, the vegetative cover had been mowed and the grass was approximately 2 to 3 inches in length. No areas of subsidence, erosion, or exposed GCL were observed. Photos of the GCL and soil cover are provided in Appendix B.

Corrective action is not necessary for the GCL and soil cover system at this time.

3.4 GCL and Asphalt Cover System

The GCL and asphalt cover system was visually inspected as part of the annual comprehensive Site inspection. No areas of subsidence or exposed GCL were observed. Minor surface indentations caused by tractor trailer supports were noted in the asphalt, consistent with past years. The indentations were approximately 0.25 to 0.5 inch in depth, but do not affect the integrity of the cap. Photos of the GCL and asphalt cover are provided in Appendix B.

No corrective action is necessary for the GCL and asphalt cover system at this time

3.5 Retention Pond

The retention pond was inspected as part of the annual comprehensive Site inspection, in addition to monthly inspections by Mr. Thomas Derkovitz, Site Manager. At the time of the annual inspection, approximately 8 inches of standing water was present in the center of the pond, as the water level was below the invert of the outflow pipe. The 2014 annual inspection had identified significant plant growth (grasses, phragmites) in the pond. This plant growth was cut in 2015. At the time of the 2015 annual inspection, regrowth was occurring within the pond, along with some accumulation of dead leaves/plant matter; however, growth was less dense than observed in 2014. No other debris was observed and the outlet pipes are open. No evidence of erosion was observed along the banks of the pond.

A gate was installed at the southeast corner of the pond fence enclosure in June 2011 to allow access for mowing and maintenance. The gate is locked to prevent unauthorized access. Photos of the retention pond are provided in Appendix B.

As a corrective action, removal of the plant growth should be completed semi-annually. This will prevent a condition where the function of the pond could be impaired.

3.6 Fencing

The fencing was inspected as part of the annual comprehensive site inspection, in addition to semiannual inspections in spring and fall by Mr. Derkovitz. Mr. Derkovitz indicated that the fence along the west property line was damaged by a snowplow over the winter, but had been repaired. At the time of the annual inspection, the fence and fence posts appeared in good condition with no holes in the fence or heaved supports posts. The fence north of the Site along Walden Avenue was constructed with braided wire rather than a top support pole. At the time of the inspection, the wire provided sufficient support for the fence. Photos of the fencing are provided in Appendix B.

No corrective action is necessary for the fence at this time.

3.7 Vegetative Cover

The vegetative cover was inspected as part of the annual comprehensive site inspection, as well as semiannually in spring and fall by Mr. Derkovitz. Grass was cut as needed. No areas of distressed vegetation, invading species, or woody growth were observed. Photos of the vegetative cover are provided in Appendix B.

No corrective action is necessary for the vegetative cover at this time.

4. Groundwater Monitoring

4.1 Monitoring Well Inspection

In accordance with the SMP, monitoring well inspections were conducted in conjunction with the groundwater monitoring event in September 2015. The locations of the groundwater monitoring wells are shown on Figure 4.1. The inspections of the monitoring wells included the condition of well caps, J-plugs, seals, protective pads, and visible portions of the well casings. Monitoring well conditions are noted on the Site Inspection Form presented in Appendix A.

In addition, prior to purging the well for sampling, the open depth of each monitoring well was measured (sounded). The sounded depths and installed screened intervals of each well are presented in Table 4.1. Comparison of these details shows that the screened intervals of all wells are open. The recharge during purging for sampling demonstrates that the presence of the small amounts of observed sediment does not interfere with the flow of groundwater through the wells or sand packs.

All wells were noted to be in good condition at the time of sampling, with the exception of MW-106F. The casing was damaged in 2014 and the casing cover was missing, however, the well riser and J-plug are undamaged. GHD retained Earth Dimensions, Inc. to replace the protective casing and concrete collar. The work was completed on September 25, 2015.

4.2 Groundwater Elevation

As part of the monitoring activities described in the SMP, each monitoring well was gauged before sampling using an electronic water level meter. The depth to the groundwater surface was measured prior to beginning the purging of monitoring wells for sampling. Water level measurements are included in the Groundwater Monitoring Field Forms presented in Appendix C and water level elevations are summarized in Table 4.2. A groundwater contour map is provided as Figure 4.2.

4.3 Groundwater Sampling

Groundwater samples were collected using low flow techniques in accordance with the SMP. A sample collection and analysis summary is presented in Table 4.3. The purging parameters are provided on the Groundwater Monitoring Field Forms presented in Appendix C.

4.4 Groundwater Data Evaluation

The groundwater analytical data generated during this reporting period are summarized in Table 4.4. The analytical data report is provided as Appendix D. A quality assurance/quality control (QA/QC) review of the analytical data has been conducted. The Data Usability Summary Report (DUSR) is presented in Appendix E.

Analytical results for volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs) were all non-detect at all well locations.

Iron was detected in monitoring wells MW-102 through MW-105 at concentrations ranging from 480 µg/L to 1,100 µg/L, above the New York State water quality criteria of 300 µg/L for iron. In addition, magnesium and sodium were detected in all monitoring wells at concentrations above the

New York State water quality criteria of 35,000 µg/L for magnesium (guidance value) and 20,000 µg/L for sodium (standard) in potable groundwater. Detections ranged from 68,000 µg/L to 110,000 µg/L for magnesium; and from 55,000 µg/L to 140,000 µg/L for sodium. The observations of these metals are consistent with those from previous monitoring years. Iron, magnesium, and sodium are common elements contained in soils and are also typically present in groundwater. Although low-level exceedances of lead were historically detected at the Site, lead was not detected above the New York State water quality criteria for potable groundwater of 25 µg/L in any of the 2015 groundwater samples.

5. Conclusions and Recommendations

The annual inspection and monitoring activities performed during this reporting period found that:

- Monitoring wells at the Site are in good condition.
- The asphalt only cover system is generally in good condition. Some larger cracks (>0.25 inch) were observed in the Trucking Yard and will be sealed before the end of the calendar year.
- Some deterioration of the building and apron concrete cover system is present, specifically the exterior concrete surfaces at the southwest corner of the main building. Damaged areas will be patched with asphalt as part of the scheduled routine maintenance to be completed before the end of the calendar year to prevent further deterioration over the winter. A more permanent repair/replacement should be scheduled for 2016.
- The GCL and soil, and GCL and asphalt cover systems are generally in good condition with no deficiencies noted.
- Perimeter fencing was maintained and is in good condition.
- The retention pond is exhibiting regrowth of vegetation and phragmites. Plant growth should be removed on a semi-annual basis.
- VOCs and SVOCs were not detected in the groundwater samples.
- Iron was present in 4 of the 6 monitoring wells, while magnesium and sodium were present at all of the Site monitoring wells at concentrations exceeding the New York State water quality criteria for these parameters. Iron, magnesium, and sodium are common elements contained in soils and are also typically present in groundwater.

Based on these observations, it is concluded that the remedial action continues to be effective. Some maintenance issues were identified and are scheduled to be addressed before the end of the calendar year. The NYSDEC will be notified when the maintenance is complete.

GHD recommends that the groundwater monitoring frequency for this Site be reduced to a triennial basis since groundwater conditions appear stable and Site usage/conditions remain consistent from year to year. The comprehensive site inspection should still be conducted on an annual basis.

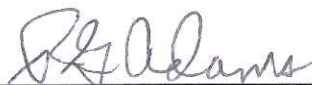
6. Certification

For each institutional or engineering control identified for the site, I certify 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.
- Except as indicated in this report, the institutional controls and/or engineering controls employed at this Site are 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 SMP for this control.
- 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.
- Use of the Site is compliant with the environmental easement.
- The engineering control systems 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 Site remedial program.
- The information presented in this report is accurate and complete.

Robert G. Adams, P.E.
GHD Consulting Services, Inc.
285 Delaware Avenue, Suite 500
Buffalo, New York 14202

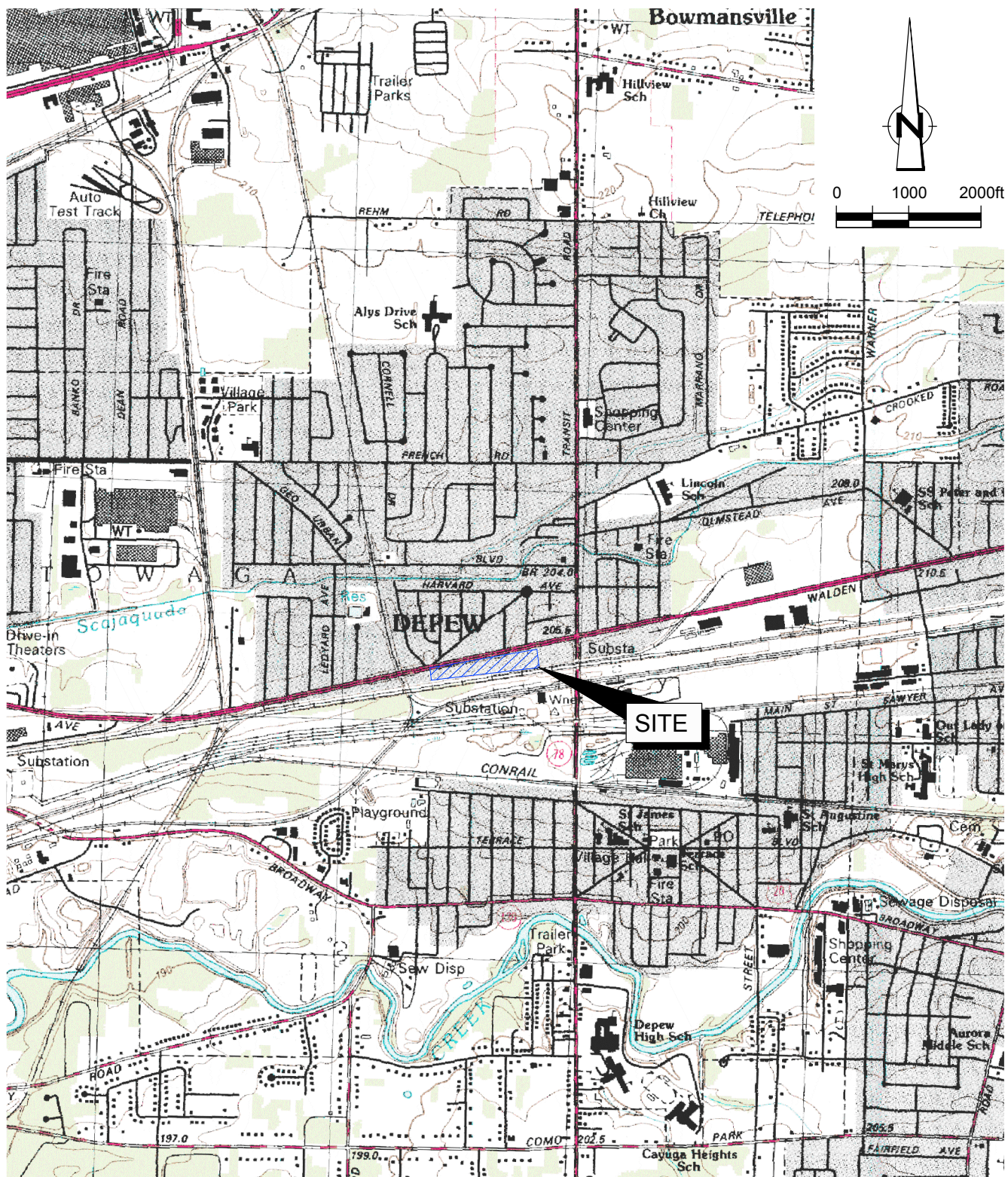
Signature: _____



Date: _____

9/30/15

Figures



SOURCE : USGS QUADRANGLE MAP:
LANCASTER, NEW YORK

figure 1.1

SITE LOCATION MAP
FORMER N.L. INDUSTRIES SITE REMEDIATION
3241 WALDEN AVENUE
Depew, New York



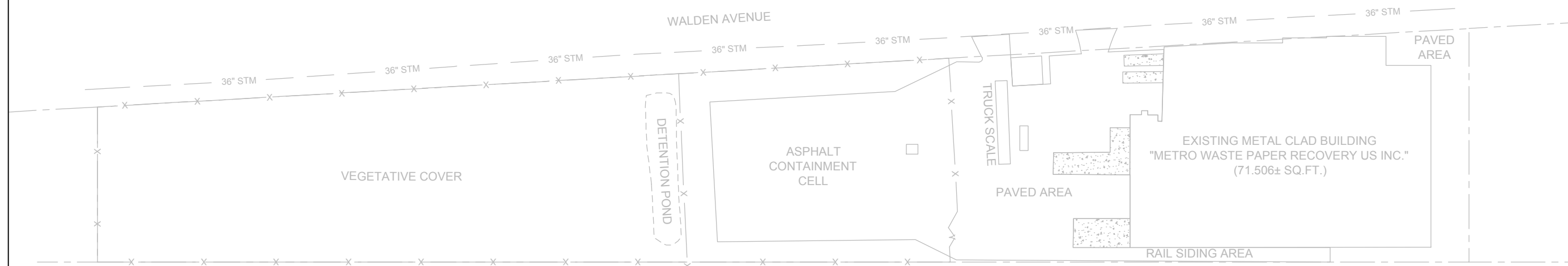
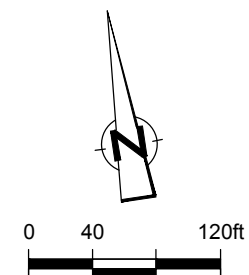
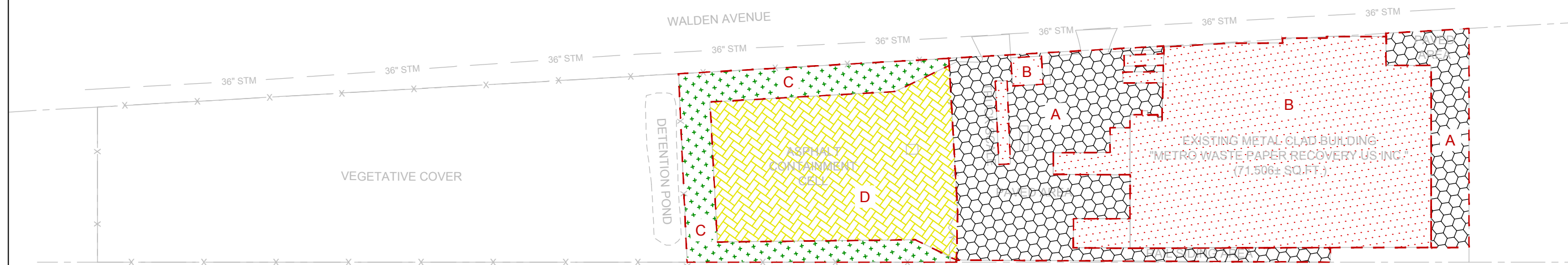
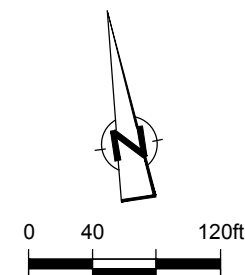


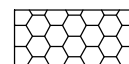
figure 2.1
 SITE LAYOUT
 FORMER N.L. INDUSTRIES SITE REMEDIATION
 3241 WALDEN AVENUE
Depew, New York



SOURCE: DRAWING FILE (MWL-126254-01.dwg)
 FROM TIGHE & BOND
 (MIDDLETOWN, CONNECTICUT)



LEGEND:



COVER SYSTEM A - ASPHALT ONLY



COVER SYSTEM B - BUILDING & APRON CONCRETE



COVER SYSTEM C - GEOSYNTHETIC CLAY LINER & SOIL



COVER SYSTEM D - GEOSYNTHETIC CLAY LINER, SOIL, & ASPHALT (CONTAINMENT CELL)

figure 2.2
LOCATION OF ENGINEERING CONTROL SYSTEMS
FORMER N.L. INDUSTRIES SITE REMEDIATION
3241 WALDEN AVENUE
Depew, New York



SOURCE: DRAWING FILE (MWL-126254-01.dwg)
FROM TIGHE & BOND
(MIDDLETOWN, CONNECTICUT)

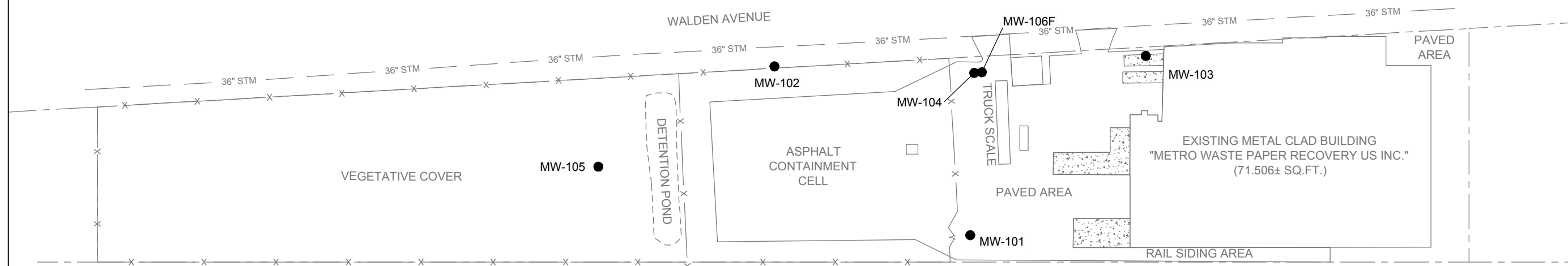
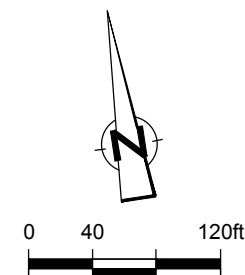


figure 4.1
MONITORING WELL LOCATIONS
FORMER N.L. INDUSTRIES SITE REMEDIATION
3241 WALDEN AVENUE
Depew, New York



SOURCE: DRAWING FILE (MWL-126254-01.dwg)
FROM TIGHE & BOND
(MIDDLETOWN, CONNECTICUT)

LEGEND

- MW-101 MONITORING WELL LOCATION
- x - x - FENCELINE
- - - - - PROPERTY BOUNDARY
- RAILROAD
- 673.79 GROUNDWATER ELEVATION (ft.)
- 672 GROUNDWATER ELEVATION CONTOUR (ft.)
- ← APPARENT GROUNDWATER FLOW DIRECTION

NOTE: WATER LEVEL MEASUREMENTS COLLECTED SEPTEMBER 14, 2015

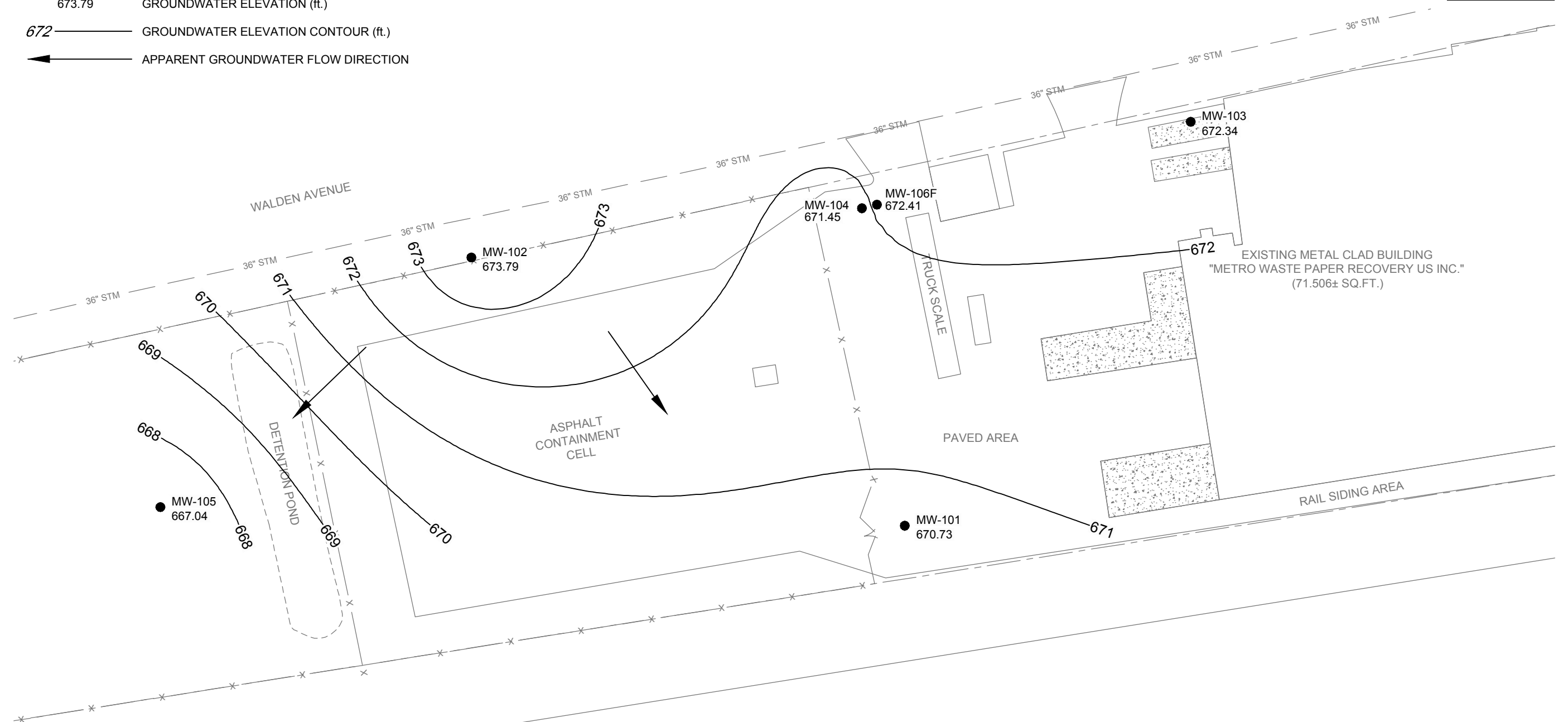
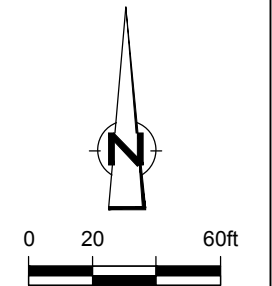


figure 4.2
GROUNDWATER CONTOUR MAP
FORMER N.L. INDUSTRIES SITE REMEDIATION
3241 WALDEN AVENUE
Depew, New York



SOURCE: DRAWING FILE (MWL-126254-01.dwg)
FROM TIGHE & BOND
(MIDDLETOWN, CONNECTICUT)

Tables

Table 4.1

**Monitoring Well Measurement Summary
 2015 Annual Periodic Review Report
 Former NL Industries Site
 NYSDEC Site No. C915200
 Depew, New York**

<i>Well</i>	<i>Sounded Depth (ft. BTOC)</i>	<i>Screened Interval (ft. BTOC)</i>	<i>Percent Screened Interval Open</i>
MW-101	26.85	17.0 to 27.0	99
MW-102	24.50	15.1 to 25.1	94
MW-103	26.67	17.0 to 27.0	97
MW-104	26.46	17.0 to 27.0	95
MW-105	24.50	16.1 to 26.1	84
MW-106F	10.28	6.05 to 11.05	85

Notes:

BTOC Below Top of Casing.

Measurements were taken in September 2015.

Table 4.2

Summary of Groundwater Level Measurements
2015 Annual Periodic Review Report
Former NL Industries Site
NYSDEC Site No. C915200
Depew, New York

<i>Well</i>	<i>Ground Elevation</i>	<i>Top of Casing Elevation</i>	<i>Water Level Elevations</i>					
			<i>4/2009</i>	<i>6/2010</i>	<i>8/2012</i>	<i>8/2013</i>	<i>9/2014</i>	<i>9/2015</i>
MW-101	678.03	678.03	675.12	676.28	674.71	675.93	676.83	670.73
MW-102	675.56	676.67	672.21	673.66	672.56	673.76	674.20	673.79
MW-103	677.57	677.56	672.68	672.81	671.56	672.56	672.44	672.34
MW-104	677.06	677.06	671.44	671.78	670.88	671.24	671.37	671.45
MW-105	675.51	675.48	668.87	668.34	663.92	667.38	667.16	667.04
MW-106F	677.38	677.43	668.9	674.10	672.05	674.93	672.61	672.41

Notes:

Elevations are referenced to the NVGD datum.

NVGD National Vertical Geodetic Datum.

Table 4.3

**Sample Collection and Analysis Summary
2015 Annual Periodic Review Report
Former NL Industries Site
NYSDEC Site No. C915200
Depew, New York**

<i>Sample ID</i>	<i>Location I.D.</i>	<i>Collection Date</i>	<i>Collection Time</i>	<i>Parameter</i>			<i>Comment</i>
				<i>TCL VOCs</i>	<i>TAL Metals</i>	<i>TCL SVOCs</i>	
WG-11103430-091415-DT-001	MW-106F	9/14/2015	11:35	X	X	X	Equipment Blank
EB-11103430-091415-SG-002	-	9/14/2015	11:00	X	X	X	
WG-11103430-091415-DT-003	MW-104	9/14/2015	12:30	X	X	X	
WG-11103430-091415-SG-004	MW-101	9/14/2015	11:55	X	X	X	
WG-11103430-091415-DT-005	MW-103	9/14/2015	14:25	X	X	X	
WG-11103430-091415-SG-006	MW-102	9/14/2015	13:15	X	X	X	Duplicate of WG-11103430-091415-SG-006
WG-11103430-091415-SG-007	MW-105	9/14/2015	15:20	X	X	X	
WG-11103430-091415-SG-008	MW-102	9/14/2015	13:15	X	X	X	
TB-11103430-091415-DT	-	9/14/2015	-	X			Trip Blank

Notes:

- Not applicable
TCL Target Compound List
TAL Target Analyte List
SVOCs Semi-Volatile Organic Compounds
VOCs Volatile Organic Compounds

Table 4.4

**Analytical Results Summary
2015 Annual Periodic Review Report
Former NL Industries Site
NYSDEC Site No. C915200
Depew, New York**

Parameters	Location ID:			MW-101	MW-102	MW-102	MW-103
	Sample Name:			WG-11103430-091415-SG-004	WG-11103430-091415-SG-006	WG-11103430-091415-SG-008	WG-11103430-091415-DT-005
	Sample Date:			09/14/2015	09/14/2015	09/14/2015	09/14/2015
	<u>New York State Water Quality</u>					Duplicate	
	Standards	Guidance Values	Unit				
	a	b					
Volatile Organic Compounds							
1,1,1-Trichloroethane	5	NC	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	5	NC	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	1	NC	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	5	NC	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	5	NC	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	5	NC	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromo-3-chloropropane (DBCP)	0.04	NC	µg/L	2.0 U	2.0 U	2.0 U	2.0 U
1,2-Dibromoethane (Ethylene dibromide)	0.0006	NC	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	3	NC	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	0.6	NC	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	1	NC	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	3	NC	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	3	NC	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	NC	50	µg/L	10 U	10 U	10 U	10 U
2-Hexanone	NC	50	µg/L	10 U	10 U	10 U	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIE)	NC	NC	µg/L	10 U	10 U	10 U	10 U
Acetone	NC	50	µg/L	10 U	10 U	10 U	10 U
Benzene	1	NC	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	NC	50	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	NC	50	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	5	NC	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide	60	60	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Carbon tetrachloride	5	NC	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	5	NC	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	5	NC	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	7	NC	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	5	NC	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	5	NC	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	NC	NC	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	NC	NC	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	NC	50	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	5	NC	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	5	NC	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	5	NC	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Methyl acetate	NC	NC	µg/L	10 U	10 U	10 U	10 U
Methyl cyclohexane	NC	NC	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Volatile Organic Compounds (continued)							
Methyl tert butyl ether (MTBE)	NC	10	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	5	NC	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Styrene	5	NC	µg/L	1.0 U	1.0 U	1.0 U	1.0 U

Table 4.4

**Analytical Results Summary
2015 Annual Periodic Review Report
Former NL Industries Site
NYSDEC Site No. C915200
Depew, New York**

	Location ID:			MW-101	MW-102	MW-102	MW-103
	Sample Name:			WG-11103430-091415-SG-004	WG-11103430-091415-SG-006	WG-11103430-091415-SG-008	WG-11103430-091415-DT-005
	Sample Date:			09/14/2015	09/14/2015	09/14/2015	09/14/2015
						Duplicate	
Parameters	New York State Water Quality		Unit				
	Standards	Guidance Values					
	a	b					
Tetrachloroethene	5	NC	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	5	NC	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	5	NC	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	NC	NC	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	5	NC	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	5	NC	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	5	NC	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	2	NC	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	NC	NC	µg/L	2.0 U	2.0 U	2.0 U	2.0 U
Semivolatile Organic Compounds							
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl	5	NC	µg/L	0.96 U	0.95 U	0.95 U	0.95 U
2,4,5-Trichlorophenol	NC	NC	µg/L	4.8 U	4.8 U	4.8 U	4.8 U
2,4,6-Trichlorophenol	NC	NC	µg/L	4.8 U	4.8 U	4.8 U	4.8 U
2,4-Dichlorophenol	5	NC	µg/L	1.9 U	1.9 U	1.9 U	1.9 U
2,4-Dimethylphenol	NC	50	µg/L	1.9 U	1.9 U	1.9 U	1.9 U
2,4-Dinitrophenol	NC	10	µg/L	4.8 U	4.8 U	4.8 U	4.8 U
2,4-Dinitrotoluene	5	NC	µg/L	4.8 U	4.8 U	4.8 U	4.8 U
2,6-Dinitrotoluene	5	NC	µg/L	4.8 U	4.8 U	4.8 U	4.8 U
2-Chloronaphthalene	NC	10	µg/L	0.96 U	0.95 U	0.95 U	0.95 U
2-Chlorophenol	NC	NC	µg/L	0.96 U	0.95 U	0.95 U	0.95 U
2-Methylnaphthalene	NC	NC	µg/L	0.19 U	0.19 U	0.19 U	0.19 U
2-Methylphenol	NC	NC	µg/L	0.96 U	0.95 U	0.95 U	0.95 U
2-Nitroaniline	5	NC	µg/L	1.9 U	1.9 U	1.9 U	1.9 U
2-Nitrophenol	NC	NC	µg/L	1.9 U	1.9 U	1.9 U	1.9 U
3&4-Methylphenol	5	NC	µg/L	1.9 U	1.9 U	1.9 U	1.9 U
3,3'-Dichlorobenzidine	5	NC	µg/L	4.8 U	4.8 U	4.8 U	4.8 U
3-Nitroaniline	NC	NC	µg/L	1.9 U	1.9 U	1.9 U	1.9 U
4,6-Dinitro-2-methylphenol	NC	NC	µg/L	4.8 U	4.8 U	4.8 U	4.8 U
4-Bromophenyl phenyl ether	NC	NC	µg/L	1.9 U	1.9 U	1.9 U	1.9 U
4-Chloro-3-methylphenol	5	NC	µg/L	1.9 U	1.9 U	1.9 U	1.9 U
4-Chloroaniline	NC	NC	µg/L	1.9 U	1.9 U	1.9 U	1.9 U
4-Chlorophenyl phenyl ether	NC	NC	µg/L	1.9 U	1.9 U	1.9 U	1.9 U
Semivolatile Organic Compounds (continued)							
4-Nitroaniline	5	NC	µg/L	1.9 U	1.9 U	1.9 U	1.9 U
4-Nitrophenol	NC	NC	µg/L	4.8 U	4.8 U	4.8 U	4.8 U
Acenaphthene	NC	20	µg/L	0.19 U	0.19 U	0.19 U	0.19 U
Acenaphthylene	NC	NC	µg/L	0.19 U	0.19 U	0.19 U	0.19 U
Acetophenone	NC	NC	µg/L	0.96 U	0.95 U	0.95 U	0.95 U
Anthracene	NC	50	µg/L	0.19 U	0.19 U	0.19 U	0.19 U
Atrazine	7.5	NC	µg/L	0.96 U	0.95 U	0.95 U	0.95 U

Table 4.4

**Analytical Results Summary
2015 Annual Periodic Review Report
Former NL Industries Site
NYSDEC Site No. C915200
Depew, New York**

	Location ID:		MW-101	MW-102	MW-102	MW-103
	Sample Name:		WG-11103430-091415-SG-004	WG-11103430-091415-SG-006	WG-11103430-091415-SG-008	WG-11103430-091415-DT-005
	Sample Date:		09/14/2015	09/14/2015	09/14/2015 Duplicate	09/14/2015
Parameters	<u>New York State Water Quality</u>					
	Standards	Guidance Values	Unit			
	a	b				
Benzaldehyde	NC	NC	µg/L	0.96 U	0.95 U	0.95 U
Benzo(a)anthracene	NC	0.002	µg/L	0.19 U	0.19 U	0.19 U
Benzo(a)pyrene	NC	NC	µg/L	0.19 U	0.19 U	0.19 U
Benzo(b)fluoranthene	NC	0.002	µg/L	0.19 U	0.19 U	0.19 U
Benzo(g,h,i)perylene	NC	NC	µg/L	0.19 U	0.19 U	0.19 U
Benzo(k)fluoranthene	NC	0.002	µg/L	0.19 U	0.19 U	0.19 U
Biphenyl (1,1-Biphenyl)	5	NC	µg/L	0.96 U	0.95 U	0.95 U
bis(2-Chloroethoxy)methane	5	NC	µg/L	0.96 U	0.95 U	0.95 U
bis(2-Chloroethyl)ether	1	NC	µg/L	0.96 U	0.95 U	0.95 U
bis(2-Ethylhexyl)phthalate (DEHP)	5	NC	µg/L	4.8 U	4.8 U	4.8 U
Butyl benzylphthalate (BBP)	NC	50	µg/L	1.9 U	1.9 U	1.9 U
Caprolactam	NC	NC	µg/L	4.8 U	4.8 U	4.8 U
Carbazole	NC	NC	µg/L	0.96 U	0.95 U	0.95 U
Chrysene	NC	0.002	µg/L	0.19 U	0.19 U	0.19 U
Di-n-butylphthalate (DBP)	50	NC	µg/L	4.8 U	4.8 U	4.8 U
Di-n-octyl phthalate (DnOP)	NC	50	µg/L	1.9 U	1.9 U	1.9 U
Dibenz(a,h)anthracene	NC	NC	µg/L	0.19 U	0.19 U	0.19 U
Dibenzofuran	NC	NC	µg/L	0.96 U	0.95 U	0.95 U
Diethyl phthalate	NC	50	µg/L	1.9 U	1.9 U	1.9 U
Dimethyl phthalate	NC	50	µg/L	1.9 U	1.9 U	1.9 U
Fluoranthene	NC	50	µg/L	0.19 U	0.19 U	0.19 U
Fluorene	NC	50	µg/L	0.19 U	0.19 U	0.19 U
Hexachlorobenzene	0.04	NC	µg/L	0.19 U	0.19 U	0.19 U
Hexachlorobutadiene	0.5	NC	µg/L	0.96 U	0.95 U	0.95 U
Hexachlorocyclopentadiene	5	NC	µg/L	9.6 U	9.5 U	9.5 U
Hexachloroethane	5	NC	µg/L	0.96 U	0.95 U	0.95 U
Indeno(1,2,3-cd)pyrene	NC	0.002	µg/L	0.19 U	0.19 U	0.19 U
Isophorone	NC	50	µg/L	0.96 U	0.95 U	0.95 U
N-Nitrosodi-n-propylamine	NC	NC	µg/L	0.96 U	0.95 U	0.95 U
Semivolatile Organic Compounds (continued)						
N-Nitrosodiphenylamine	NC	50	µg/L	0.96 U	0.95 U	0.95 U
Naphthalene	NC	10	µg/L	0.19 U	0.19 U	0.19 U
Nitrobenzene	0.4	NC	µg/L	0.96 U	0.95 U	0.95 U
Pentachlorophenol	1	NC	µg/L	4.8 U	4.8 U	4.8 U
Phenanthrene	NC	50	µg/L	0.19 U	0.19 U	0.19 U
Phenol	1	NC	µg/L	0.96 U	0.95 U	0.95 U
Pyrene	NC	50	µg/L	0.19 U	0.19 U	0.19 U
Metals						
Aluminum	NC	NC	µg/L	230	120	13 J
Antimony	3	NC	µg/L	2.0 U	2.0 U	2.0 U

Table 4.4

Analytical Results Summary
2015 Annual Periodic Review Report
Former NL Industries Site
NYSDEC Site No. C915200
Depew, New York

Location ID:	MW-101	MW-102	MW-102	MW-103
Sample Name:	WG-11103430-091415-SG-004	WG-11103430-091415-SG-006	WG-11103430-091415-SG-008	WG-11103430-091415-DT-005
Sample Date:	09/14/2015	09/14/2015	09/14/2015	09/14/2015
			Duplicate	

Parameters	New York State Water Quality			Exposures				
	Standards	Guidance Values	Unit					
	a	b						
Arsenic	25	NC	µg/L	3.1 J		2.3 J	2.3 J	2.1 J
Barium	1000	NC	µg/L	170		88	86	110
Beryllium	NC	3	µg/L	1.0 U		1.0 U	1.0 U	1.0 U
Cadmium	5	NC	µg/L	1.0 U		1.0 U	1.0 U	1.0 U
Calcium	NC	NC	µg/L	66000		90000	86000	110000
Chromium	50	NC	µg/L	2.0 U		2.0 U	2.0 U	2.0 U
Cobalt	NC	NC	µg/L	1.0 U		1.0	1.0	1.0 U
Copper	200	NC	µg/L	62		2.0 U	2.0 U	0.94 J
Iron	300	NC	µg/L	230		1100	1100	650
Lead	25	NC	µg/L	17		1.0 U	1.0 U	1.1 U
Magnesium	NC	35000	µg/L	83000		110000	100000	89000
Manganese	300	NC	µg/L	99		150	140	48
Mercury	0.7	NC	µg/L	0.20 U		0.20 U	0.20 U	0.20 U
Nickel	100	NC	µg/L	2.0 U		2.0 U	2.0 U	2.0 U
Potassium	NC	NC	µg/L	2500		2200	2200	3300
Selenium	10	NC	µg/L	5.0 U		5.0 U	5.0 U	5.0 U
Silver	50	NC	µg/L	0.068 J		0.032 J	0.030 J	0.035 J
Sodium	20000	NC	µg/L	78000		62000	60000	140000
Thallium	NC	0.5	µg/L	2.0 U		2.0 U	2.0 U	2.0 U
Vanadium	NC	NC	µg/L	0.85 J		0.23 J	0.23 J	5.0 U
Zinc	NC	2000	µg/L	62		20 U	20 U	20 U

Table 4.4

Analytical Results Summary
2015 Annual Periodic Review Report
Former NL Industries Site
NYSDEC Site No. C915200
Depew, New York

Location ID: MW-104	MW-105	MW-106F
Sample Name: WG-11103430-091415-DT-003	WG-11103430-091415-SG-007	WG-11103430-091415-DT-001
Sample Date: 09/14/2015	09/14/2015	09/14/2015

Parameters	New York State Water Quality		Unit			
	Standards	Guidance Values				
	a	b				
Volatile Organic Compounds						
1,1,1-Trichloroethane	5	NC	µg/L	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	5	NC	µg/L	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	1	NC	µg/L	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	5	NC	µg/L	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	5	NC	µg/L	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	5	NC	µg/L	1.0 U	1.0 U	1.0 U
1,2-Dibromo-3-chloropropane (DBCP)	0.04	NC	µg/L	2.0 U	2.0 U	2.0 U
1,2-Dibromoethane (Ethylene dibromide)	0.0006	NC	µg/L	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	3	NC	µg/L	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	0.6	NC	µg/L	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	1	NC	µg/L	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	3	NC	µg/L	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	3	NC	µg/L	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	NC	50	µg/L	10 U	10 U	10 U
2-Hexanone	NC	50	µg/L	10 U	10 U	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIE)	NC	NC	µg/L	10 U	10 U	10 U
Acetone	NC	50	µg/L	10 U	10 U	10 U
Benzene	1	NC	µg/L	1.0 U	1.0 U	1.0 U
Bromodichloromethane	NC	50	µg/L	1.0 U	1.0 U	1.0 U
Bromoform	NC	50	µg/L	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	5	NC	µg/L	1.0 U	1.0 U	1.0 U
Carbon disulfide	60	60	µg/L	1.0 U	1.0 U	1.0 U
Carbon tetrachloride	5	NC	µg/L	1.0 U	1.0 U	1.0 U
Chlorobenzene	5	NC	µg/L	1.0 U	1.0 U	1.0 U
Chloroethane	5	NC	µg/L	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	7	NC	µg/L	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	5	NC	µg/L	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	5	NC	µg/L	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	NC	NC	µg/L	1.0 U	1.0 U	1.0 U
Cyclohexane	NC	NC	µg/L	1.0 U	1.0 U	1.0 U
Dibromochloromethane	NC	50	µg/L	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	5	NC	µg/L	1.0 U	1.0 U	1.0 U
Ethylbenzene	5	NC	µg/L	1.0 U	1.0 U	1.0 U
Isopropyl benzene	5	NC	µg/L	1.0 U	1.0 U	1.0 U
Methyl acetate	NC	NC	µg/L	10 U	10 U	10 U
Methyl cyclohexane	NC	NC	µg/L	1.0 U	1.0 U	1.0 U
Volatile Organic Compounds (continued)						
Methyl tert butyl ether (MTBE)	NC	10	µg/L	1.0 U	1.0 U	1.0 U
Methylene chloride	5	NC	µg/L	1.0 U	1.0 U	1.0 U
Styrene	5	NC	µg/L	1.0 U	1.0 U	1.0 U

Table 4.4

Analytical Results Summary
2015 Annual Periodic Review Report
Former NL Industries Site
NYSDEC Site No. C915200
Depew, New York

Location ID: MW-104	MW-105	MW-106F
Sample Name: WG-11103430-091415-DT-003	WG-11103430-091415-SG-007	WG-11103430-091415-DT-001
Sample Date: 09/14/2015	09/14/2015	09/14/2015

Parameters	New York State Water Quality		Unit			
	Standards	Guidance Values				
	a	b				
Tetrachloroethene	5	NC	µg/L	1.0 U	1.0 U	1.0 U
Toluene	5	NC	µg/L	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	5	NC	µg/L	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	NC	NC	µg/L	1.0 U	1.0 U	1.0 U
Trichloroethene	5	NC	µg/L	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	5	NC	µg/L	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	5	NC	µg/L	1.0 U	1.0 U	1.0 U
Vinyl chloride	2	NC	µg/L	1.0 U	1.0 U	1.0 U
Xylenes (total)	NC	NC	µg/L	2.0 U	2.0 U	2.0 U
Semivolatile Organic Compounds						
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl	5	NC	µg/L	0.95 U	0.95 U	0.95 U
2,4,5-Trichlorophenol	NC	NC	µg/L	4.8 U	4.8 U	4.8 U
2,4,6-Trichlorophenol	NC	NC	µg/L	4.8 U	4.8 U	4.8 U
2,4-Dichlorophenol	5	NC	µg/L	1.9 U	1.9 U	1.9 U
2,4-Dimethylphenol	NC	50	µg/L	1.9 U	1.9 U	1.9 U
2,4-Dinitrophenol	NC	10	µg/L	4.8 U	4.8 U	4.8 U
2,4-Dinitrotoluene	5	NC	µg/L	4.8 U	4.8 U	4.8 U
2,6-Dinitrotoluene	5	NC	µg/L	4.8 U	4.8 U	4.8 U
2-Chloronaphthalene	NC	10	µg/L	0.95 U	0.95 U	0.95 U
2-Chlorophenol	NC	NC	µg/L	0.95 U	0.95 U	0.95 U
2-Methylnaphthalene	NC	NC	µg/L	0.19 U	0.19 U	0.19 U
2-Methylphenol	NC	NC	µg/L	0.95 U	0.95 U	0.95 U
2-Nitroaniline	5	NC	µg/L	1.9 U	1.9 U	1.9 U
2-Nitrophenol	NC	NC	µg/L	1.9 U	1.9 U	1.9 U
3&4-Methylphenol	5	NC	µg/L	1.9 U	1.9 U	1.9 U
3,3'-Dichlorobenzidine	5	NC	µg/L	4.8 U	4.8 U	4.8 U
3-Nitroaniline	NC	NC	µg/L	1.9 U	1.9 U	1.9 U
4,6-Dinitro-2-methylphenol	NC	NC	µg/L	4.8 U	4.8 U	4.8 U
4-Bromophenyl phenyl ether	NC	NC	µg/L	1.9 U	1.9 U	1.9 U
4-Chloro-3-methylphenol	5	NC	µg/L	1.9 U	1.9 U	1.9 U
4-Chloroaniline	NC	NC	µg/L	1.9 U	1.9 U	1.9 U
4-Chlorophenyl phenyl ether	NC	NC	µg/L	1.9 U	1.9 U	1.9 U
Semivolatile Organic Compounds (continued)						
4-Nitroaniline	5	NC	µg/L	1.9 U	1.9 U	1.9 U
4-Nitrophenol	NC	NC	µg/L	4.8 U	4.8 U	4.8 U
Acenaphthene	NC	20	µg/L	0.19 U	0.19 U	0.19 U
Acenaphthylene	NC	NC	µg/L	0.19 U	0.19 U	0.19 U
Acetophenone	NC	NC	µg/L	0.95 U	0.95 U	0.95 U
Anthracene	NC	50	µg/L	0.19 U	0.19 U	0.19 U
Atrazine	7.5	NC	µg/L	0.95 U	0.95 U	0.95 U

Table 4.4

Analytical Results Summary
2015 Annual Periodic Review Report
Former NL Industries Site
NYSDEC Site No. C915200
Depew, New York

Location ID:	MW-104	MW-105	MW-106F
Sample Name:	WG-11103430-091415-DT-003	WG-11103430-091415-SG-007	WG-11103430-091415-DT-001
Sample Date:	09/14/2015	09/14/2015	09/14/2015

Parameters	New York State Water Quality			Unit			
	Standards	Guidance Values					
	a	b					
Benzaldehyde	NC	NC	µg/L	0.95 U	0.95 U	0.95 U	
Benzo(a)anthracene	NC	0.002	µg/L	0.19 U	0.19 U	0.19 U	
Benzo(a)pyrene	NC	NC	µg/L	0.19 U	0.19 U	0.19 U	
Benzo(b)fluoranthene	NC	0.002	µg/L	0.19 U	0.19 U	0.19 U	
Benzo(g,h,i)perylene	NC	NC	µg/L	0.19 U	0.19 U	0.19 U	
Benzo(k)fluoranthene	NC	0.002	µg/L	0.19 U	0.19 U	0.19 U	
Biphenyl (1,1-Biphenyl)	5	NC	µg/L	0.95 U	0.95 U	0.95 U	
bis(2-Chloroethoxy)methane	5	NC	µg/L	0.95 U	0.95 U	0.95 U	
bis(2-Chloroethyl)ether	1	NC	µg/L	0.95 U	0.95 U	0.95 U	
bis(2-Ethylhexyl)phthalate (DEHP)	5	NC	µg/L	4.8 U	4.8 U	4.8 U	
Butyl benzylphthalate (BBP)	NC	50	µg/L	1.9 U	1.9 U	1.9 U	
Caprolactam	NC	NC	µg/L	4.8 U	4.8 U	4.8 U	
Carbazole	NC	NC	µg/L	0.95 U	0.95 U	0.95 U	
Chrysene	NC	0.002	µg/L	0.19 U	0.19 U	0.19 U	
Di-n-butylphthalate (DBP)	50	NC	µg/L	4.8 U	4.8 U	4.8 U	
Di-n-octyl phthalate (DnOP)	NC	50	µg/L	1.9 U	1.9 U	1.9 U	
Dibenz(a,h)anthracene	NC	NC	µg/L	0.19 U	0.19 U	0.19 U	
Dibenzofuran	NC	NC	µg/L	0.95 U	0.95 U	0.95 U	
Diethyl phthalate	NC	50	µg/L	1.9 U	1.9 U	1.9 U	
Dimethyl phthalate	NC	50	µg/L	1.9 U	1.9 U	1.9 U	
Fluoranthene	NC	50	µg/L	0.19 U	0.19 U	0.19 U	
Fluorene	NC	50	µg/L	0.19 U	0.19 U	0.19 U	
Hexachlorobenzene	0.04	NC	µg/L	0.19 U	0.19 U	0.19 U	
Hexachlorobutadiene	0.5	NC	µg/L	0.95 U	0.95 U	0.95 U	
Hexachlorocyclopentadiene	5	NC	µg/L	9.5 U	9.5 U	9.5 U	
Hexachloroethane	5	NC	µg/L	0.95 U	0.95 U	0.95 U	
Indeno(1,2,3-cd)pyrene	NC	0.002	µg/L	0.19 U	0.19 U	0.19 U	
Isophorone	NC	50	µg/L	0.95 U	0.95 U	0.95 U	
N-Nitrosodi-n-propylamine	NC	NC	µg/L	0.95 U	0.95 U	0.95 U	
Semivolatile Organic Compounds (continued)							
N-Nitrosodiphenylamine	NC	50	µg/L	0.95 U	0.95 U	0.95 U	
Naphthalene	NC	10	µg/L	0.19 U	0.19 U	0.19 U	
Nitrobenzene	0.4	NC	µg/L	0.95 U	0.95 U	0.95 U	
Pentachlorophenol	1	NC	µg/L	4.8 U	4.8 U	4.8 U	
Phenanthrene	NC	50	µg/L	0.19 U	0.19 U	0.19 U	
Phenol	1	NC	µg/L	0.95 U	0.95 U	0.95 U	
Pyrene	NC	50	µg/L	0.19 U	0.19 U	0.19 U	
Metals							
Aluminum	NC	NC	µg/L	50 U	49 J	340	
Antimony	3	NC	µg/L	2.0 U	2.0 U	2.0 U	

Table 4.4

Analytical Results Summary
2015 Annual Periodic Review Report
Former NL Industries Site
NYSDEC Site No. C915200
Depew, New York

Location ID: MW-104	MW-105	MW-106F
Sample Name: WG-11103430-091415-DT-003	WG-11103430-091415-SG-007	WG-11103430-091415-DT-001
Sample Date: 09/14/2015	09/14/2015	09/14/2015

Parameters	<u>New York State Water Quality</u>			Unit			
	Standards	Guidance Values					
	a	b					
Arsenic	25	NC	µg/L	9.9	0.81 J		0.88 J
Barium	1000	NC	µg/L	39	170		190
Beryllium	NC	3	µg/L	1.0 U	1.0 U		1.0 U
Cadmium	5	NC	µg/L	1.0 U	1.0 U		1.0 U
Calcium	NC	NC	µg/L	76000	44000		89000
Chromium	50	NC	µg/L	2.0 U	2.0 U		2.0 U
Cobalt	NC	NC	µg/L	1.0 U	1.0 U		1.0 U
Copper	200	NC	µg/L	2.0 U	2.0 U		10
Iron	300	NC	µg/L	480	640		290
Lead	25	NC	µg/L	1.0 U	1.0 U		8.0
Magnesium	NC	35000	µg/L	95000	68000	94000	
Manganese	300	NC	µg/L	14	22		4.3 J
Mercury	0.7	NC	µg/L	0.20 U	0.20 U		0.20 U
Nickel	100	NC	µg/L	2.0 U	2.0 U		2.0 U
Potassium	NC	NC	µg/L	1800	3200		1000
Selenium	10	NC	µg/L	5.0 U	5.0 U		5.0 U
Silver	50	NC	µg/L	0.075 J	0.034 J		0.032 J
Sodium	20000	NC	µg/L	60000	55000	86000	
Thallium	NC	0.5	µg/L	2.0 U	2.0 U		2.0 U
Vanadium	NC	NC	µg/L	5.0 U	5.0 U		1.3 J
Zinc	NC	2000	µg/L	20 U	20 U		17 J

Table 4.4

**Analytical Results Summary
2015 Annual Periodic Review Report
Former NL Industries Site
NYSDEC Site No. C915200
Depew, New York**

Notes:

All concentrations are expressed in units of micrograms per litre (µg/L), unless otherwise noted.

650 - Concentration was greater than applicable criteria.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

-- - Not available.

NC - No criteria.

a - New York State Department of Environmental Conservation (NYSDEC) 6 NYCRR Part 703.5 New York State Water Quality Standards.

b - NYSDEC Division of Technical and Operational Guidance Series (TOGS) 1.1.1 Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations (June 1998).

Appendices

Appendix A

Site Inspection Form

Site Inspection Form

Former N.L. Industries
3241 Walden Avenue
Depew, NY

Page 1 of 5

Name of Inspector: Christine Barton
Date of Inspection: 9/25/15

The purpose of this inspection is to monitor the overall integrity of the containment cell, the site wide paving and the building foundation. Please take photographs from all four sides of the containment cell cap, as well as the asphalt pavement and building foundation to document the existing conditions of the consolidated soil area, erosion control technologies in place, and the immediate surrounding area each week. Please fill out the following inspection items. If at any time impacted fill material has been exposed, please notify the Project Manager listed in the SMP immediately.

Monitoring Well Network

Condition of Monitoring Wells

	Good	Fair	Needs Repair	Details
MW-101	☒	☐	☐	
MW-102	☒	☐	☐	
MW-103	☒	☐	☐	
MW-104	☒	☐	☐	
MW-105	☒	☐	☐	
MW-106	☒	☐	☐	
MW-99-01	☐	☐	☐	

Asphalt Only Cover System

Are there any obvious areas of damage to the asphalt in the trucking yard?

YES ☒ NO ☐ If yes, please describe Cracks + divets from
roll-off wheels

Site Inspection Form

Former N.L. Industries
3241 Walden Avenue
Depew, NY

Page 2 of 5

Asphalt Only Cover System

Are there any obvious areas of damage to the asphalt in the parking lot?

YES ☐ NO ☒ If yes, please describe _____

Are there any obvious areas of damage to the asphalt in the former rail siding area?

YES ☐ NO ☒ If yes, please describe _____

Building and Apron Concrete Cover System

Are there any obvious areas of damage to the building's foundations?

YES ☐ NO ☒ If yes, please describe _____

Are there any obvious areas of damage to any concrete pads?

YES ☒ NO ☐ If yes, please describe cracks + deterioration
need patching on apron to the south end
center of Bldg.

GCL and Soil Cover System

Are there any signs of soil run-off or erosion on the sides of the containment cell?

YES ☐ NO ☒ If yes, please describe _____

Site Inspection Form

Former N.L. Industries
3241 Walden Avenue
Depew, NY

Page 3 of 5

GCL and Soil Cover System

Are there any areas of exposed GCL?

YES ☐ NO ☒ If yes, please describe _____

Has the grass appeared to have been mowed at a regular basis during the previous growing season?

YES ☒ NO ☐ If yes, please describe grass is ~2"-3" long

Are there any woody types plants growing within the this Cover System?

YES ☐ NO ☒ If yes, please describe _____

GCL and Asphalt Cover System

Are there any obvious areas of damage to the asphalt within this cover system?

YES ☐ NO ☒ If yes, please describe _____

Are there any obvious signs of cracking within this cover system?

YES ☐ NO ☒ If yes, please describe _____

Site Inspection Form

Former N.L. Industries
3241 Walden Avenue
Depew, NY

Page 4 of 5

Pond

Is there standing water in the retention pond?

YES ☒ NO ☐ If yes, approximately how much? ~3"-4" below
aslet (~8"-9") water in pond

Is there any debris within the retention pond?

YES ☒ NO ☐ If yes, please describe Phragmites not
as dense as 2014

Is the inlet and outlet of the retention pond free of debris?

YES ☐ NO ☒ If no, please describe vegetation in front
of aslet

Is there any sign of erosion along the banks of the retention pond?

YES ☐ NO ☒ If yes, please describe _____

Vegetatives

Is there any sign of distress, disease or die off of the vegetatives associated with the cover systems?

YES ☐ NO ☒ If yes, please describe _____

Site Inspection Form

Former N.L. Industries
3241 Walden Avenue
Depew, NY

Page 5 of 5

Fencing

Is there signs of damage to the fencing around the retention pond or within the area of the environmental easement?

YES ☐ NO ☒ If yes, describe location and extent of damage

Is there signs of frost heaving within the supports of the fencing?

YES ☐ NO ☒ If yes, please describe

Is the chain link still attached to support poles at all locations around the retention pond or within the area of the environmental easement?

YES ☒ NO ☐ If no, please describe

Is there any sign of erosion along the banks of the retention pond?

YES ☐ NO ☒ If yes, please describe

Please describe any changes to the overall area since the last inspection

Deterioration of concrete aprons + cracking
and deterioration of asphalt in trucking
yard.

Appendix B

Photographs

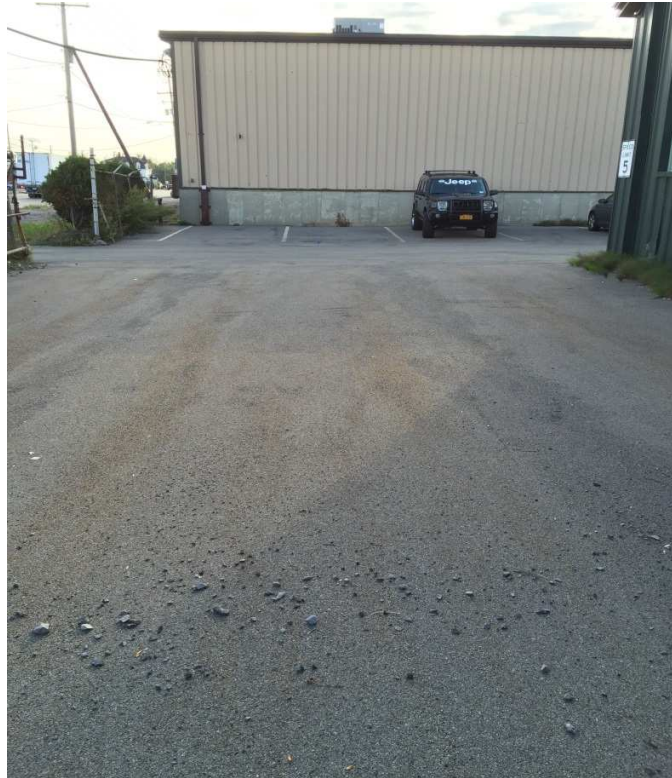


Photo 1 – Parking lot looking east along north side of office.

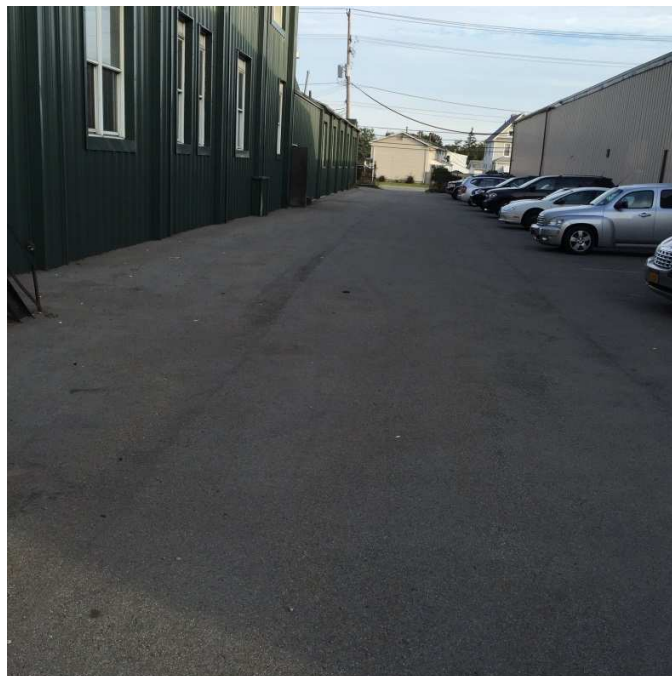


Photo 2 – Parking lot looking north.

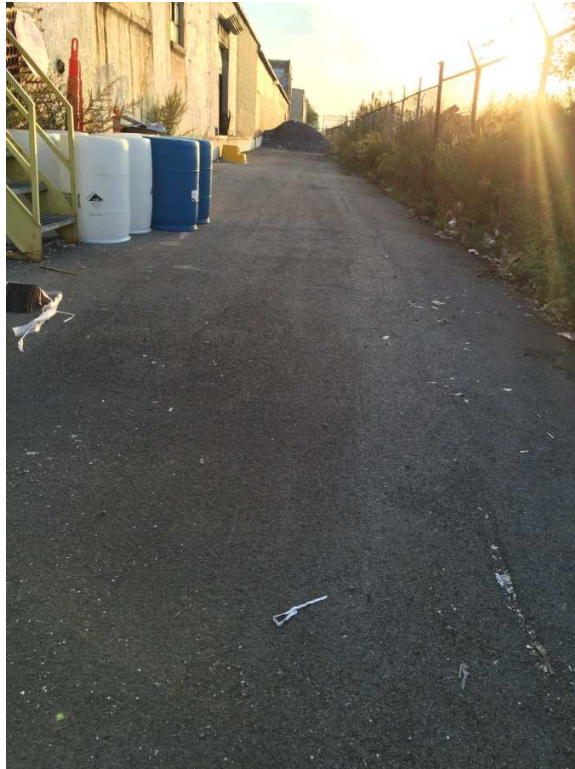


Photo 3 – Former rail Siding looking east.



Photo 4 – Building Apron Concrete System (north end of building) looking southeast.

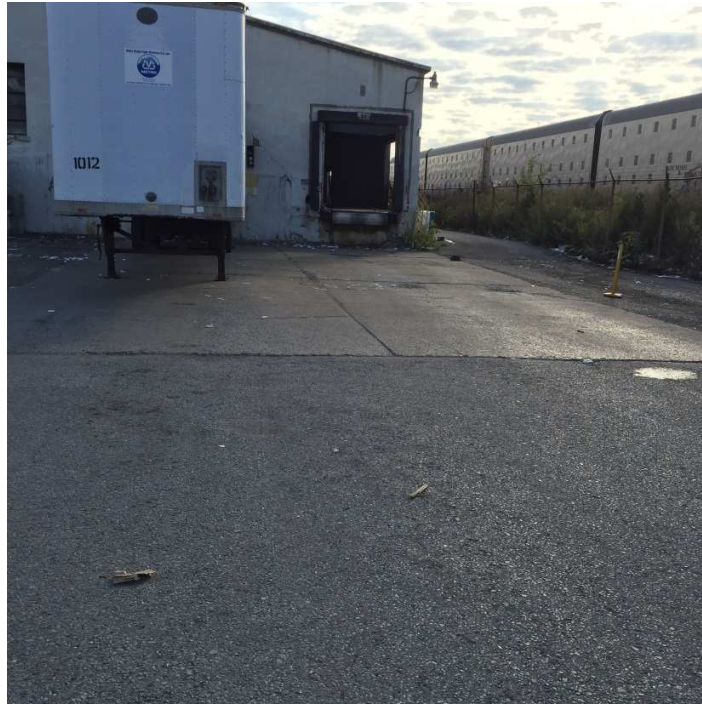


Photo 5 – Building Apron Concrete System (south end of building) looking east.



Photo 6 – Building Apron Concrete System (south end of building) looking north.

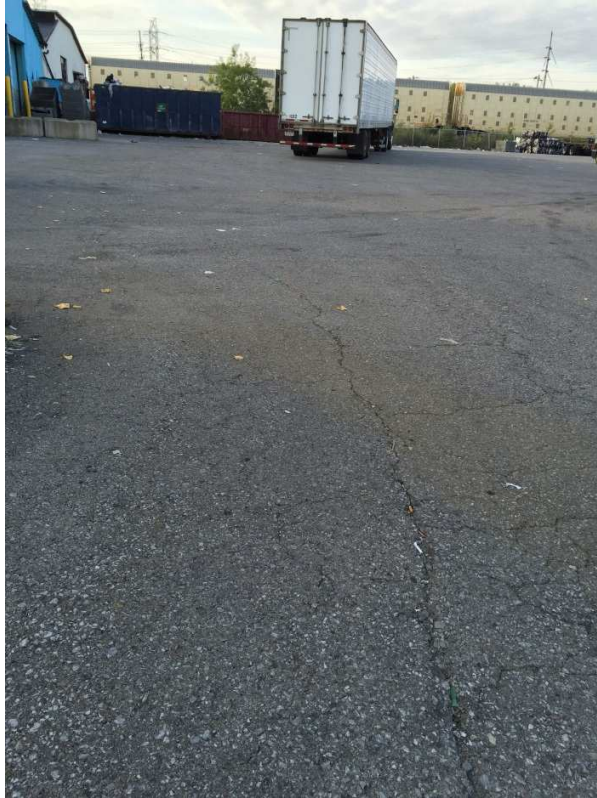


Photo 7 – Trucking Yard looking south.

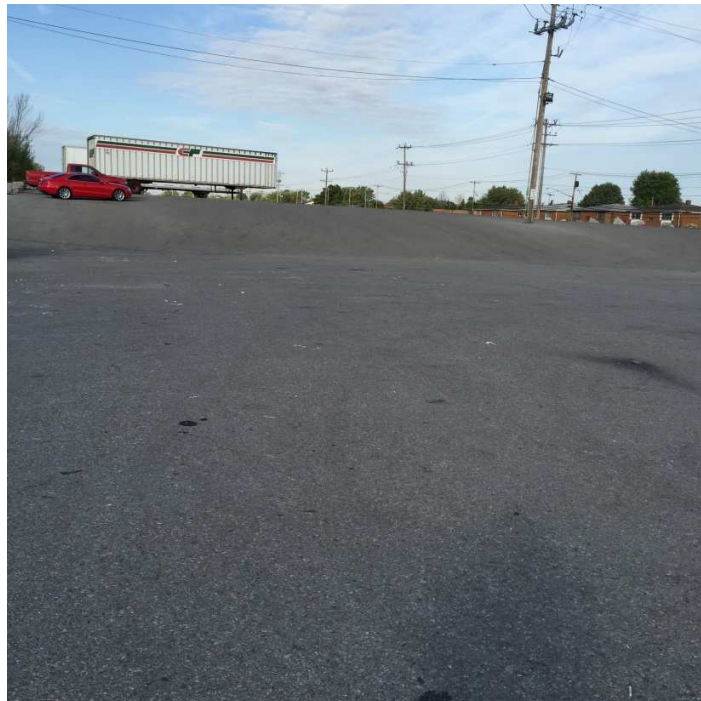


Photo 8 – Trucking Yard looking west.

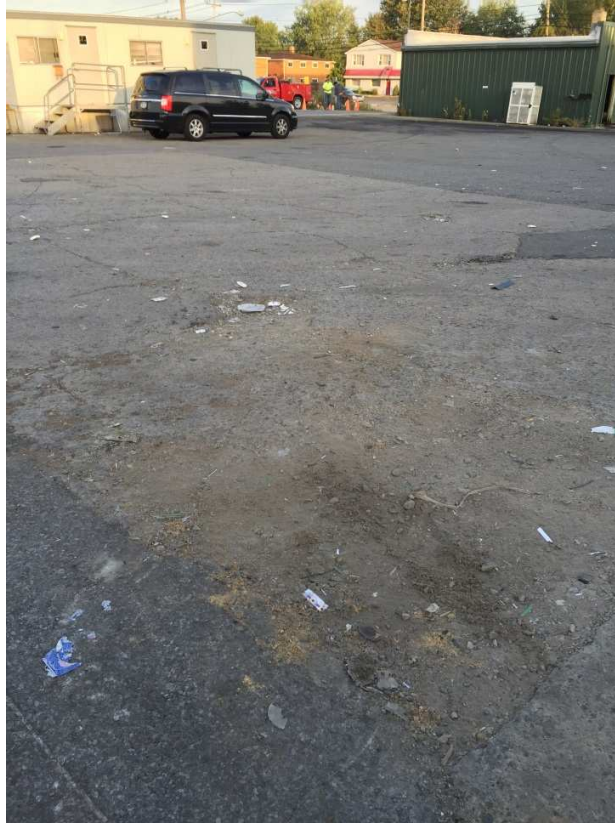


Photo 9 – Trucking Yard looking northwest.

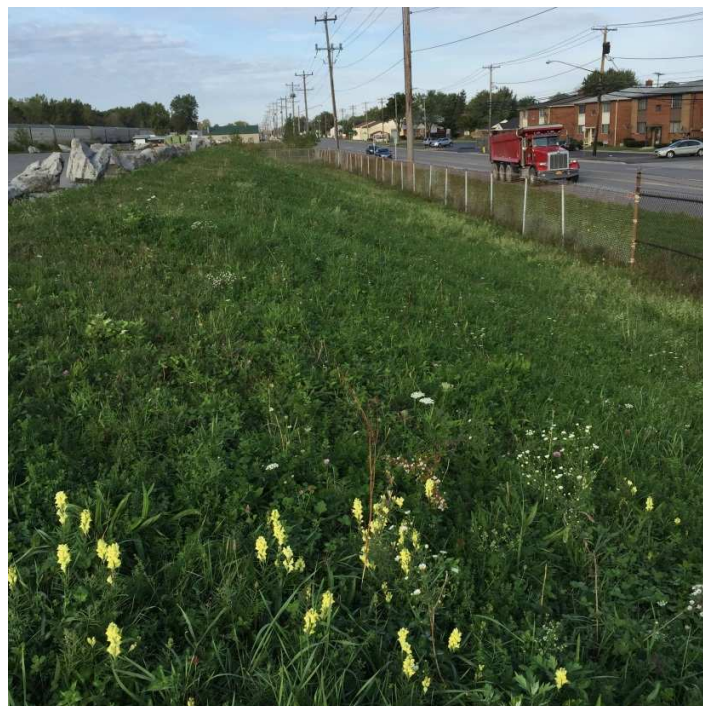


Photo 10 – GCL and Soil Cover System looking west along north slope.



Photo 11 – GCL and Soil Cover System looking north along west slope.



Photo 12 – GCL and Soil Cover System looking west along south slope.

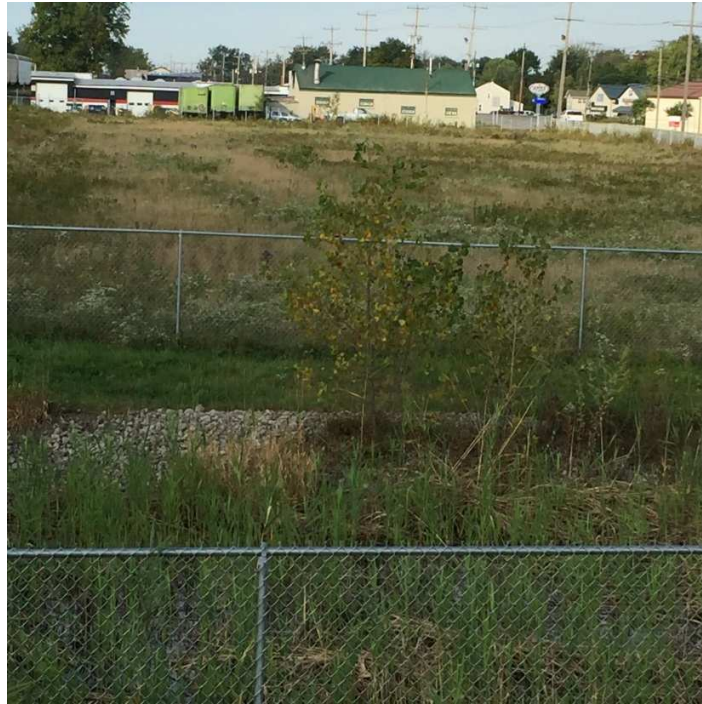


Photo 13 – South end of retention pond enclosure showing vegetation re-growth.



Photo 14 – North end of retention pond looking north.



Photo 15 – Retention pond looking southwest across outlet pipes in northeast corner.



Photo 16 – GCL and Asphalt Cover System looking south west across cap.



Photo 17 – GCL and Asphalt Cover System looking east down slope.



Photo 18 – Looking west from top of cap across retention pond and vegetative cover.

Appendix C

Groundwater Monitoring Field Forms

[illegible]

Monitoring Well Record for Low-Flow Purging
(Form SP-09)

THE 315

Project Data:

Project Name:

2000

Ref. No.:

○ ○ ○ ○

Monitoring Well Data:

Well No.:

20102

Vapour PID (ppm):

Measurement Point:

Constructed Well Depth (m/ft):

Measured Well Depth (m/ft):

Depth of Sediment (m/ft):

Saturated Screen Length (m/ft):

Depth to Pump Intake (m/ft)⁽¹⁾:

Well Diameter, D (cm/in):

Well Screen Volume, $V_s(L)^{(wt)}$:

Initial Depth to Water (m/ft):

[illegible]

Notes:

Covered

(1) The screen intake will be placed at the well screen mid-point or at a minimum of 0.6 m (2 ft) above any sediment accumulated at the well bottom.

(1) The pump intake will be placed at the well screen mid point at a minimum of 1.52 metres (5-foot) screen length (l). For metric units: $V = \pi r^2 L$ in mL, where r ($r = D/2$) and L are in cm. The well screen volume will be based on a 1.52 metres (5-foot) screen length (l). For metric units: $V = \pi r^2 L$ in mL, where r ($r = D/2$) and L are in cm. vs. 6546214

For Imperial units $V \equiv \pi(r^2 * L * (2.54)^3)$, where r and L are in inches

The draw-down from the initial water level should not exceed 0.1 m (0.3 ft). The pumping rate should not exceed 600 mL/min.

(3) The drawdown from the initial water level should not exceed 0.1 m (0.3 ft). The pumping rate should not exceed 0.001 m³/s (0.04 cfs).

(4) Purging will continue until stabilization is achieved or until Zwell screen volumes have been purged (unless purge rates are specified). Stabilization parameters are varying slightly outside of the stabilization criteria and appear to be

and appears to be clearing, or unless stabilization parameters are used.

stabilizing), No. of Well Screen Volumes Purged = ψ p/vs.

START PAGE 1244

David L. G.

Sample ID WG-1103430-091415-DT-005
Time 1425

Monitoring Well Record for Low-Flow Purging (Form SP-09)

Project Data:

Project Name: Cascade Paper
Ref. No.: 11103430

Project Data:

Project Name: Cascade Paper
Ref. No.: 11103430

Date: 9-14-15

Personnel:

D. Tyson

Monitoring Well Data:

Well No.: MW-103

Vapour PID (ppm):

Measurement Point:

Constructed Well Depth (m/ft):

Measured Well Depth (m/ft):

Depth of Sediment (m/ft):

Saturated Screen Length (m/ft):

Depth to Pump Intake (m/ft)⁽¹⁾:

Well Diameter, D (cm/in):

Well Screen Volume, V_s (L)⁽²⁾:

Initial Depth to Water (m/ft):

[illegible]

Notes:

The pump intake will be placed at the well screen mid-point or at a minimum of 0.6 m (2 ft) above any sediment accumulated at the well bottom.

The well screen volume will be based on a 1.52 metres (5-foot) screen length (1). For metric units, $V_s = \pi (r^2) L$ in mL, where r ($=D/2$) and L are in cm.

The well screen volume will be based on a 1.5% increase (0.105) over

—or Imperial units, $V_s = \bar{H}^*(F)^* L^*$ (2.54)°, where F and L are in inches

(3) The drawdown from the initial water level should not exceed 0.1 m (0.3 ft). The pumping rate should not exceed 600 mL/min.

(4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visible outside of the stabilization criterion and appear to be

and appears to be clearing, or unless stabilization parameters are

[illegible]

Start Page 1302

Control #5

2000

YST
GSH-09787

$$\frac{1040}{3}$$

010602207

211

48956
C. 4C²

Well No.:	
Vapour PID (ppm):	
Measurement Point:	
Constructed Well Depth (m/ft):	
Measured Well Depth (m/ft):	
Depth of Sediment (m/ft):	

Saturated Screen Length (m/ft):
Depth to Pump Intake (m/ft)⁽⁷⁾:
Well Diameter, D (cm/in):
Well Screen Volume, V_s (L)⁽⁸⁾:
Initial Depth to Water (m/ft):

Start Page 0153

The pump intake will be placed at the well screen mid-point or at a minimum of 0.6 m (2 ft) above any sediment accumulated at the well bottom.

For Imperial units $V = \pi (r^2) L^* (2.54)^3$, where r and L are in inches

The drawdown from the initial water level should not exceed 0.1 m (0.3 ft). The pumping rate should not exceed 600 mL/min.

The drawdown from the initial water level should not exceed 0.1 ft (0.3 ft). The pumping rate should not exceed 600 m³/min. Unless purge water remains visually turbid (unless purge volumes have been purged) screen volumes should not exceed or until 20 well screen volumes are achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid).

Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purging water remains the same). The stabilization criteria and appear to be varying slightly outside of the stabilization parameters are varying unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be

and appears to be clearing, or unless stabilization parameters (No. of Well Screen Volumes Purged= Vp/Vs.

For conductivity, the average value of three readings ≤ 1 mS/cm + 0.005 mS/cm or where conductivity > 1 mS/cm ± 0.01 mS/cm.

5-11-68

1-7-50

VST 06212

7/12 2010 7102

Project Name:

Ref. No.:

Cascade Paper
11103430

W106

Well No.:

Vapour PID (ppm):

Measurement Point:

Constructed Well Depth (m/ft):

Measured Well Depth (m/ft):

Depth of Sediment (m/ff)

Date:

Personnel:

5
—
5
—
5

CASE 1:

Saturated Screen Length (m/ft):

Depth to Pump Intake (m/ft)⁽¹⁾:

Well Diameter, D (cm/in):

Cell Screen Volume, $V_s(L)^{1/2}$:

Initial Depth to Water (m/ft):

Notes:

... will be placed of the well screen mid-point or at a minimum of 0.6 m (2 ft) above any sediment accumulated at the well bottom.

The pump intake will be placed at the well screen mid-point or at a minimum at 1 ft (0.3 m) above the well screen. For metric units $V = \pi (r^2) L$ in m³, where $r (=D/2)$ and L are in cm.

The well screen volume will be based on a 1.52 metres (5-100) screen

For Imperial units, $V_s = \pi^*(r^2)*L^*(2.54)^3$, where r and L are in inches

The drawdown from the initial water level should not exceed 0.1 m (0.3 ft). The pumping rate should not exceed 600 mL/min.

(4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visible at the surface).

(4) and appears to be clearing, or unless stabilization parameters

and appears to be clearing of animal carcasses (stabilizing). No. of Well Screen Volumes Purged = V_p/V_s .

For conductivity, the average value of three readings <1 mS/cm ± 0.005 mS/cm or where conductivity >1 mS/cm ± 0.01 mS/cm.

(3) If connectivity, and average values of connectivity

10

045071

25

VKT 6946317

David J. (Morgan)

Appendix D

Analytical Data Report

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Canton

4101 Shuffel Street NW

North Canton, OH 44720

Tel: (330)497-9396

TestAmerica Job ID: 240-55387-1

Client Project/Site: 11103430, NL Industries

For:

GHD Services Inc.

2055 Niagara Falls Blvd., Suite 3

Niagara Falls, New York 14304

Attn: Mr. Paul McMahon



Authorized for release by:

9/21/2015 12:54:39 PM

Denise Heckler, Project Manager II

(330)966-9477

denise.heckler@testamericainc.com

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www.testamericainc.com

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.

Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Method Summary	6
Sample Summary	7
Detection Summary	8
Client Sample Results	13
Surrogate Summary	42
QC Sample Results	43
QC Association Summary	52
Lab Chronicle	55
Certification Summary	58
Chain of Custody	59



Definitions/Glossary

Client: GHD Services Inc.
Project/Site: 11103430, NL Industries

TestAmerica Job ID: 240-55387-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

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

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
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
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)
NC	Not Calculated
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: GHD Services Inc.
Project/Site: 11103430, NL Industries

TestAmerica Job ID: 240-55387-1

Job ID: 240-55387-1

Laboratory: TestAmerica Canton

Narrative

CASE NARRATIVE

Client: GHD Services Inc.

Project: 11103430, NL Industries

Report Number: 240-55387-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

TestAmerica Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

RECEIPT

The samples were received on 09/15/2015; the samples arrived in good condition, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 2.2° C and 3.2° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples WG-11103430-091415-DT-001 (240-55387-1), EB-11103430-091415-SG-002 (240-55387-2), WG-11103430-091415-DT-003 (240-55387-3), WG-11103430-091415-SG-004 (240-55387-4), WG-11103430-091415-DT-005 (240-55387-5), WG-11103430-091415-SG-006 (240-55387-6), WG-11103430-091415-SG-007 (240-55387-7), WG-11103430-091415-SG-008 (240-55387-8) and TB-11103430-091415-DT (240-55387-9) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260C. The samples were analyzed on 09/17/2015.

Acetone was detected in method blank MB 240-197949/30 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

The continuing calibration verification (CCV) for analytical batch 197949 exceeded control criteria for multiple compounds. The samples associated with this CCV were non-detects for the affected analytes. In accordance with the laboratory SOP, a low level CCV at the reporting limit (labeled as an MRL) was analyzed and the affected compounds were detected; therefore the data has been reported. No further corrective action was required.

Case Narrative

Client: GHD Services Inc.
Project/Site: 11103430, NL Industries

TestAmerica Job ID: 240-55387-1

Job ID: 240-55387-1 (Continued)

Laboratory: TestAmerica Canton (Continued)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

SEMIVOLATILE ORGANIC COMPOUNDS (GCMS)

Samples WG-11103430-091415-DT-001 (240-55387-1), EB-11103430-091415-SG-002 (240-55387-2), WG-11103430-091415-DT-003 (240-55387-3), WG-11103430-091415-SG-004 (240-55387-4), WG-11103430-091415-DT-005 (240-55387-5), WG-11103430-091415-SG-006 (240-55387-6), WG-11103430-091415-SG-007 (240-55387-7) and WG-11103430-091415-SG-008 (240-55387-8) were analyzed for semivolatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8270D. The samples were prepared on 09/16/2015 and analyzed on 09/17/2015 and 09/21/2015.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

TOTAL RECOVERABLE METALS (ICPMS)

Samples WG-11103430-091415-DT-001 (240-55387-1), EB-11103430-091415-SG-002 (240-55387-2), WG-11103430-091415-DT-003 (240-55387-3), WG-11103430-091415-SG-004 (240-55387-4), WG-11103430-091415-DT-005 (240-55387-5), WG-11103430-091415-SG-006 (240-55387-6), WG-11103430-091415-SG-007 (240-55387-7) and WG-11103430-091415-SG-008 (240-55387-8) were analyzed for total recoverable metals (ICPMS) in accordance with EPA SW-846 Method 6020A. The samples were prepared on 09/16/2015 and analyzed on 09/17/2015.

Chromium, Lead and Sodium were detected in method blank MB 240-197737/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Magnesium and Sodium failed the recovery criteria low for the MS of sample WG-11103430-091415-DT-001MS (240-55387-1) in batch 240-198116.

Calcium, Magnesium and Sodium failed the recovery criteria low for the MSD of sample WG-11103430-091415-DT-001MSD (240-55387-1) in batch 240-198116.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

TOTAL MERCURY

Samples WG-11103430-091415-DT-001 (240-55387-1), EB-11103430-091415-SG-002 (240-55387-2), WG-11103430-091415-DT-003 (240-55387-3), WG-11103430-091415-SG-004 (240-55387-4), WG-11103430-091415-DT-005 (240-55387-5), WG-11103430-091415-SG-006 (240-55387-6), WG-11103430-091415-SG-007 (240-55387-7) and WG-11103430-091415-SG-008 (240-55387-8) were analyzed for total mercury in accordance with EPA SW-846 Methods 7470A. The samples were prepared on 09/16/2015 and analyzed on 09/17/2015.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Method Summary

Client: GHD Services Inc.
Project/Site: 11103430, NL Industries

TestAmerica Job ID: 240-55387-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL CAN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL CAN
6020A	Metals (ICP/MS)	SW846	TAL CAN
7470A	Mercury (CVAA)	SW846	TAL CAN

Protocol References:

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

Laboratory References:

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Sample Summary

Client: GHD Services Inc.
Project/Site: 11103430, NL Industries

TestAmerica Job ID: 240-55387-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-55387-1	WG-11103430-091415-DT-001	Water	09/14/15 11:35	09/15/15 09:45
240-55387-2	EB-11103430-091415-SG-002	Water	09/14/15 00:00	09/15/15 09:45
240-55387-3	WG-11103430-091415-DT-003	Water	09/14/15 12:30	09/15/15 09:45
240-55387-4	WG-11103430-091415-SG-004	Water	09/14/15 11:55	09/15/15 09:45
240-55387-5	WG-11103430-091415-DT-005	Water	09/14/15 14:25	09/15/15 09:45
240-55387-6	WG-11103430-091415-SG-006	Water	09/14/15 13:15	09/15/15 09:45
240-55387-7	WG-11103430-091415-SG-007	Water	09/14/15 15:20	09/15/15 09:45
240-55387-8	WG-11103430-091415-SG-008	Water	09/14/15 13:15	09/15/15 09:45
240-55387-9	TB-11103430-091415-DT	Water	09/14/15 00:00	09/15/15 09:45

Detection Summary

Client: GHD Services Inc.
Project/Site: 11103430, NL Industries

TestAmerica Job ID: 240-55387-1

Client Sample ID: WG-11103430-091415-DT-001

Lab Sample ID: 240-55387-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Silver	0.032	J	1.0	0.020	ug/L	1			6020A	Total Recoverable
Aluminum	340		50	9.0	ug/L	1			6020A	Total Recoverable
Arsenic	0.88	J	5.0	0.49	ug/L	1			6020A	Total Recoverable
Barium	190		5.0	1.1	ug/L	1			6020A	Total Recoverable
Beryllium	0.097	J	1.0	0.053	ug/L	1			6020A	Total Recoverable
Cadmium	0.27	J	1.0	0.061	ug/L	1			6020A	Total Recoverable
Cobalt	0.29	J	1.0	0.021	ug/L	1			6020A	Total Recoverable
Chromium	1.2	J B	2.0	0.60	ug/L	1			6020A	Total Recoverable
Copper	10		2.0	0.75	ug/L	1			6020A	Total Recoverable
Iron	290		100	16	ug/L	1			6020A	Total Recoverable
Manganese	4.3	J	5.0	1.1	ug/L	1			6020A	Total Recoverable
Nickel	1.2	J	2.0	0.23	ug/L	1			6020A	Total Recoverable
Lead	8.0	B	1.0	0.11	ug/L	1			6020A	Total Recoverable
Antimony	1.3	J	2.0	0.16	ug/L	1			6020A	Total Recoverable
Selenium	0.58	J	5.0	0.25	ug/L	1			6020A	Total Recoverable
Thallium	0.11	J	2.0	0.074	ug/L	1			6020A	Total Recoverable
Vanadium	1.3	J	5.0	0.23	ug/L	1			6020A	Total Recoverable
Zinc	17	J	20	7.3	ug/L	1			6020A	Total Recoverable
Calcium	89000		1000	240	ug/L	1			6020A	Total Recoverable
Potassium	1000		1000	30	ug/L	1			6020A	Total Recoverable
Magnesium	94000		1000	48	ug/L	1			6020A	Total Recoverable
Sodium	86000	B	1000	68	ug/L	1			6020A	Total Recoverable

Client Sample ID: EB-11103430-091415-SG-002

Lab Sample ID: 240-55387-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Beryllium	0.11	J	1.0	0.053	ug/L	1			6020A	Total Recoverable
Cadmium	0.29	J	1.0	0.061	ug/L	1			6020A	Total Recoverable
Cobalt	0.19	J	1.0	0.021	ug/L	1			6020A	Total Recoverable
Chromium	3.6	B	2.0	0.60	ug/L	1			6020A	Total Recoverable

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Detection Summary

Client: GHD Services Inc.
Project/Site: 11103430, NL Industries

TestAmerica Job ID: 240-55387-1

Client Sample ID: EB-11103430-091415-SG-002 (Continued)

Lab Sample ID: 240-55387-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Nickel	7.7		2.0	0.23	ug/L	1			6020A	Total Recoverable
Lead	0.20	J B	1.0	0.11	ug/L	1			6020A	Total Recoverable
Antimony	0.27	J	2.0	0.16	ug/L	1			6020A	Total Recoverable
Selenium	0.32	J	5.0	0.25	ug/L	1			6020A	Total Recoverable
Thallium	0.18	J	2.0	0.074	ug/L	1			6020A	Total Recoverable
Sodium	190	J B	1000	68	ug/L	1			6020A	Total Recoverable

Client Sample ID: WG-11103430-091415-DT-003

Lab Sample ID: 240-55387-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Silver	0.075	J	1.0	0.020	ug/L	1			6020A	Total Recoverable
Arsenic	9.9		5.0	0.49	ug/L	1			6020A	Total Recoverable
Barium	39		5.0	1.1	ug/L	1			6020A	Total Recoverable
Cadmium	0.076	J	1.0	0.061	ug/L	1			6020A	Total Recoverable
Cobalt	0.22	J	1.0	0.021	ug/L	1			6020A	Total Recoverable
Iron	480		100	16	ug/L	1			6020A	Total Recoverable
Manganese	14		5.0	1.1	ug/L	1			6020A	Total Recoverable
Nickel	0.29	J	2.0	0.23	ug/L	1			6020A	Total Recoverable
Lead	0.12	J B	1.0	0.11	ug/L	1			6020A	Total Recoverable
Antimony	0.30	J	2.0	0.16	ug/L	1			6020A	Total Recoverable
Calcium	76000		1000	240	ug/L	1			6020A	Total Recoverable
Potassium	1800		1000	30	ug/L	1			6020A	Total Recoverable
Magnesium	95000		1000	48	ug/L	1			6020A	Total Recoverable
Sodium	60000	B	1000	68	ug/L	1			6020A	Total Recoverable

Client Sample ID: WG-11103430-091415-SG-004

Lab Sample ID: 240-55387-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Silver	0.068	J	1.0	0.020	ug/L	1			6020A	Total Recoverable
Aluminum	230		50	9.0	ug/L	1			6020A	Total Recoverable
Arsenic	3.1	J	5.0	0.49	ug/L	1			6020A	Total Recoverable
Barium	170		5.0	1.1	ug/L	1			6020A	Total Recoverable

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Detection Summary

Client: GHD Services Inc.
Project/Site: 11103430, NL Industries

TestAmerica Job ID: 240-55387-1

Client Sample ID: WG-11103430-091415-SG-004 (Continued)

Lab Sample ID: 240-55387-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Cadmium	0.11	J	1.0	0.061	ug/L	1			6020A	Total Recoverable
Cobalt	0.53	J	1.0	0.021	ug/L	1			6020A	Total Recoverable
Chromium	0.81	J B	2.0	0.60	ug/L	1			6020A	Total Recoverable
Copper	62		2.0	0.75	ug/L	1			6020A	Total Recoverable
Iron	230		100	16	ug/L	1			6020A	Total Recoverable
Manganese	99		5.0	1.1	ug/L	1			6020A	Total Recoverable
Nickel	1.0	J	2.0	0.23	ug/L	1			6020A	Total Recoverable
Lead	17	B	1.0	0.11	ug/L	1			6020A	Total Recoverable
Antimony	1.3	J	2.0	0.16	ug/L	1			6020A	Total Recoverable
Vanadium	0.85	J	5.0	0.23	ug/L	1			6020A	Total Recoverable
Zinc	62		20	7.3	ug/L	1			6020A	Total Recoverable
Calcium	66000		1000	240	ug/L	1			6020A	Total Recoverable
Potassium	2500		1000	30	ug/L	1			6020A	Total Recoverable
Magnesium	83000		1000	48	ug/L	1			6020A	Total Recoverable
Sodium	78000	B	1000	68	ug/L	1			6020A	Total Recoverable

Client Sample ID: WG-11103430-091415-DT-005

Lab Sample ID: 240-55387-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Silver	0.035	J	1.0	0.020	ug/L	1			6020A	Total Recoverable
Aluminum	13	J	50	9.0	ug/L	1			6020A	Total Recoverable
Arsenic	2.1	J	5.0	0.49	ug/L	1			6020A	Total Recoverable
Barium	110		5.0	1.1	ug/L	1			6020A	Total Recoverable
Cobalt	0.46	J	1.0	0.021	ug/L	1			6020A	Total Recoverable
Copper	0.94	J	2.0	0.75	ug/L	1			6020A	Total Recoverable
Iron	650		100	16	ug/L	1			6020A	Total Recoverable
Manganese	48		5.0	1.1	ug/L	1			6020A	Total Recoverable
Nickel	0.89	J	2.0	0.23	ug/L	1			6020A	Total Recoverable
Lead	1.1	B	1.0	0.11	ug/L	1			6020A	Total Recoverable
Antimony	0.16	J	2.0	0.16	ug/L	1			6020A	Total Recoverable

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Detection Summary

Client: GHD Services Inc.
Project/Site: 11103430, NL Industries

TestAmerica Job ID: 240-55387-1

Client Sample ID: WG-11103430-091415-DT-005 (Continued)

Lab Sample ID: 240-55387-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Calcium	110000		1000	240	ug/L			1	6020A	Total Recoverable
Potassium	3300		1000	30	ug/L			1	6020A	Total Recoverable
Magnesium	89000		1000	48	ug/L			1	6020A	Total Recoverable
Sodium	140000	B	1000	68	ug/L			1	6020A	Total Recoverable

Client Sample ID: WG-11103430-091415-SG-006

Lab Sample ID: 240-55387-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Silver	0.032	J	1.0	0.020	ug/L			1	6020A	Total Recoverable
Aluminum	110		50	9.0	ug/L			1	6020A	Total Recoverable
Arsenic	2.3	J	5.0	0.49	ug/L			1	6020A	Total Recoverable
Barium	88		5.0	1.1	ug/L			1	6020A	Total Recoverable
Cobalt	1.0		1.0	0.021	ug/L			1	6020A	Total Recoverable
Chromium	0.80	J B	2.0	0.60	ug/L			1	6020A	Total Recoverable
Iron	1100		100	16	ug/L			1	6020A	Total Recoverable
Manganese	150		5.0	1.1	ug/L			1	6020A	Total Recoverable
Nickel	0.76	J	2.0	0.23	ug/L			1	6020A	Total Recoverable
Lead	0.84	J B	1.0	0.11	ug/L			1	6020A	Total Recoverable
Antimony	0.18	J	2.0	0.16	ug/L			1	6020A	Total Recoverable
Vanadium	0.23	J	5.0	0.23	ug/L			1	6020A	Total Recoverable
Calcium	90000		1000	240	ug/L			1	6020A	Total Recoverable
Potassium	2200		1000	30	ug/L			1	6020A	Total Recoverable
Magnesium	110000		1000	48	ug/L			1	6020A	Total Recoverable
Sodium	62000	B	1000	68	ug/L			1	6020A	Total Recoverable

Client Sample ID: WG-11103430-091415-SG-007

Lab Sample ID: 240-55387-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Silver	0.034	J	1.0	0.020	ug/L			1	6020A	Total Recoverable
Aluminum	49	J	50	9.0	ug/L			1	6020A	Total Recoverable
Arsenic	0.81	J	5.0	0.49	ug/L			1	6020A	Total Recoverable
Barium	170		5.0	1.1	ug/L			1	6020A	Total Recoverable

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Detection Summary

Client: GHD Services Inc.
Project/Site: 11103430, NL Industries

TestAmerica Job ID: 240-55387-1

Client Sample ID: WG-11103430-091415-SG-007 (Continued)

Lab Sample ID: 240-55387-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cobalt	0.30	J	1.0	0.021	ug/L	1		6020A	Total Recoverable
Chromium	0.62	J B	2.0	0.60	ug/L	1		6020A	Total Recoverable
Iron	640		100	16	ug/L	1		6020A	Total Recoverable
Manganese	22		5.0	1.1	ug/L	1		6020A	Total Recoverable
Nickel	0.67	J	2.0	0.23	ug/L	1		6020A	Total Recoverable
Calcium	44000		1000	240	ug/L	1		6020A	Total Recoverable
Potassium	3200		1000	30	ug/L	1		6020A	Total Recoverable
Magnesium	68000		1000	48	ug/L	1		6020A	Total Recoverable
Sodium	55000	B	1000	68	ug/L	1		6020A	Total Recoverable

Client Sample ID: WG-11103430-091415-SG-008

Lab Sample ID: 240-55387-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Silver	0.030	J	1.0	0.020	ug/L	1		6020A	Total Recoverable
Aluminum	120		50	9.0	ug/L	1		6020A	Total Recoverable
Arsenic	2.3	J	5.0	0.49	ug/L	1		6020A	Total Recoverable
Barium	86		5.0	1.1	ug/L	1		6020A	Total Recoverable
Cobalt	1.0		1.0	0.021	ug/L	1		6020A	Total Recoverable
Chromium	0.74	J B	2.0	0.60	ug/L	1		6020A	Total Recoverable
Iron	1100		100	16	ug/L	1		6020A	Total Recoverable
Manganese	140		5.0	1.1	ug/L	1		6020A	Total Recoverable
Nickel	0.75	J	2.0	0.23	ug/L	1		6020A	Total Recoverable
Lead	0.71	J B	1.0	0.11	ug/L	1		6020A	Total Recoverable
Vanadium	0.23	J	5.0	0.23	ug/L	1		6020A	Total Recoverable
Calcium	86000		1000	240	ug/L	1		6020A	Total Recoverable
Potassium	2200		1000	30	ug/L	1		6020A	Total Recoverable
Magnesium	100000		1000	48	ug/L	1		6020A	Total Recoverable
Sodium	60000	B	1000	68	ug/L	1		6020A	Total Recoverable

Client Sample ID: TB-11103430-091415-DT

Lab Sample ID: 240-55387-9

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11103430, NL Industries

TestAmerica Job ID: 240-55387-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Client Sample ID: WG-11103430-091415-DT-001

Date Collected: 09/14/15 11:35

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55387-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.44	ug/L			09/17/15 13:05	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.22	ug/L			09/17/15 13:05	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.45	ug/L			09/17/15 13:05	1
1,1,2-Trichloroethane	1.0	U	1.0	0.24	ug/L			09/17/15 13:05	1
1,1-Dichloroethane	1.0	U	1.0	0.30	ug/L			09/17/15 13:05	1
1,1-Dichloroethene	1.0	U	1.0	0.45	ug/L			09/17/15 13:05	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.32	ug/L			09/17/15 13:05	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.82	ug/L			09/17/15 13:05	1
Ethylene Dibromide	1.0	U	1.0	0.32	ug/L			09/17/15 13:05	1
1,2-Dichlorobenzene	1.0	U	1.0	0.25	ug/L			09/17/15 13:05	1
1,2-Dichloroethane	1.0	U	1.0	0.23	ug/L			09/17/15 13:05	1
1,2-Dichloropropane	1.0	U	1.0	0.25	ug/L			09/17/15 13:05	1
1,3-Dichlorobenzene	1.0	U	1.0	0.19	ug/L			09/17/15 13:05	1
1,4-Dichlorobenzene	1.0	U	1.0	0.27	ug/L			09/17/15 13:05	1
2-Butanone (MEK)	10	U	10	0.53	ug/L			09/17/15 13:05	1
2-Hexanone	10	U	10	0.48	ug/L			09/17/15 13:05	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			09/17/15 13:05	1
Acetone	10	U	10	0.94	ug/L			09/17/15 13:05	1
Benzene	1.0	U	1.0	0.35	ug/L			09/17/15 13:05	1
Dichlorobromomethane	1.0	U	1.0	0.29	ug/L			09/17/15 13:05	1
Bromoform	1.0	U	1.0	0.56	ug/L			09/17/15 13:05	1
Bromomethane	1.0	U	1.0	0.44	ug/L			09/17/15 13:05	1
Carbon disulfide	1.0	U	1.0	0.38	ug/L			09/17/15 13:05	1
Carbon tetrachloride	1.0	U	1.0	0.43	ug/L			09/17/15 13:05	1
Chlorobenzene	1.0	U	1.0	0.25	ug/L			09/17/15 13:05	1
Chloroethane	1.0	U	1.0	0.32	ug/L			09/17/15 13:05	1
Chloroform	1.0	U	1.0	0.25	ug/L			09/17/15 13:05	1
Chloromethane	1.0	U	1.0	0.44	ug/L			09/17/15 13:05	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.26	ug/L			09/17/15 13:05	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.46	ug/L			09/17/15 13:05	1
Cyclohexane	1.0	U	1.0	0.45	ug/L			09/17/15 13:05	1
Chlorodibromomethane	1.0	U	1.0	0.43	ug/L			09/17/15 13:05	1
Dichlorodifluoromethane	1.0	U	1.0	0.32	ug/L			09/17/15 13:05	1
Ethylbenzene	1.0	U	1.0	0.25	ug/L			09/17/15 13:05	1
Isopropylbenzene	1.0	U	1.0	0.35	ug/L			09/17/15 13:05	1
Methyl acetate	10	U	10	2.3	ug/L			09/17/15 13:05	1
Methyl tert-butyl ether	1.0	U	1.0	0.20	ug/L			09/17/15 13:05	1
Methylcyclohexane	1.0	U	1.0	0.43	ug/L			09/17/15 13:05	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			09/17/15 13:05	1
Styrene	1.0	U	1.0	0.45	ug/L			09/17/15 13:05	1
Tetrachloroethene	1.0	U	1.0	0.31	ug/L			09/17/15 13:05	1
Toluene	1.0	U	1.0	0.23	ug/L			09/17/15 13:05	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			09/17/15 13:05	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.56	ug/L			09/17/15 13:05	1
Trichloroethene	1.0	U	1.0	0.22	ug/L			09/17/15 13:05	1
Trichlorofluoromethane	1.0	U	1.0	0.49	ug/L			09/17/15 13:05	1
Vinyl chloride	1.0	U	1.0	0.29	ug/L			09/17/15 13:05	1
Xylenes, Total	2.0	U	2.0	0.52	ug/L			09/17/15 13:05	1

TestAmerica Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11103430, NL Industries

TestAmerica Job ID: 240-55387-1

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	89		80 - 120		09/17/15 13:05	1
Dibromofluoromethane (Surr)	85		79 - 120		09/17/15 13:05	1
4-Bromofluorobenzene (Surr)	91		61 - 120		09/17/15 13:05	1
1,2-Dichloroethane-d4 (Surr)	98		78 - 125		09/17/15 13:05	1

Client Sample ID: EB-11103430-091415-SG-002

Date Collected: 09/14/15 00:00

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55387-2

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.44	ug/L			09/17/15 13:28	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.22	ug/L			09/17/15 13:28	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.45	ug/L			09/17/15 13:28	1
1,1,2-Trichloroethane	1.0	U	1.0	0.24	ug/L			09/17/15 13:28	1
1,1-Dichloroethane	1.0	U	1.0	0.30	ug/L			09/17/15 13:28	1
1,1-Dichloroethene	1.0	U	1.0	0.45	ug/L			09/17/15 13:28	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.32	ug/L			09/17/15 13:28	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.82	ug/L			09/17/15 13:28	1
Ethylene Dibromide	1.0	U	1.0	0.32	ug/L			09/17/15 13:28	1
1,2-Dichlorobenzene	1.0	U	1.0	0.25	ug/L			09/17/15 13:28	1
1,2-Dichloroethane	1.0	U	1.0	0.23	ug/L			09/17/15 13:28	1
1,2-Dichloropropane	1.0	U	1.0	0.25	ug/L			09/17/15 13:28	1
1,3-Dichlorobenzene	1.0	U	1.0	0.19	ug/L			09/17/15 13:28	1
1,4-Dichlorobenzene	1.0	U	1.0	0.27	ug/L			09/17/15 13:28	1
2-Butanone (MEK)	10	U	10	0.53	ug/L			09/17/15 13:28	1
2-Hexanone	10	U	10	0.48	ug/L			09/17/15 13:28	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			09/17/15 13:28	1
Acetone	10	U	10	0.94	ug/L			09/17/15 13:28	1
Benzene	1.0	U	1.0	0.35	ug/L			09/17/15 13:28	1
Dichlorobromomethane	1.0	U	1.0	0.29	ug/L			09/17/15 13:28	1
Bromoform	1.0	U	1.0	0.56	ug/L			09/17/15 13:28	1
Bromomethane	1.0	U	1.0	0.44	ug/L			09/17/15 13:28	1
Carbon disulfide	1.0	U	1.0	0.38	ug/L			09/17/15 13:28	1
Carbon tetrachloride	1.0	U	1.0	0.43	ug/L			09/17/15 13:28	1
Chlorobenzene	1.0	U	1.0	0.25	ug/L			09/17/15 13:28	1
Chloroethane	1.0	U	1.0	0.32	ug/L			09/17/15 13:28	1
Chloroform	1.0	U	1.0	0.25	ug/L			09/17/15 13:28	1
Chloromethane	1.0	U	1.0	0.44	ug/L			09/17/15 13:28	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.26	ug/L			09/17/15 13:28	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.46	ug/L			09/17/15 13:28	1
Cyclohexane	1.0	U	1.0	0.45	ug/L			09/17/15 13:28	1
Chlorodibromomethane	1.0	U	1.0	0.43	ug/L			09/17/15 13:28	1
Dichlorodifluoromethane	1.0	U	1.0	0.32	ug/L			09/17/15 13:28	1
Ethylbenzene	1.0	U	1.0	0.25	ug/L			09/17/15 13:28	1
Isopropylbenzene	1.0	U	1.0	0.35	ug/L			09/17/15 13:28	1
Methyl acetate	10	U	10	2.3	ug/L			09/17/15 13:28	1
Methyl tert-butyl ether	1.0	U	1.0	0.20	ug/L			09/17/15 13:28	1
Methylcyclohexane	1.0	U	1.0	0.43	ug/L			09/17/15 13:28	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			09/17/15 13:28	1
Styrene	1.0	U	1.0	0.45	ug/L			09/17/15 13:28	1
Tetrachloroethene	1.0	U	1.0	0.31	ug/L			09/17/15 13:28	1
Toluene	1.0	U	1.0	0.23	ug/L			09/17/15 13:28	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			09/17/15 13:28	1

TestAmerica Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11103430, NL Industries

TestAmerica Job ID: 240-55387-1

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

Client Sample ID: EB-11103430-091415-SG-002

Date Collected: 09/14/15 00:00

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55387-2

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	1.0	U	1.0	0.56	ug/L			09/17/15 13:28	1
Trichloroethene	1.0	U	1.0	0.22	ug/L			09/17/15 13:28	1
Trichlorofluoromethane	1.0	U	1.0	0.49	ug/L			09/17/15 13:28	1
Vinyl chloride	1.0	U	1.0	0.29	ug/L			09/17/15 13:28	1
Xylenes, Total	2.0	U	2.0	0.52	ug/L			09/17/15 13:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	87		80 - 120		09/17/15 13:28	1
Dibromofluoromethane (Surr)	89		79 - 120		09/17/15 13:28	1
4-Bromofluorobenzene (Surr)	89		61 - 120		09/17/15 13:28	1
1,2-Dichloroethane-d4 (Surr)	97		78 - 125		09/17/15 13:28	1

Client Sample ID: WG-11103430-091415-DT-003

Date Collected: 09/14/15 12:30

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55387-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.44	ug/L			09/17/15 13:51	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.22	ug/L			09/17/15 13:51	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.45	ug/L			09/17/15 13:51	1
1,1,2-Trichloroethane	1.0	U	1.0	0.24	ug/L			09/17/15 13:51	1
1,1-Dichloroethane	1.0	U	1.0	0.30	ug/L			09/17/15 13:51	1
1,1-Dichloroethene	1.0	U	1.0	0.45	ug/L			09/17/15 13:51	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.32	ug/L			09/17/15 13:51	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.82	ug/L			09/17/15 13:51	1
Ethylene Dibromide	1.0	U	1.0	0.32	ug/L			09/17/15 13:51	1
1,2-Dichlorobenzene	1.0	U	1.0	0.25	ug/L			09/17/15 13:51	1
1,2-Dichloroethane	1.0	U	1.0	0.23	ug/L			09/17/15 13:51	1
1,2-Dichloropropane	1.0	U	1.0	0.25	ug/L			09/17/15 13:51	1
1,3-Dichlorobenzene	1.0	U	1.0	0.19	ug/L			09/17/15 13:51	1
1,4-Dichlorobenzene	1.0	U	1.0	0.27	ug/L			09/17/15 13:51	1
2-Butanone (MEK)	10	U	10	0.53	ug/L			09/17/15 13:51	1
2-Hexanone	10	U	10	0.48	ug/L			09/17/15 13:51	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			09/17/15 13:51	1
Acetone	10	U	10	0.94	ug/L			09/17/15 13:51	1
Benzene	1.0	U	1.0	0.35	ug/L			09/17/15 13:51	1
Dichlorobromomethane	1.0	U	1.0	0.29	ug/L			09/17/15 13:51	1
Bromoform	1.0	U	1.0	0.56	ug/L			09/17/15 13:51	1
Bromomethane	1.0	U	1.0	0.44	ug/L			09/17/15 13:51	1
Carbon disulfide	1.0	U	1.0	0.38	ug/L			09/17/15 13:51	1
Carbon tetrachloride	1.0	U	1.0	0.43	ug/L			09/17/15 13:51	1
Chlorobenzene	1.0	U	1.0	0.25	ug/L			09/17/15 13:51	1
Chloroethane	1.0	U	1.0	0.32	ug/L			09/17/15 13:51	1
Chloroform	1.0	U	1.0	0.25	ug/L			09/17/15 13:51	1
Chloromethane	1.0	U	1.0	0.44	ug/L			09/17/15 13:51	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.26	ug/L			09/17/15 13:51	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.46	ug/L			09/17/15 13:51	1
Cyclohexane	1.0	U	1.0	0.45	ug/L			09/17/15 13:51	1
Chlorodibromomethane	1.0	U	1.0	0.43	ug/L			09/17/15 13:51	1
Dichlorodifluoromethane	1.0	U	1.0	0.32	ug/L			09/17/15 13:51	1
Ethylbenzene	1.0	U	1.0	0.25	ug/L			09/17/15 13:51	1

TestAmerica Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11103430, NL Industries

TestAmerica Job ID: 240-55387-1

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

Client Sample ID: WG-11103430-091415-DT-003

Date Collected: 09/14/15 12:30

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55387-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropylbenzene	1.0	U	1.0	0.35	ug/L			09/17/15 13:51	1
Methyl acetate	10	U	10	2.3	ug/L			09/17/15 13:51	1
Methyl tert-butyl ether	1.0	U	1.0	0.20	ug/L			09/17/15 13:51	1
Methylcyclohexane	1.0	U	1.0	0.43	ug/L			09/17/15 13:51	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			09/17/15 13:51	1
Styrene	1.0	U	1.0	0.45	ug/L			09/17/15 13:51	1
Tetrachloroethene	1.0	U	1.0	0.31	ug/L			09/17/15 13:51	1
Toluene	1.0	U	1.0	0.23	ug/L			09/17/15 13:51	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			09/17/15 13:51	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.56	ug/L			09/17/15 13:51	1
Trichloroethene	1.0	U	1.0	0.22	ug/L			09/17/15 13:51	1
Trichlorofluoromethane	1.0	U	1.0	0.49	ug/L			09/17/15 13:51	1
Vinyl chloride	1.0	U	1.0	0.29	ug/L			09/17/15 13:51	1
Xylenes, Total	2.0	U	2.0	0.52	ug/L			09/17/15 13:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	86		80 - 120		09/17/15 13:51	1
Dibromofluoromethane (Surr)	88		79 - 120		09/17/15 13:51	1
4-Bromofluorobenzene (Surr)	89		61 - 120		09/17/15 13:51	1
1,2-Dichloroethane-d4 (Surr)	97		78 - 125		09/17/15 13:51	1

Client Sample ID: WG-11103430-091415-SG-004

Date Collected: 09/14/15 11:55

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55387-4

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.44	ug/L			09/17/15 14:13	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.22	ug/L			09/17/15 14:13	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.45	ug/L			09/17/15 14:13	1
1,1,2-Trichloroethane	1.0	U	1.0	0.24	ug/L			09/17/15 14:13	1
1,1-Dichloroethane	1.0	U	1.0	0.30	ug/L			09/17/15 14:13	1
1,1-Dichloroethene	1.0	U	1.0	0.45	ug/L			09/17/15 14:13	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.32	ug/L			09/17/15 14:13	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.82	ug/L			09/17/15 14:13	1
Ethylene Dibromide	1.0	U	1.0	0.32	ug/L			09/17/15 14:13	1
1,2-Dichlorobenzene	1.0	U	1.0	0.25	ug/L			09/17/15 14:13	1
1,2-Dichloroethane	1.0	U	1.0	0.23	ug/L			09/17/15 14:13	1
1,2-Dichloropropane	1.0	U	1.0	0.25	ug/L			09/17/15 14:13	1
1,3-Dichlorobenzene	1.0	U	1.0	0.19	ug/L			09/17/15 14:13	1
1,4-Dichlorobenzene	1.0	U	1.0	0.27	ug/L			09/17/15 14:13	1
2-Butanone (MEK)	10	U	10	0.53	ug/L			09/17/15 14:13	1
2-Hexanone	10	U	10	0.48	ug/L			09/17/15 14:13	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			09/17/15 14:13	1
Acetone	10	U	10	0.94	ug/L			09/17/15 14:13	1
Benzene	1.0	U	1.0	0.35	ug/L			09/17/15 14:13	1
Dichlorobromomethane	1.0	U	1.0	0.29	ug/L			09/17/15 14:13	1
Bromoform	1.0	U	1.0	0.56	ug/L			09/17/15 14:13	1
Bromomethane	1.0	U	1.0	0.44	ug/L			09/17/15 14:13	1
Carbon disulfide	1.0	U	1.0	0.38	ug/L			09/17/15 14:13	1
Carbon tetrachloride	1.0	U	1.0	0.43	ug/L			09/17/15 14:13	1
Chlorobenzene	1.0	U	1.0	0.25	ug/L			09/17/15 14:13	1

TestAmerica Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11103430, NL Industries

TestAmerica Job ID: 240-55387-1

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

Client Sample ID: WG-11103430-091415-SG-004

Date Collected: 09/14/15 11:55

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55387-4

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroethane	1.0	U	1.0	0.32	ug/L			09/17/15 14:13	1
Chloroform	1.0	U	1.0	0.25	ug/L			09/17/15 14:13	1
Chloromethane	1.0	U	1.0	0.44	ug/L			09/17/15 14:13	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.26	ug/L			09/17/15 14:13	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.46	ug/L			09/17/15 14:13	1
Cyclohexane	1.0	U	1.0	0.45	ug/L			09/17/15 14:13	1
Chlorodibromomethane	1.0	U	1.0	0.43	ug/L			09/17/15 14:13	1
Dichlorodifluoromethane	1.0	U	1.0	0.32	ug/L			09/17/15 14:13	1
Ethylbenzene	1.0	U	1.0	0.25	ug/L			09/17/15 14:13	1
Isopropylbenzene	1.0	U	1.0	0.35	ug/L			09/17/15 14:13	1
Methyl acetate	10	U	10	2.3	ug/L			09/17/15 14:13	1
Methyl tert-butyl ether	1.0	U	1.0	0.20	ug/L			09/17/15 14:13	1
Methylcyclohexane	1.0	U	1.0	0.43	ug/L			09/17/15 14:13	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			09/17/15 14:13	1
Styrene	1.0	U	1.0	0.45	ug/L			09/17/15 14:13	1
Tetrachloroethene	1.0	U	1.0	0.31	ug/L			09/17/15 14:13	1
Toluene	1.0	U	1.0	0.23	ug/L			09/17/15 14:13	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			09/17/15 14:13	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.56	ug/L			09/17/15 14:13	1
Trichloroethene	1.0	U	1.0	0.22	ug/L			09/17/15 14:13	1
Trichlorofluoromethane	1.0	U	1.0	0.49	ug/L			09/17/15 14:13	1
Vinyl chloride	1.0	U	1.0	0.29	ug/L			09/17/15 14:13	1
Xylenes, Total	2.0	U	2.0	0.52	ug/L			09/17/15 14:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	85		80 - 120		09/17/15 14:13	1
Dibromofluoromethane (Surr)	88		79 - 120		09/17/15 14:13	1
4-Bromofluorobenzene (Surr)	89		61 - 120		09/17/15 14:13	1
1,2-Dichloroethane-d4 (Surr)	98		78 - 125		09/17/15 14:13	1

Client Sample ID: WG-11103430-091415-DT-005

Date Collected: 09/14/15 14:25

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55387-5

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.44	ug/L			09/17/15 14:35	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.22	ug/L			09/17/15 14:35	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.45	ug/L			09/17/15 14:35	1
1,1,2-Trichloroethane	1.0	U	1.0	0.24	ug/L			09/17/15 14:35	1
1,1-Dichloroethane	1.0	U	1.0	0.30	ug/L			09/17/15 14:35	1
1,1-Dichloroethene	1.0	U	1.0	0.45	ug/L			09/17/15 14:35	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.32	ug/L			09/17/15 14:35	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.82	ug/L			09/17/15 14:35	1
Ethylene Dibromide	1.0	U	1.0	0.32	ug/L			09/17/15 14:35	1
1,2-Dichlorobenzene	1.0	U	1.0	0.25	ug/L			09/17/15 14:35	1
1,2-Dichloroethane	1.0	U	1.0	0.23	ug/L			09/17/15 14:35	1
1,2-Dichloropropane	1.0	U	1.0	0.25	ug/L			09/17/15 14:35	1
1,3-Dichlorobenzene	1.0	U	1.0	0.19	ug/L			09/17/15 14:35	1
1,4-Dichlorobenzene	1.0	U	1.0	0.27	ug/L			09/17/15 14:35	1
2-Butanone (MEK)	10	U	10	0.53	ug/L			09/17/15 14:35	1
2-Hexanone	10	U	10	0.48	ug/L			09/17/15 14:35	1

TestAmerica Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11103430, NL Industries

TestAmerica Job ID: 240-55387-1

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

Client Sample ID: WG-11103430-091415-DT-005

Date Collected: 09/14/15 14:25

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55387-5

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			09/17/15 14:35	1
Acetone	10	U	10	0.94	ug/L			09/17/15 14:35	1
Benzene	1.0	U	1.0	0.35	ug/L			09/17/15 14:35	1
Dichlorobromomethane	1.0	U	1.0	0.29	ug/L			09/17/15 14:35	1
Bromoform	1.0	U	1.0	0.56	ug/L			09/17/15 14:35	1
Bromomethane	1.0	U	1.0	0.44	ug/L			09/17/15 14:35	1
Carbon disulfide	1.0	U	1.0	0.38	ug/L			09/17/15 14:35	1
Carbon tetrachloride	1.0	U	1.0	0.43	ug/L			09/17/15 14:35	1
Chlorobenzene	1.0	U	1.0	0.25	ug/L			09/17/15 14:35	1
Chloroethane	1.0	U	1.0	0.32	ug/L			09/17/15 14:35	1
Chloroform	1.0	U	1.0	0.25	ug/L			09/17/15 14:35	1
Chloromethane	1.0	U	1.0	0.44	ug/L			09/17/15 14:35	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.26	ug/L			09/17/15 14:35	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.46	ug/L			09/17/15 14:35	1
Cyclohexane	1.0	U	1.0	0.45	ug/L			09/17/15 14:35	1
Chlorodibromomethane	1.0	U	1.0	0.43	ug/L			09/17/15 14:35	1
Dichlorodifluoromethane	1.0	U	1.0	0.32	ug/L			09/17/15 14:35	1
Ethylbenzene	1.0	U	1.0	0.25	ug/L			09/17/15 14:35	1
Isopropylbenzene	1.0	U	1.0	0.35	ug/L			09/17/15 14:35	1
Methyl acetate	10	U	10	2.3	ug/L			09/17/15 14:35	1
Methyl tert-butyl ether	1.0	U	1.0	0.20	ug/L			09/17/15 14:35	1
Methylcyclohexane	1.0	U	1.0	0.43	ug/L			09/17/15 14:35	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			09/17/15 14:35	1
Styrene	1.0	U	1.0	0.45	ug/L			09/17/15 14:35	1
Tetrachloroethene	1.0	U	1.0	0.31	ug/L			09/17/15 14:35	1
Toluene	1.0	U	1.0	0.23	ug/L			09/17/15 14:35	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			09/17/15 14:35	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.56	ug/L			09/17/15 14:35	1
Trichloroethene	1.0	U	1.0	0.22	ug/L			09/17/15 14:35	1
Trichlorofluoromethane	1.0	U	1.0	0.49	ug/L			09/17/15 14:35	1
Vinyl chloride	1.0	U	1.0	0.29	ug/L			09/17/15 14:35	1
Xylenes, Total	2.0	U	2.0	0.52	ug/L			09/17/15 14:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	85		80 - 120		09/17/15 14:35	1
Dibromofluoromethane (Surr)	90		79 - 120		09/17/15 14:35	1
4-Bromofluorobenzene (Surr)	89		61 - 120		09/17/15 14:35	1
1,2-Dichloroethane-d4 (Surr)	98		78 - 125		09/17/15 14:35	1

Client Sample ID: WG-11103430-091415-SG-006

Date Collected: 09/14/15 13:15

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55387-6

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.44	ug/L			09/17/15 14:57	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.22	ug/L			09/17/15 14:57	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.45	ug/L			09/17/15 14:57	1
1,1,2-Trichloroethane	1.0	U	1.0	0.24	ug/L			09/17/15 14:57	1
1,1-Dichloroethane	1.0	U	1.0	0.30	ug/L			09/17/15 14:57	1
1,1-Dichloroethene	1.0	U	1.0	0.45	ug/L			09/17/15 14:57	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.32	ug/L			09/17/15 14:57	1

TestAmerica Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11103430, NL Industries

TestAmerica Job ID: 240-55387-1

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

Client Sample ID: WG-11103430-091415-SG-006

Date Collected: 09/14/15 13:15

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55387-6

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.82	ug/L			09/17/15 14:57	1
Ethylene Dibromide	1.0	U	1.0	0.32	ug/L			09/17/15 14:57	1
1,2-Dichlorobenzene	1.0	U	1.0	0.25	ug/L			09/17/15 14:57	1
1,2-Dichloroethane	1.0	U	1.0	0.23	ug/L			09/17/15 14:57	1
1,2-Dichloropropane	1.0	U	1.0	0.25	ug/L			09/17/15 14:57	1
1,3-Dichlorobenzene	1.0	U	1.0	0.19	ug/L			09/17/15 14:57	1
1,4-Dichlorobenzene	1.0	U	1.0	0.27	ug/L			09/17/15 14:57	1
2-Butanone (MEK)	10	U	10	0.53	ug/L			09/17/15 14:57	1
2-Hexanone	10	U	10	0.48	ug/L			09/17/15 14:57	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			09/17/15 14:57	1
Acetone	10	U	10	0.94	ug/L			09/17/15 14:57	1
Benzene	1.0	U	1.0	0.35	ug/L			09/17/15 14:57	1
Dichlorobromomethane	1.0	U	1.0	0.29	ug/L			09/17/15 14:57	1
Bromoform	1.0	U	1.0	0.56	ug/L			09/17/15 14:57	1
Bromomethane	1.0	U	1.0	0.44	ug/L			09/17/15 14:57	1
Carbon disulfide	1.0	U	1.0	0.38	ug/L			09/17/15 14:57	1
Carbon tetrachloride	1.0	U	1.0	0.43	ug/L			09/17/15 14:57	1
Chlorobenzene	1.0	U	1.0	0.25	ug/L			09/17/15 14:57	1
Chloroethane	1.0	U	1.0	0.32	ug/L			09/17/15 14:57	1
Chloroform	1.0	U	1.0	0.25	ug/L			09/17/15 14:57	1
Chloromethane	1.0	U	1.0	0.44	ug/L			09/17/15 14:57	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.26	ug/L			09/17/15 14:57	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.46	ug/L			09/17/15 14:57	1
Cyclohexane	1.0	U	1.0	0.45	ug/L			09/17/15 14:57	1
Chlorodibromomethane	1.0	U	1.0	0.43	ug/L			09/17/15 14:57	1
Dichlorodifluoromethane	1.0	U	1.0	0.32	ug/L			09/17/15 14:57	1
Ethylbenzene	1.0	U	1.0	0.25	ug/L			09/17/15 14:57	1
Isopropylbenzene	1.0	U	1.0	0.35	ug/L			09/17/15 14:57	1
Methyl acetate	10	U	10	2.3	ug/L			09/17/15 14:57	1
Methyl tert-butyl ether	1.0	U	1.0	0.20	ug/L			09/17/15 14:57	1
Methylcyclohexane	1.0	U	1.0	0.43	ug/L			09/17/15 14:57	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			09/17/15 14:57	1
Styrene	1.0	U	1.0	0.45	ug/L			09/17/15 14:57	1
Tetrachloroethene	1.0	U	1.0	0.31	ug/L			09/17/15 14:57	1
Toluene	1.0	U	1.0	0.23	ug/L			09/17/15 14:57	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			09/17/15 14:57	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.56	ug/L			09/17/15 14:57	1
Trichloroethene	1.0	U	1.0	0.22	ug/L			09/17/15 14:57	1
Trichlorofluoromethane	1.0	U	1.0	0.49	ug/L			09/17/15 14:57	1
Vinyl chloride	1.0	U	1.0	0.29	ug/L			09/17/15 14:57	1
Xylenes, Total	2.0	U	2.0	0.52	ug/L			09/17/15 14:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	86		80 - 120		09/17/15 14:57	1
Dibromofluoromethane (Surr)	89		79 - 120		09/17/15 14:57	1
4-Bromofluorobenzene (Surr)	90		61 - 120		09/17/15 14:57	1
1,2-Dichloroethane-d4 (Surr)	96		78 - 125		09/17/15 14:57	1

TestAmerica Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11103430, NL Industries

TestAmerica Job ID: 240-55387-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Client Sample ID: WG-11103430-091415-SG-007

Date Collected: 09/14/15 15:20

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55387-7

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.44	ug/L			09/17/15 15:20	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.22	ug/L			09/17/15 15:20	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.45	ug/L			09/17/15 15:20	1
1,1,2-Trichloroethane	1.0	U	1.0	0.24	ug/L			09/17/15 15:20	1
1,1-Dichloroethane	1.0	U	1.0	0.30	ug/L			09/17/15 15:20	1
1,1-Dichloroethene	1.0	U	1.0	0.45	ug/L			09/17/15 15:20	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.32	ug/L			09/17/15 15:20	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.82	ug/L			09/17/15 15:20	1
Ethylene Dibromide	1.0	U	1.0	0.32	ug/L			09/17/15 15:20	1
1,2-Dichlorobenzene	1.0	U	1.0	0.25	ug/L			09/17/15 15:20	1
1,2-Dichloroethane	1.0	U	1.0	0.23	ug/L			09/17/15 15:20	1
1,2-Dichloropropane	1.0	U	1.0	0.25	ug/L			09/17/15 15:20	1
1,3-Dichlorobenzene	1.0	U	1.0	0.19	ug/L			09/17/15 15:20	1
1,4-Dichlorobenzene	1.0	U	1.0	0.27	ug/L			09/17/15 15:20	1
2-Butanone (MEK)	10	U	10	0.53	ug/L			09/17/15 15:20	1
2-Hexanone	10	U	10	0.48	ug/L			09/17/15 15:20	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			09/17/15 15:20	1
Acetone	10	U	10	0.94	ug/L			09/17/15 15:20	1
Benzene	1.0	U	1.0	0.35	ug/L			09/17/15 15:20	1
Dichlorobromomethane	1.0	U	1.0	0.29	ug/L			09/17/15 15:20	1
Bromoform	1.0	U	1.0	0.56	ug/L			09/17/15 15:20	1
Bromomethane	1.0	U	1.0	0.44	ug/L			09/17/15 15:20	1
Carbon disulfide	1.0	U	1.0	0.38	ug/L			09/17/15 15:20	1
Carbon tetrachloride	1.0	U	1.0	0.43	ug/L			09/17/15 15:20	1
Chlorobenzene	1.0	U	1.0	0.25	ug/L			09/17/15 15:20	1
Chloroethane	1.0	U	1.0	0.32	ug/L			09/17/15 15:20	1
Chloroform	1.0	U	1.0	0.25	ug/L			09/17/15 15:20	1
Chloromethane	1.0	U	1.0	0.44	ug/L			09/17/15 15:20	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.26	ug/L			09/17/15 15:20	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.46	ug/L			09/17/15 15:20	1
Cyclohexane	1.0	U	1.0	0.45	ug/L			09/17/15 15:20	1
Chlorodibromomethane	1.0	U	1.0	0.43	ug/L			09/17/15 15:20	1
Dichlorodifluoromethane	1.0	U	1.0	0.32	ug/L			09/17/15 15:20	1
Ethylbenzene	1.0	U	1.0	0.25	ug/L			09/17/15 15:20	1
Isopropylbenzene	1.0	U	1.0	0.35	ug/L			09/17/15 15:20	1
Methyl acetate	10	U	10	2.3	ug/L			09/17/15 15:20	1
Methyl tert-butyl ether	1.0	U	1.0	0.20	ug/L			09/17/15 15:20	1
Methylcyclohexane	1.0	U	1.0	0.43	ug/L			09/17/15 15:20	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			09/17/15 15:20	1
Styrene	1.0	U	1.0	0.45	ug/L			09/17/15 15:20	1
Tetrachloroethene	1.0	U	1.0	0.31	ug/L			09/17/15 15:20	1
Toluene	1.0	U	1.0	0.23	ug/L			09/17/15 15:20	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			09/17/15 15:20	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.56	ug/L			09/17/15 15:20	1
Trichloroethene	1.0	U	1.0	0.22	ug/L			09/17/15 15:20	1
Trichlorofluoromethane	1.0	U	1.0	0.49	ug/L			09/17/15 15:20	1
Vinyl chloride	1.0	U	1.0	0.29	ug/L			09/17/15 15:20	1
Xylenes, Total	2.0	U	2.0	0.52	ug/L			09/17/15 15:20	1

TestAmerica Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11103430, NL Industries

TestAmerica Job ID: 240-55387-1

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	86		80 - 120		09/17/15 15:20	1
Dibromofluoromethane (Surr)	89		79 - 120		09/17/15 15:20	1
4-Bromofluorobenzene (Surr)	90		61 - 120		09/17/15 15:20	1
1,2-Dichloroethane-d4 (Surr)	101		78 - 125		09/17/15 15:20	1

Client Sample ID: WG-11103430-091415-SG-008

Date Collected: 09/14/15 13:15

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55387-8

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.44	ug/L			09/17/15 15:43	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.22	ug/L			09/17/15 15:43	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.45	ug/L			09/17/15 15:43	1
1,1,2-Trichloroethane	1.0	U	1.0	0.24	ug/L			09/17/15 15:43	1
1,1-Dichloroethane	1.0	U	1.0	0.30	ug/L			09/17/15 15:43	1
1,1-Dichloroethene	1.0	U	1.0	0.45	ug/L			09/17/15 15:43	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.32	ug/L			09/17/15 15:43	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.82	ug/L			09/17/15 15:43	1
Ethylene Dibromide	1.0	U	1.0	0.32	ug/L			09/17/15 15:43	1
1,2-Dichlorobenzene	1.0	U	1.0	0.25	ug/L			09/17/15 15:43	1
1,2-Dichloroethane	1.0	U	1.0	0.23	ug/L			09/17/15 15:43	1
1,2-Dichloropropane	1.0	U	1.0	0.25	ug/L			09/17/15 15:43	1
1,3-Dichlorobenzene	1.0	U	1.0	0.19	ug/L			09/17/15 15:43	1
1,4-Dichlorobenzene	1.0	U	1.0	0.27	ug/L			09/17/15 15:43	1
2-Butanone (MEK)	10	U	10	0.53	ug/L			09/17/15 15:43	1
2-Hexanone	10	U	10	0.48	ug/L			09/17/15 15:43	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			09/17/15 15:43	1
Acetone	10	U	10	0.94	ug/L			09/17/15 15:43	1
Benzene	1.0	U	1.0	0.35	ug/L			09/17/15 15:43	1
Dichlorobromomethane	1.0	U	1.0	0.29	ug/L			09/17/15 15:43	1
Bromoform	1.0	U	1.0	0.56	ug/L			09/17/15 15:43	1
Bromomethane	1.0	U	1.0	0.44	ug/L			09/17/15 15:43	1
Carbon disulfide	1.0	U	1.0	0.38	ug/L			09/17/15 15:43	1
Carbon tetrachloride	1.0	U	1.0	0.43	ug/L			09/17/15 15:43	1
Chlorobenzene	1.0	U	1.0	0.25	ug/L			09/17/15 15:43	1
Chloroethane	1.0	U	1.0	0.32	ug/L			09/17/15 15:43	1
Chloroform	1.0	U	1.0	0.25	ug/L			09/17/15 15:43	1
Chloromethane	1.0	U	1.0	0.44	ug/L			09/17/15 15:43	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.26	ug/L			09/17/15 15:43	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.46	ug/L			09/17/15 15:43	1
Cyclohexane	1.0	U	1.0	0.45	ug/L			09/17/15 15:43	1
Chlorodibromomethane	1.0	U	1.0	0.43	ug/L			09/17/15 15:43	1
Dichlorodifluoromethane	1.0	U	1.0	0.32	ug/L			09/17/15 15:43	1
Ethylbenzene	1.0	U	1.0	0.25	ug/L			09/17/15 15:43	1
Isopropylbenzene	1.0	U	1.0	0.35	ug/L			09/17/15 15:43	1
Methyl acetate	10	U	10	2.3	ug/L			09/17/15 15:43	1
Methyl tert-butyl ether	1.0	U	1.0	0.20	ug/L			09/17/15 15:43	1
Methylcyclohexane	1.0	U	1.0	0.43	ug/L			09/17/15 15:43	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			09/17/15 15:43	1
Styrene	1.0	U	1.0	0.45	ug/L			09/17/15 15:43	1
Tetrachloroethene	1.0	U	1.0	0.31	ug/L			09/17/15 15:43	1
Toluene	1.0	U	1.0	0.23	ug/L			09/17/15 15:43	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			09/17/15 15:43	1

TestAmerica Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11103430, NL Industries

TestAmerica Job ID: 240-55387-1

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

Client Sample ID: WG-11103430-091415-SG-008

Date Collected: 09/14/15 13:15

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55387-8

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	1.0	U	1.0	0.56	ug/L			09/17/15 15:43	1
Trichloroethene	1.0	U	1.0	0.22	ug/L			09/17/15 15:43	1
Trichlorofluoromethane	1.0	U	1.0	0.49	ug/L			09/17/15 15:43	1
Vinyl chloride	1.0	U	1.0	0.29	ug/L			09/17/15 15:43	1
Xylenes, Total	2.0	U	2.0	0.52	ug/L			09/17/15 15:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	85		80 - 120		09/17/15 15:43	1
Dibromofluoromethane (Surr)	89		79 - 120		09/17/15 15:43	1
4-Bromofluorobenzene (Surr)	88		61 - 120		09/17/15 15:43	1
1,2-Dichloroethane-d4 (Surr)	96		78 - 125		09/17/15 15:43	1

Client Sample ID: TB-11103430-091415-DT

Date Collected: 09/14/15 00:00

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55387-9

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.44	ug/L			09/17/15 16:05	1
1,1,1,2-Tetrachloroethane	1.0	U	1.0	0.22	ug/L			09/17/15 16:05	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.45	ug/L			09/17/15 16:05	1
1,1,2-Trichloroethane	1.0	U	1.0	0.24	ug/L			09/17/15 16:05	1
1,1-Dichloroethane	1.0	U	1.0	0.30	ug/L			09/17/15 16:05	1
1,1-Dichloroethene	1.0	U	1.0	0.45	ug/L			09/17/15 16:05	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.32	ug/L			09/17/15 16:05	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.82	ug/L			09/17/15 16:05	1
Ethylene Dibromide	1.0	U	1.0	0.32	ug/L			09/17/15 16:05	1
1,2-Dichlorobenzene	1.0	U	1.0	0.25	ug/L			09/17/15 16:05	1
1,2-Dichloroethane	1.0	U	1.0	0.23	ug/L			09/17/15 16:05	1
1,2-Dichloropropane	1.0	U	1.0	0.25	ug/L			09/17/15 16:05	1
1,3-Dichlorobenzene	1.0	U	1.0	0.19	ug/L			09/17/15 16:05	1
1,4-Dichlorobenzene	1.0	U	1.0	0.27	ug/L			09/17/15 16:05	1
2-Butanone (MEK)	10	U	10	0.53	ug/L			09/17/15 16:05	1
2-Hexanone	10	U	10	0.48	ug/L			09/17/15 16:05	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			09/17/15 16:05	1
Acetone	10	U	10	0.94	ug/L			09/17/15 16:05	1
Benzene	1.0	U	1.0	0.35	ug/L			09/17/15 16:05	1
Dichlorobromomethane	1.0	U	1.0	0.29	ug/L			09/17/15 16:05	1
Bromoform	1.0	U	1.0	0.56	ug/L			09/17/15 16:05	1
Bromomethane	1.0	U	1.0	0.44	ug/L			09/17/15 16:05	1
Carbon disulfide	1.0	U	1.0	0.38	ug/L			09/17/15 16:05	1
Carbon tetrachloride	1.0	U	1.0	0.43	ug/L			09/17/15 16:05	1
Chlorobenzene	1.0	U	1.0	0.25	ug/L			09/17/15 16:05	1
Chloroethane	1.0	U	1.0	0.32	ug/L			09/17/15 16:05	1
Chloroform	1.0	U	1.0	0.25	ug/L			09/17/15 16:05	1
Chloromethane	1.0	U	1.0	0.44	ug/L			09/17/15 16:05	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.26	ug/L			09/17/15 16:05	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.46	ug/L			09/17/15 16:05	1
Cyclohexane	1.0	U	1.0	0.45	ug/L			09/17/15 16:05	1
Chlorodibromomethane	1.0	U	1.0	0.43	ug/L			09/17/15 16:05	1
Dichlorodifluoromethane	1.0	U	1.0	0.32	ug/L			09/17/15 16:05	1
Ethylbenzene	1.0	U	1.0	0.25	ug/L			09/17/15 16:05	1

TestAmerica Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11103430, NL Industries

TestAmerica Job ID: 240-55387-1

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

Client Sample ID: TB-11103430-091415-DT

Date Collected: 09/14/15 00:00

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55387-9

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropylbenzene	1.0	U	1.0	0.35	ug/L			09/17/15 16:05	1
Methyl acetate	10	U	10	2.3	ug/L			09/17/15 16:05	1
Methyl tert-butyl ether	1.0	U	1.0	0.20	ug/L			09/17/15 16:05	1
Methylcyclohexane	1.0	U	1.0	0.43	ug/L			09/17/15 16:05	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			09/17/15 16:05	1
Styrene	1.0	U	1.0	0.45	ug/L			09/17/15 16:05	1
Tetrachloroethene	1.0	U	1.0	0.31	ug/L			09/17/15 16:05	1
Toluene	1.0	U	1.0	0.23	ug/L			09/17/15 16:05	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			09/17/15 16:05	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.56	ug/L			09/17/15 16:05	1
Trichloroethene	1.0	U	1.0	0.22	ug/L			09/17/15 16:05	1
Trichlorofluoromethane	1.0	U	1.0	0.49	ug/L			09/17/15 16:05	1
Vinyl chloride	1.0	U	1.0	0.29	ug/L			09/17/15 16:05	1
Xylenes, Total	2.0	U	2.0	0.52	ug/L			09/17/15 16:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	85		80 - 120		09/17/15 16:05	1
Dibromofluoromethane (Surr)	89		79 - 120		09/17/15 16:05	1
4-Bromofluorobenzene (Surr)	90		61 - 120		09/17/15 16:05	1
1,2-Dichloroethane-d4 (Surr)	99		78 - 125		09/17/15 16:05	1

TestAmerica Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11103430, NL Industries

TestAmerica Job ID: 240-55387-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Client Sample ID: WG-11103430-091415-DT-001

Date Collected: 09/14/15 11:35

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55387-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	0.95	U	0.95	0.12	ug/L		09/16/15 08:49	09/17/15 15:25	1
bis (2-chloroisopropyl) ether	0.95	U	0.95	0.38	ug/L		09/16/15 08:49	09/17/15 15:25	1
2,4,5-Trichlorophenol	4.8	U	4.8	0.29	ug/L		09/16/15 08:49	09/17/15 15:25	1
2,4,6-Trichlorophenol	4.8	U	4.8	0.23	ug/L		09/16/15 08:49	09/17/15 15:25	1
2,4-Dichlorophenol	1.9	U	1.9	0.18	ug/L		09/16/15 08:49	09/17/15 15:25	1
2,4-Dimethylphenol	1.9	U	1.9	0.24	ug/L		09/16/15 08:49	09/17/15 15:25	1
2,4-Dinitrophenol	4.8	U	4.8	0.30	ug/L		09/16/15 08:49	09/17/15 15:25	1
2,4-Dinitrotoluene	4.8	U	4.8	0.24	ug/L		09/16/15 08:49	09/17/15 15:25	1
2,6-Dinitrotoluene	4.8	U	4.8	0.76	ug/L		09/16/15 08:49	09/17/15 15:25	1
2-Chloronaphthalene	0.95	U	0.95	0.095	ug/L		09/16/15 08:49	09/17/15 15:25	1
2-Chlorophenol	0.95	U	0.95	0.28	ug/L		09/16/15 08:49	09/17/15 15:25	1
2-Methylnaphthalene	0.19	U	0.19	0.086	ug/L		09/16/15 08:49	09/17/15 15:25	1
2-Methylphenol	0.95	U	0.95	0.16	ug/L		09/16/15 08:49	09/17/15 15:25	1
2-Nitroaniline	1.9	U	1.9	0.20	ug/L		09/16/15 08:49	09/17/15 15:25	1
2-Nitrophenol	1.9	U	1.9	0.27	ug/L		09/16/15 08:49	09/17/15 15:25	1
3,3'-Dichlorobenzidine	4.8	U	4.8	0.35	ug/L		09/16/15 08:49	09/17/15 15:25	1
3-Nitroaniline	1.9	U	1.9	0.27	ug/L		09/16/15 08:49	09/17/15 15:25	1
4,6-Dinitro-2-methylphenol	4.8	U	4.8	2.3	ug/L		09/16/15 08:49	09/17/15 15:25	1
4-Bromophenyl phenyl ether	1.9	U	1.9	0.21	ug/L		09/16/15 08:49	09/17/15 15:25	1
4-Chloro-3-methylphenol	1.9	U	1.9	0.20	ug/L		09/16/15 08:49	09/17/15 15:25	1
4-Chloroaniline	1.9	U	1.9	0.20	ug/L		09/16/15 08:49	09/17/15 15:25	1
4-Chlorophenyl phenyl ether	1.9	U	1.9	0.29	ug/L		09/16/15 08:49	09/17/15 15:25	1
4-Nitroaniline	1.9	U	1.9	0.21	ug/L		09/16/15 08:49	09/17/15 15:25	1
4-Nitrophenol	4.8	U	4.8	0.28	ug/L		09/16/15 08:49	09/17/15 15:25	1
Acenaphthene	0.19	U	0.19	0.042	ug/L		09/16/15 08:49	09/17/15 15:25	1
Acenaphthylene	0.19	U	0.19	0.046	ug/L		09/16/15 08:49	09/17/15 15:25	1
Acetophenone	0.95	U	0.95	0.32	ug/L		09/16/15 08:49	09/17/15 15:25	1
Anthracene	0.19	U	0.19	0.084	ug/L		09/16/15 08:49	09/17/15 15:25	1
Atrazine	0.95	U	0.95	0.32	ug/L		09/16/15 08:49	09/17/15 15:25	1
Benzaldehyde	0.95	U	0.95	0.37	ug/L		09/16/15 08:49	09/17/15 15:25	1
Benzo[a]anthracene	0.19	U	0.19	0.028	ug/L		09/16/15 08:49	09/17/15 15:25	1
Benzo[a]pyrene	0.19	U	0.19	0.049	ug/L		09/16/15 08:49	09/17/15 15:25	1
Benzo[b]fluoranthene	0.19	U	0.19	0.038	ug/L		09/16/15 08:49	09/17/15 15:25	1
Benzo[g,h,i]perylene	0.19	U	0.19	0.044	ug/L		09/16/15 08:49	09/17/15 15:25	1
Benzo[k]fluoranthene	0.19	U	0.19	0.043	ug/L		09/16/15 08:49	09/17/15 15:25	1
Bis(2-chloroethoxy)methane	0.95	U	0.95	0.30	ug/L		09/16/15 08:49	09/17/15 15:25	1
Bis(2-chloroethyl)ether	0.95	U	0.95	0.095	ug/L		09/16/15 08:49	09/17/15 15:25	1
Bis(2-ethylhexyl) phthalate	4.8	U	4.8	1.6	ug/L		09/16/15 08:49	09/17/15 15:25	1
Butyl benzyl phthalate	1.9	U	1.9	0.25	ug/L		09/16/15 08:49	09/17/15 15:25	1
Caprolactam	4.8	U	4.8	0.19	ug/L		09/16/15 08:49	09/17/15 15:25	1
Carbazole	0.95	U	0.95	0.27	ug/L		09/16/15 08:49	09/17/15 15:25	1
Chrysene	0.19	U	0.19	0.048	ug/L		09/16/15 08:49	09/17/15 15:25	1
Dibenz(a,h)anthracene	0.19	U	0.19	0.042	ug/L		09/16/15 08:49	09/17/15 15:25	1
Dibenzofuran	0.95	U	0.95	0.019	ug/L		09/16/15 08:49	09/17/15 15:25	1
Diethyl phthalate	1.9	U	1.9	0.57	ug/L		09/16/15 08:49	09/17/15 15:25	1
Dimethyl phthalate	1.9	U	1.9	0.28	ug/L		09/16/15 08:49	09/17/15 15:25	1
Di-n-butyl phthalate	4.8	U	4.8	1.6	ug/L		09/16/15 08:49	09/17/15 15:25	1
Di-n-octyl phthalate	1.9	U	1.9	0.22	ug/L		09/16/15 08:49	09/17/15 15:25	1
Fluoranthene	0.19	U	0.19	0.042	ug/L		09/16/15 08:49	09/17/15 15:25	1

TestAmerica Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11103430, NL Industries

TestAmerica Job ID: 240-55387-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: WG-11103430-091415-DT-001

Date Collected: 09/14/15 11:35

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55387-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	0.19	U	0.19	0.039	ug/L		09/16/15 08:49	09/17/15 15:25	1
Hexachlorobenzene	0.19	U	0.19	0.081	ug/L		09/16/15 08:49	09/17/15 15:25	1
Hexachlorobutadiene	0.95	U	0.95	0.26	ug/L		09/16/15 08:49	09/17/15 15:25	1
Hexachlorocyclopentadiene	9.5	U	9.5	0.23	ug/L		09/16/15 08:49	09/17/15 15:25	1
Hexachloroethane	0.95	U	0.95	0.18	ug/L		09/16/15 08:49	09/17/15 15:25	1
Indeno[1,2,3-cd]pyrene	0.19	U	0.19	0.041	ug/L		09/16/15 08:49	09/17/15 15:25	1
Isophorone	0.95	U	0.95	0.26	ug/L		09/16/15 08:49	09/17/15 15:25	1
N-Nitrosodi-n-propylamine	0.95	U	0.95	0.23	ug/L		09/16/15 08:49	09/17/15 15:25	1
N-Nitrosodiphenylamine	0.95	U	0.95	0.30	ug/L		09/16/15 08:49	09/17/15 15:25	1
Naphthalene	0.19	U	0.19	0.060	ug/L		09/16/15 08:49	09/17/15 15:25	1
Nitrobenzene	0.95	U	0.95	0.038	ug/L		09/16/15 08:49	09/17/15 15:25	1
Pentachlorophenol	4.8	U	4.8	0.26	ug/L		09/16/15 08:49	09/17/15 15:25	1
Phenanthrene	0.19	U	0.19	0.059	ug/L		09/16/15 08:49	09/17/15 15:25	1
Phenol	0.95	U	0.95	0.57	ug/L		09/16/15 08:49	09/17/15 15:25	1
Pyrene	0.19	U	0.19	0.040	ug/L		09/16/15 08:49	09/17/15 15:25	1
3 & 4 Methylphenol	1.9	U	1.9	0.76	ug/L		09/16/15 08:49	09/17/15 15:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14 (Surr)	50		31 - 115	09/16/15 08:49	09/17/15 15:25	1
Phenol-d5 (Surr)	15		10 - 110	09/16/15 08:49	09/17/15 15:25	1
Nitrobenzene-d5 (Surr)	56		31 - 110	09/16/15 08:49	09/17/15 15:25	1
2-Fluorophenol (Surr)	27		15 - 110	09/16/15 08:49	09/17/15 15:25	1
2-Fluorobiphenyl (Surr)	54		29 - 110	09/16/15 08:49	09/17/15 15:25	1
2,4,6-Tribromophenol (Surr)	49		21 - 128	09/16/15 08:49	09/17/15 15:25	1

Client Sample ID: EB-11103430-091415-SG-002

Date Collected: 09/14/15 00:00

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55387-2

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	0.95	U	0.95	0.12	ug/L		09/16/15 08:49	09/17/15 15:47	1
bis (2-chloroisopropyl) ether	0.95	U	0.95	0.38	ug/L		09/16/15 08:49	09/17/15 15:47	1
2,4,5-Trichlorophenol	4.8	U	4.8	0.29	ug/L		09/16/15 08:49	09/17/15 15:47	1
2,4,6-Trichlorophenol	4.8	U	4.8	0.23	ug/L		09/16/15 08:49	09/17/15 15:47	1
2,4-Dichlorophenol	1.9	U	1.9	0.18	ug/L		09/16/15 08:49	09/17/15 15:47	1
2,4-Dimethylphenol	1.9	U	1.9	0.24	ug/L		09/16/15 08:49	09/17/15 15:47	1
2,4-Dinitrophenol	4.8	U	4.8	0.30	ug/L		09/16/15 08:49	09/17/15 15:47	1
2,4-Dinitrotoluene	4.8	U	4.8	0.24	ug/L		09/16/15 08:49	09/17/15 15:47	1
2,6-Dinitrotoluene	4.8	U	4.8	0.76	ug/L		09/16/15 08:49	09/17/15 15:47	1
2-Chloronaphthalene	0.95	U	0.95	0.095	ug/L		09/16/15 08:49	09/17/15 15:47	1
2-Chlorophenol	0.95	U	0.95	0.28	ug/L		09/16/15 08:49	09/17/15 15:47	1
2-Methylnaphthalene	0.19	U	0.19	0.086	ug/L		09/16/15 08:49	09/17/15 15:47	1
2-Methylphenol	0.95	U	0.95	0.16	ug/L		09/16/15 08:49	09/17/15 15:47	1
2-Nitroaniline	1.9	U	1.9	0.20	ug/L		09/16/15 08:49	09/17/15 15:47	1
2-Nitrophenol	1.9	U	1.9	0.27	ug/L		09/16/15 08:49	09/17/15 15:47	1
3,3'-Dichlorobenzidine	4.8	U	4.8	0.35	ug/L		09/16/15 08:49	09/17/15 15:47	1
3-Nitroaniline	1.9	U	1.9	0.27	ug/L		09/16/15 08:49	09/17/15 15:47	1
4,6-Dinitro-2-methylphenol	4.8	U	4.8	2.3	ug/L		09/16/15 08:49	09/17/15 15:47	1
4-Bromophenyl phenyl ether	1.9	U	1.9	0.21	ug/L		09/16/15 08:49	09/17/15 15:47	1
4-Chloro-3-methylphenol	1.9	U	1.9	0.20	ug/L		09/16/15 08:49	09/17/15 15:47	1
4-Chloroaniline	1.9	U	1.9	0.20	ug/L		09/16/15 08:49	09/17/15 15:47	1

TestAmerica Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11103430, NL Industries

TestAmerica Job ID: 240-55387-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: EB-11103430-091415-SG-002

Date Collected: 09/14/15 00:00

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55387-2

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorophenyl phenyl ether	1.9	U	1.9	0.29	ug/L		09/16/15 08:49	09/17/15 15:47	1
4-Nitroaniline	1.9	U	1.9	0.21	ug/L		09/16/15 08:49	09/17/15 15:47	1
4-Nitrophenol	4.8	U	4.8	0.28	ug/L		09/16/15 08:49	09/17/15 15:47	1
Acenaphthene	0.19	U	0.19	0.042	ug/L		09/16/15 08:49	09/17/15 15:47	1
Acenaphthylene	0.19	U	0.19	0.046	ug/L		09/16/15 08:49	09/17/15 15:47	1
Acetophenone	0.95	U	0.95	0.32	ug/L		09/16/15 08:49	09/17/15 15:47	1
Anthracene	0.19	U	0.19	0.084	ug/L		09/16/15 08:49	09/17/15 15:47	1
Atrazine	0.95	U	0.95	0.32	ug/L		09/16/15 08:49	09/17/15 15:47	1
Benzaldehyde	0.95	U	0.95	0.37	ug/L		09/16/15 08:49	09/17/15 15:47	1
Benzo[a]anthracene	0.19	U	0.19	0.028	ug/L		09/16/15 08:49	09/17/15 15:47	1
Benzo[a]pyrene	0.19	U	0.19	0.049	ug/L		09/16/15 08:49	09/17/15 15:47	1
Benzo[b]fluoranthene	0.19	U	0.19	0.038	ug/L		09/16/15 08:49	09/17/15 15:47	1
Benzo[g,h,i]perylene	0.19	U	0.19	0.044	ug/L		09/16/15 08:49	09/17/15 15:47	1
Benzo[k]fluoranthene	0.19	U	0.19	0.043	ug/L		09/16/15 08:49	09/17/15 15:47	1
Bis(2-chloroethoxy)methane	0.95	U	0.95	0.30	ug/L		09/16/15 08:49	09/17/15 15:47	1
Bis(2-chloroethyl)ether	0.95	U	0.95	0.095	ug/L		09/16/15 08:49	09/17/15 15:47	1
Bis(2-ethylhexyl) phthalate	4.8	U	4.8	1.6	ug/L		09/16/15 08:49	09/17/15 15:47	1
Butyl benzyl phthalate	1.9	U	1.9	0.25	ug/L		09/16/15 08:49	09/17/15 15:47	1
Caprolactam	4.8	U	4.8	0.19	ug/L		09/16/15 08:49	09/17/15 15:47	1
Carbazole	0.95	U	0.95	0.27	ug/L		09/16/15 08:49	09/17/15 15:47	1
Chrysene	0.19	U	0.19	0.048	ug/L		09/16/15 08:49	09/17/15 15:47	1
Dibenz(a,h)anthracene	0.19	U	0.19	0.042	ug/L		09/16/15 08:49	09/17/15 15:47	1
Dibenzofuran	0.95	U	0.95	0.019	ug/L		09/16/15 08:49	09/17/15 15:47	1
Diethyl phthalate	1.9	U	1.9	0.57	ug/L		09/16/15 08:49	09/17/15 15:47	1
Dimethyl phthalate	1.9	U	1.9	0.28	ug/L		09/16/15 08:49	09/17/15 15:47	1
Di-n-butyl phthalate	4.8	U	4.8	1.6	ug/L		09/16/15 08:49	09/17/15 15:47	1
Di-n-octyl phthalate	1.9	U	1.9	0.22	ug/L		09/16/15 08:49	09/17/15 15:47	1
Fluoranthene	0.19	U	0.19	0.042	ug/L		09/16/15 08:49	09/17/15 15:47	1
Fluorene	0.19	U	0.19	0.039	ug/L		09/16/15 08:49	09/17/15 15:47	1
Hexachlorobenzene	0.19	U	0.19	0.081	ug/L		09/16/15 08:49	09/17/15 15:47	1
Hexachlorobutadiene	0.95	U	0.95	0.26	ug/L		09/16/15 08:49	09/17/15 15:47	1
Hexachlorocyclopentadiene	9.5	U	9.5	0.23	ug/L		09/16/15 08:49	09/17/15 15:47	1
Hexachloroethane	0.95	U	0.95	0.18	ug/L		09/16/15 08:49	09/17/15 15:47	1
Indeno[1,2,3-cd]pyrene	0.19	U	0.19	0.041	ug/L		09/16/15 08:49	09/17/15 15:47	1
Isophorone	0.95	U	0.95	0.26	ug/L		09/16/15 08:49	09/17/15 15:47	1
N-Nitrosodi-n-propylamine	0.95	U	0.95	0.23	ug/L		09/16/15 08:49	09/17/15 15:47	1
N-Nitrosodiphenylamine	0.95	U	0.95	0.30	ug/L		09/16/15 08:49	09/17/15 15:47	1
Naphthalene	0.19	U	0.19	0.060	ug/L		09/16/15 08:49	09/17/15 15:47	1
Nitrobenzene	0.95	U	0.95	0.038	ug/L		09/16/15 08:49	09/17/15 15:47	1
Pentachlorophenol	4.8	U	4.8	0.26	ug/L		09/16/15 08:49	09/17/15 15:47	1
Phenanthrene	0.19	U	0.19	0.059	ug/L		09/16/15 08:49	09/17/15 15:47	1
Phenol	0.95	U	0.95	0.57	ug/L		09/16/15 08:49	09/17/15 15:47	1
Pyrene	0.19	U	0.19	0.040	ug/L		09/16/15 08:49	09/17/15 15:47	1
3 & 4 Methylphenol	1.9	U	1.9	0.76	ug/L		09/16/15 08:49	09/17/15 15:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14 (Surr)	67		31 - 115	09/16/15 08:49	09/17/15 15:47	1
Phenol-d5 (Surr)	14		10 - 110	09/16/15 08:49	09/17/15 15:47	1
Nitrobenzene-d5 (Surr)	50		31 - 110	09/16/15 08:49	09/17/15 15:47	1
2-Fluorophenol (Surr)	25		15 - 110	09/16/15 08:49	09/17/15 15:47	1

TestAmerica Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11103430, NL Industries

TestAmerica Job ID: 240-55387-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: EB-11103430-091415-SG-002

Date Collected: 09/14/15 00:00

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55387-2

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	49		29 - 110	09/16/15 08:49	09/17/15 15:47	1
2,4,6-Tribromophenol (Surr)	43		21 - 128	09/16/15 08:49	09/17/15 15:47	1

Client Sample ID: WG-11103430-091415-DT-003

Date Collected: 09/14/15 12:30

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55387-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	0.95	U	0.95	0.12	ug/L		09/16/15 08:49	09/17/15 16:09	1
bis (2-chloroisopropyl) ether	0.95	U	0.95	0.38	ug/L		09/16/15 08:49	09/17/15 16:09	1
2,4,5-Trichlorophenol	4.8	U	4.8	0.29	ug/L		09/16/15 08:49	09/17/15 16:09	1
2,4,6-Trichlorophenol	4.8	U	4.8	0.23	ug/L		09/16/15 08:49	09/17/15 16:09	1
2,4-Dichlorophenol	1.9	U	1.9	0.18	ug/L		09/16/15 08:49	09/17/15 16:09	1
2,4-Dimethylphenol	1.9	U	1.9	0.24	ug/L		09/16/15 08:49	09/17/15 16:09	1
2,4-Dinitrophenol	4.8	U	4.8	0.30	ug/L		09/16/15 08:49	09/17/15 16:09	1
2,4-Dinitrotoluene	4.8	U	4.8	0.24	ug/L		09/16/15 08:49	09/17/15 16:09	1
2,6-Dinitrotoluene	4.8	U	4.8	0.76	ug/L		09/16/15 08:49	09/17/15 16:09	1
2-Chloronaphthalene	0.95	U	0.95	0.095	ug/L		09/16/15 08:49	09/17/15 16:09	1
2-Chlorophenol	0.95	U	0.95	0.28	ug/L		09/16/15 08:49	09/17/15 16:09	1
2-Methylnaphthalene	0.19	U	0.19	0.086	ug/L		09/16/15 08:49	09/17/15 16:09	1
2-Methylphenol	0.95	U	0.95	0.16	ug/L		09/16/15 08:49	09/17/15 16:09	1
2-Nitroaniline	1.9	U	1.9	0.20	ug/L		09/16/15 08:49	09/17/15 16:09	1
2-Nitrophenol	1.9	U	1.9	0.27	ug/L		09/16/15 08:49	09/17/15 16:09	1
3,3'-Dichlorobenzidine	4.8	U	4.8	0.35	ug/L		09/16/15 08:49	09/17/15 16:09	1
3-Nitroaniline	1.9	U	1.9	0.27	ug/L		09/16/15 08:49	09/17/15 16:09	1
4,6-Dinitro-2-methylphenol	4.8	U	4.8	2.3	ug/L		09/16/15 08:49	09/17/15 16:09	1
4-Bromophenyl phenyl ether	1.9	U	1.9	0.21	ug/L		09/16/15 08:49	09/17/15 16:09	1
4-Chloro-3-methylphenol	1.9	U	1.9	0.20	ug/L		09/16/15 08:49	09/17/15 16:09	1
4-Chloroaniline	1.9	U	1.9	0.20	ug/L		09/16/15 08:49	09/17/15 16:09	1
4-Chlorophenyl phenyl ether	1.9	U	1.9	0.29	ug/L		09/16/15 08:49	09/17/15 16:09	1
4-Nitroaniline	1.9	U	1.9	0.21	ug/L		09/16/15 08:49	09/17/15 16:09	1
4-Nitrophenol	4.8	U	4.8	0.28	ug/L		09/16/15 08:49	09/17/15 16:09	1
Acenaphthene	0.19	U	0.19	0.042	ug/L		09/16/15 08:49	09/17/15 16:09	1
Acenaphthylene	0.19	U	0.19	0.046	ug/L		09/16/15 08:49	09/17/15 16:09	1
Acetophenone	0.95	U	0.95	0.32	ug/L		09/16/15 08:49	09/17/15 16:09	1
Anthracene	0.19	U	0.19	0.084	ug/L		09/16/15 08:49	09/17/15 16:09	1
Atrazine	0.95	U	0.95	0.32	ug/L		09/16/15 08:49	09/17/15 16:09	1
Benzaldehyde	0.95	U	0.95	0.37	ug/L		09/16/15 08:49	09/17/15 16:09	1
Benzo[a]anthracene	0.19	U	0.19	0.028	ug/L		09/16/15 08:49	09/17/15 16:09	1
Benzo[a]pyrene	0.19	U	0.19	0.049	ug/L		09/16/15 08:49	09/17/15 16:09	1
Benzo[b]fluoranthene	0.19	U	0.19	0.038	ug/L		09/16/15 08:49	09/17/15 16:09	1
Benzo[g,h,i]perylene	0.19	U	0.19	0.044	ug/L		09/16/15 08:49	09/17/15 16:09	1
Benzo[k]fluoranthene	0.19	U	0.19	0.043	ug/L		09/16/15 08:49	09/17/15 16:09	1
Bis(2-chloroethoxy)methane	0.95	U	0.95	0.30	ug/L		09/16/15 08:49	09/17/15 16:09	1
Bis(2-chloroethyl)ether	0.95	U	0.95	0.095	ug/L		09/16/15 08:49	09/17/15 16:09	1
Bis(2-ethylhexyl) phthalate	4.8	U	4.8	1.6	ug/L		09/16/15 08:49	09/17/15 16:09	1
Butyl benzyl phthalate	1.9	U	1.9	0.25	ug/L		09/16/15 08:49	09/17/15 16:09	1
Caprolactam	4.8	U	4.8	0.19	ug/L		09/16/15 08:49	09/17/15 16:09	1
Carbazole	0.95	U	0.95	0.27	ug/L		09/16/15 08:49	09/17/15 16:09	1
Chrysene	0.19	U	0.19	0.048	ug/L		09/16/15 08:49	09/17/15 16:09	1

TestAmerica Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11103430, NL Industries

TestAmerica Job ID: 240-55387-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: WG-11103430-091415-DT-003

Date Collected: 09/14/15 12:30

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55387-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenz(a,h)anthracene	0.19	U	0.19	0.042	ug/L		09/16/15 08:49	09/17/15 16:09	1
Dibenzofuran	0.95	U	0.95	0.019	ug/L		09/16/15 08:49	09/17/15 16:09	1
Diethyl phthalate	1.9	U	1.9	0.57	ug/L		09/16/15 08:49	09/17/15 16:09	1
Dimethyl phthalate	1.9	U	1.9	0.28	ug/L		09/16/15 08:49	09/17/15 16:09	1
Di-n-butyl phthalate	4.8	U	4.8	1.6	ug/L		09/16/15 08:49	09/17/15 16:09	1
Di-n-octyl phthalate	1.9	U	1.9	0.22	ug/L		09/16/15 08:49	09/17/15 16:09	1
Fluoranthene	0.19	U	0.19	0.042	ug/L		09/16/15 08:49	09/17/15 16:09	1
Fluorene	0.19	U	0.19	0.039	ug/L		09/16/15 08:49	09/17/15 16:09	1
Hexachlorobenzene	0.19	U	0.19	0.081	ug/L		09/16/15 08:49	09/17/15 16:09	1
Hexachlorobutadiene	0.95	U	0.95	0.26	ug/L		09/16/15 08:49	09/17/15 16:09	1
Hexachlorocyclopentadiene	9.5	U	9.5	0.23	ug/L		09/16/15 08:49	09/17/15 16:09	1
Hexachloroethane	0.95	U	0.95	0.18	ug/L		09/16/15 08:49	09/17/15 16:09	1
Indeno[1,2,3-cd]pyrene	0.19	U	0.19	0.041	ug/L		09/16/15 08:49	09/17/15 16:09	1
Isophorone	0.95	U	0.95	0.26	ug/L		09/16/15 08:49	09/17/15 16:09	1
N-Nitrosodi-n-propylamine	0.95	U	0.95	0.23	ug/L		09/16/15 08:49	09/17/15 16:09	1
N-Nitrosodiphenylamine	0.95	U	0.95	0.30	ug/L		09/16/15 08:49	09/17/15 16:09	1
Naphthalene	0.19	U	0.19	0.060	ug/L		09/16/15 08:49	09/17/15 16:09	1
Nitrobenzene	0.95	U	0.95	0.038	ug/L		09/16/15 08:49	09/17/15 16:09	1
Pentachlorophenol	4.8	U	4.8	0.26	ug/L		09/16/15 08:49	09/17/15 16:09	1
Phenanthrene	0.19	U	0.19	0.059	ug/L		09/16/15 08:49	09/17/15 16:09	1
Phenol	0.95	U	0.95	0.57	ug/L		09/16/15 08:49	09/17/15 16:09	1
Pyrene	0.19	U	0.19	0.040	ug/L		09/16/15 08:49	09/17/15 16:09	1
3 & 4 Methylphenol	1.9	U	1.9	0.76	ug/L		09/16/15 08:49	09/17/15 16:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14 (Surr)	56		31 - 115	09/16/15 08:49	09/17/15 16:09	1
Phenol-d5 (Surr)	14		10 - 110	09/16/15 08:49	09/17/15 16:09	1
Nitrobenzene-d5 (Surr)	59		31 - 110	09/16/15 08:49	09/17/15 16:09	1
2-Fluorophenol (Surr)	26		15 - 110	09/16/15 08:49	09/17/15 16:09	1
2-Fluorobiphenyl (Surr)	60		29 - 110	09/16/15 08:49	09/17/15 16:09	1
2,4,6-Tribromophenol (Surr)	55		21 - 128	09/16/15 08:49	09/17/15 16:09	1

Client Sample ID: WG-11103430-091415-SG-004

Date Collected: 09/14/15 11:55

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55387-4

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	0.96	U	0.96	0.13	ug/L		09/16/15 08:49	09/17/15 16:32	1
bis (2-chloroisopropyl) ether	0.96	U	0.96	0.38	ug/L		09/16/15 08:49	09/17/15 16:32	1
2,4,5-Trichlorophenol	4.8	U	4.8	0.29	ug/L		09/16/15 08:49	09/17/15 16:32	1
2,4,6-Trichlorophenol	4.8	U	4.8	0.23	ug/L		09/16/15 08:49	09/17/15 16:32	1
2,4-Dichlorophenol	1.9	U	1.9	0.18	ug/L		09/16/15 08:49	09/17/15 16:32	1
2,4-Dimethylphenol	1.9	U	1.9	0.24	ug/L		09/16/15 08:49	09/17/15 16:32	1
2,4-Dinitrophenol	4.8	U	4.8	0.31	ug/L		09/16/15 08:49	09/17/15 16:32	1
2,4-Dinitrotoluene	4.8	U	4.8	0.24	ug/L		09/16/15 08:49	09/17/15 16:32	1
2,6-Dinitrotoluene	4.8	U	4.8	0.77	ug/L		09/16/15 08:49	09/17/15 16:32	1
2-Chloronaphthalene	0.96	U	0.96	0.096	ug/L		09/16/15 08:49	09/17/15 16:32	1
2-Chlorophenol	0.96	U	0.96	0.28	ug/L		09/16/15 08:49	09/17/15 16:32	1
2-Methylnaphthalene	0.19	U	0.19	0.087	ug/L		09/16/15 08:49	09/17/15 16:32	1
2-Methylphenol	0.96	U	0.96	0.16	ug/L		09/16/15 08:49	09/17/15 16:32	1
2-Nitroaniline	1.9	U	1.9	0.20	ug/L		09/16/15 08:49	09/17/15 16:32	1

TestAmerica Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11103430, NL Industries

TestAmerica Job ID: 240-55387-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: WG-11103430-091415-SG-004

Date Collected: 09/14/15 11:55

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55387-4

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Nitrophenol	1.9	U	1.9	0.27	ug/L		09/16/15 08:49	09/17/15 16:32	1
3,3'-Dichlorobenzidine	4.8	U	4.8	0.36	ug/L		09/16/15 08:49	09/17/15 16:32	1
3-Nitroaniline	1.9	U	1.9	0.27	ug/L		09/16/15 08:49	09/17/15 16:32	1
4,6-Dinitro-2-methylphenol	4.8	U	4.8	2.3	ug/L		09/16/15 08:49	09/17/15 16:32	1
4-Bromophenyl phenyl ether	1.9	U	1.9	0.21	ug/L		09/16/15 08:49	09/17/15 16:32	1
4-Chloro-3-methylphenol	1.9	U	1.9	0.20	ug/L		09/16/15 08:49	09/17/15 16:32	1
4-Chloroaniline	1.9	U	1.9	0.20	ug/L		09/16/15 08:49	09/17/15 16:32	1
4-Chlorophenyl phenyl ether	1.9	U	1.9	0.29	ug/L		09/16/15 08:49	09/17/15 16:32	1
4-Nitroaniline	1.9	U	1.9	0.21	ug/L		09/16/15 08:49	09/17/15 16:32	1
4-Nitrophenol	4.8	U	4.8	0.28	ug/L		09/16/15 08:49	09/17/15 16:32	1
Acenaphthene	0.19	U	0.19	0.043	ug/L		09/16/15 08:49	09/17/15 16:32	1
Acenaphthylene	0.19	U	0.19	0.046	ug/L		09/16/15 08:49	09/17/15 16:32	1
Acetophenone	0.96	U	0.96	0.33	ug/L		09/16/15 08:49	09/17/15 16:32	1
Anthracene	0.19	U	0.19	0.085	ug/L		09/16/15 08:49	09/17/15 16:32	1
Atrazine	0.96	U	0.96	0.33	ug/L		09/16/15 08:49	09/17/15 16:32	1
Benzaldehyde	0.96	U	0.96	0.37	ug/L		09/16/15 08:49	09/17/15 16:32	1
Benzo[a]anthracene	0.19	U	0.19	0.028	ug/L		09/16/15 08:49	09/17/15 16:32	1
Benzo[a]pyrene	0.19	U	0.19	0.049	ug/L		09/16/15 08:49	09/17/15 16:32	1
Benzo[b]fluoranthene	0.19	U	0.19	0.038	ug/L		09/16/15 08:49	09/17/15 16:32	1
Benzo[g,h,i]perylene	0.19	U	0.19	0.045	ug/L		09/16/15 08:49	09/17/15 16:32	1
Benzo[k]fluoranthene	0.19	U	0.19	0.043	ug/L		09/16/15 08:49	09/17/15 16:32	1
Bis(2-chloroethoxy)methane	0.96	U	0.96	0.31	ug/L		09/16/15 08:49	09/17/15 16:32	1
Bis(2-chloroethyl)ether	0.96	U	0.96	0.096	ug/L		09/16/15 08:49	09/17/15 16:32	1
Bis(2-ethylhexyl) phthalate	4.8	U	4.8	1.6	ug/L		09/16/15 08:49	09/17/15 16:32	1
Butyl benzyl phthalate	1.9	U	1.9	0.25	ug/L		09/16/15 08:49	09/17/15 16:32	1
Caprolactam	4.8	U	4.8	0.19	ug/L		09/16/15 08:49	09/17/15 16:32	1
Carbazole	0.96	U	0.96	0.27	ug/L		09/16/15 08:49	09/17/15 16:32	1
Chrysene	0.19	U	0.19	0.048	ug/L		09/16/15 08:49	09/17/15 16:32	1
Dibenz(a,h)anthracene	0.19	U	0.19	0.043	ug/L		09/16/15 08:49	09/17/15 16:32	1
Dibenzofuran	0.96	U	0.96	0.019	ug/L		09/16/15 08:49	09/17/15 16:32	1
Diethyl phthalate	1.9	U	1.9	0.58	ug/L		09/16/15 08:49	09/17/15 16:32	1
Dimethyl phthalate	1.9	U	1.9	0.28	ug/L		09/16/15 08:49	09/17/15 16:32	1
Di-n-butyl phthalate	4.8	U	4.8	1.6	ug/L		09/16/15 08:49	09/17/15 16:32	1
Di-n-octyl phthalate	1.9	U	1.9	0.22	ug/L		09/16/15 08:49	09/17/15 16:32	1
Fluoranthene	0.19	U	0.19	0.043	ug/L		09/16/15 08:49	09/17/15 16:32	1
Fluorene	0.19	U	0.19	0.039	ug/L		09/16/15 08:49	09/17/15 16:32	1
Hexachlorobenzene	0.19	U	0.19	0.082	ug/L		09/16/15 08:49	09/17/15 16:32	1
Hexachlorobutadiene	0.96	U	0.96	0.26	ug/L		09/16/15 08:49	09/17/15 16:32	1
Hexachlorocyclopentadiene	9.6	U	9.6	0.23	ug/L		09/16/15 08:49	09/17/15 16:32	1
Hexachloroethane	0.96	U	0.96	0.18	ug/L		09/16/15 08:49	09/17/15 16:32	1
Indeno[1,2,3-cd]pyrene	0.19	U	0.19	0.042	ug/L		09/16/15 08:49	09/17/15 16:32	1
Isophorone	0.96	U	0.96	0.26	ug/L		09/16/15 08:49	09/17/15 16:32	1
N-Nitrosodi-n-propylamine	0.96	U	0.96	0.23	ug/L		09/16/15 08:49	09/17/15 16:32	1
N-Nitrosodiphenylamine	0.96	U	0.96	0.30	ug/L		09/16/15 08:49	09/17/15 16:32	1
Naphthalene	0.19	U	0.19	0.060	ug/L		09/16/15 08:49	09/17/15 16:32	1
Nitrobenzene	0.96	U	0.96	0.038	ug/L		09/16/15 08:49	09/17/15 16:32	1
Pentachlorophenol	4.8	U	4.8	0.26	ug/L		09/16/15 08:49	09/17/15 16:32	1
Phenanthrene	0.19	U	0.19	0.060	ug/L		09/16/15 08:49	09/17/15 16:32	1
Phenol	0.96	U	0.96	0.58	ug/L		09/16/15 08:49	09/17/15 16:32	1

TestAmerica Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11103430, NL Industries

TestAmerica Job ID: 240-55387-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: WG-11103430-091415-SG-004

Date Collected: 09/14/15 11:55

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55387-4

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	0.19	U	0.19	0.040	ug/L		09/16/15 08:49	09/17/15 16:32	1
3 & 4 Methylphenol	1.9	U	1.9	0.77	ug/L		09/16/15 08:49	09/17/15 16:32	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14 (Surr)	53		31 - 115				09/16/15 08:49	09/17/15 16:32	1
Phenol-d5 (Surr)	15		10 - 110				09/16/15 08:49	09/17/15 16:32	1
Nitrobenzene-d5 (Surr)	56		31 - 110				09/16/15 08:49	09/17/15 16:32	1
2-Fluorophenol (Surr)	26		15 - 110				09/16/15 08:49	09/17/15 16:32	1
2-Fluorobiphenyl (Surr)	56		29 - 110				09/16/15 08:49	09/17/15 16:32	1
2,4,6-Tribromophenol (Surr)	55		21 - 128				09/16/15 08:49	09/17/15 16:32	1

Client Sample ID: WG-11103430-091415-DT-005

Date Collected: 09/14/15 14:25

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55387-5

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	0.95	U	0.95	0.12	ug/L		09/16/15 08:49	09/17/15 16:54	1
bis (2-chloroisopropyl) ether	0.95	U	0.95	0.38	ug/L		09/16/15 08:49	09/17/15 16:54	1
2,4,5-Trichlorophenol	4.8	U	4.8	0.29	ug/L		09/16/15 08:49	09/17/15 16:54	1
2,4,6-Trichlorophenol	4.8	U	4.8	0.23	ug/L		09/16/15 08:49	09/17/15 16:54	1
2,4-Dichlorophenol	1.9	U	1.9	0.18	ug/L		09/16/15 08:49	09/17/15 16:54	1
2,4-Dimethylphenol	1.9	U	1.9	0.24	ug/L		09/16/15 08:49	09/17/15 16:54	1
2,4-Dinitrophenol	4.8	U	4.8	0.30	ug/L		09/16/15 08:49	09/17/15 16:54	1
2,4-Dinitrotoluene	4.8	U	4.8	0.24	ug/L		09/16/15 08:49	09/17/15 16:54	1
2,6-Dinitrotoluene	4.8	U	4.8	0.76	ug/L		09/16/15 08:49	09/17/15 16:54	1
2-Chloronaphthalene	0.95	U	0.95	0.095	ug/L		09/16/15 08:49	09/17/15 16:54	1
2-Chlorophenol	0.95	U	0.95	0.28	ug/L		09/16/15 08:49	09/17/15 16:54	1
2-Methylnaphthalene	0.19	U	0.19	0.086	ug/L		09/16/15 08:49	09/17/15 16:54	1
2-Methylphenol	0.95	U	0.95	0.16	ug/L		09/16/15 08:49	09/17/15 16:54	1
2-Nitroaniline	1.9	U	1.9	0.20	ug/L		09/16/15 08:49	09/17/15 16:54	1
2-Nitrophenol	1.9	U	1.9	0.27	ug/L		09/16/15 08:49	09/17/15 16:54	1
3,3'-Dichlorobenzidine	4.8	U	4.8	0.35	ug/L		09/16/15 08:49	09/17/15 16:54	1
3-Nitroaniline	1.9	U	1.9	0.27	ug/L		09/16/15 08:49	09/17/15 16:54	1
4,6-Dinitro-2-methylphenol	4.8	U	4.8	2.3	ug/L		09/16/15 08:49	09/17/15 16:54	1
4-Bromophenyl phenyl ether	1.9	U	1.9	0.21	ug/L		09/16/15 08:49	09/17/15 16:54	1
4-Chloro-3-methylphenol	1.9	U	1.9	0.20	ug/L		09/16/15 08:49	09/17/15 16:54	1
4-Chloroaniline	1.9	U	1.9	0.20	ug/L		09/16/15 08:49	09/17/15 16:54	1
4-Chlorophenyl phenyl ether	1.9	U	1.9	0.29	ug/L		09/16/15 08:49	09/17/15 16:54	1
4-Nitroaniline	1.9	U	1.9	0.21	ug/L		09/16/15 08:49	09/17/15 16:54	1
4-Nitrophenol	4.8	U	4.8	0.28	ug/L		09/16/15 08:49	09/17/15 16:54	1
Acenaphthene	0.19	U	0.19	0.042	ug/L		09/16/15 08:49	09/17/15 16:54	1
Acenaphthylene	0.19	U	0.19	0.046	ug/L		09/16/15 08:49	09/17/15 16:54	1
Acetophenone	0.95	U	0.95	0.32	ug/L		09/16/15 08:49	09/17/15 16:54	1
Anthracene	0.19	U	0.19	0.084	ug/L		09/16/15 08:49	09/17/15 16:54	1
Atrazine	0.95	U	0.95	0.32	ug/L		09/16/15 08:49	09/17/15 16:54	1
Benzaldehyde	0.95	U	0.95	0.37	ug/L		09/16/15 08:49	09/17/15 16:54	1
Benzo[a]anthracene	0.19	U	0.19	0.028	ug/L		09/16/15 08:49	09/17/15 16:54	1
Benzo[a]pyrene	0.19	U	0.19	0.049	ug/L		09/16/15 08:49	09/17/15 16:54	1
Benzo[b]fluoranthene	0.19	U	0.19	0.038	ug/L		09/16/15 08:49	09/17/15 16:54	1
Benzo[g,h,i]perylene	0.19	U	0.19	0.044	ug/L		09/16/15 08:49	09/17/15 16:54	1
Benzo[k]fluoranthene	0.19	U	0.19	0.043	ug/L		09/16/15 08:49	09/17/15 16:54	1

TestAmerica Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11103430, NL Industries

TestAmerica Job ID: 240-55387-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: WG-11103430-091415-DT-005

Date Collected: 09/14/15 14:25

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55387-5

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-chloroethoxy)methane	0.95	U	0.95	0.30	ug/L		09/16/15 08:49	09/17/15 16:54	1
Bis(2-chloroethyl)ether	0.95	U	0.95	0.095	ug/L		09/16/15 08:49	09/17/15 16:54	1
Bis(2-ethylhexyl) phthalate	4.8	U	4.8	1.6	ug/L		09/16/15 08:49	09/17/15 16:54	1
Butyl benzyl phthalate	1.9	U	1.9	0.25	ug/L		09/16/15 08:49	09/17/15 16:54	1
Caprolactam	4.8	U	4.8	0.19	ug/L		09/16/15 08:49	09/17/15 16:54	1
Carbazole	0.95	U	0.95	0.27	ug/L		09/16/15 08:49	09/17/15 16:54	1
Chrysene	0.19	U	0.19	0.048	ug/L		09/16/15 08:49	09/17/15 16:54	1
Dibenz(a,h)anthracene	0.19	U	0.19	0.042	ug/L		09/16/15 08:49	09/17/15 16:54	1
Dibenzofuran	0.95	U	0.95	0.019	ug/L		09/16/15 08:49	09/17/15 16:54	1
Diethyl phthalate	1.9	U	1.9	0.57	ug/L		09/16/15 08:49	09/17/15 16:54	1
Dimethyl phthalate	1.9	U	1.9	0.28	ug/L		09/16/15 08:49	09/17/15 16:54	1
Di-n-butyl phthalate	4.8	U	4.8	1.6	ug/L		09/16/15 08:49	09/17/15 16:54	1
Di-n-octyl phthalate	1.9	U	1.9	0.22	ug/L		09/16/15 08:49	09/17/15 16:54	1
Fluoranthene	0.19	U	0.19	0.042	ug/L		09/16/15 08:49	09/17/15 16:54	1
Fluorene	0.19	U	0.19	0.039	ug/L		09/16/15 08:49	09/17/15 16:54	1
Hexachlorobenzene	0.19	U	0.19	0.081	ug/L		09/16/15 08:49	09/17/15 16:54	1
Hexachlorobutadiene	0.95	U	0.95	0.26	ug/L		09/16/15 08:49	09/17/15 16:54	1
Hexachlorocyclopentadiene	9.5	U	9.5	0.23	ug/L		09/16/15 08:49	09/17/15 16:54	1
Hexachloroethane	0.95	U	0.95	0.18	ug/L		09/16/15 08:49	09/17/15 16:54	1
Indeno[1,2,3-cd]pyrene	0.19	U	0.19	0.041	ug/L		09/16/15 08:49	09/17/15 16:54	1
Isophorone	0.95	U	0.95	0.26	ug/L		09/16/15 08:49	09/17/15 16:54	1
N-Nitrosodi-n-propylamine	0.95	U	0.95	0.23	ug/L		09/16/15 08:49	09/17/15 16:54	1
N-Nitrosodiphenylamine	0.95	U	0.95	0.30	ug/L		09/16/15 08:49	09/17/15 16:54	1
Naphthalene	0.19	U	0.19	0.060	ug/L		09/16/15 08:49	09/17/15 16:54	1
Nitrobenzene	0.95	U	0.95	0.038	ug/L		09/16/15 08:49	09/17/15 16:54	1
Pentachlorophenol	4.8	U	4.8	0.26	ug/L		09/16/15 08:49	09/17/15 16:54	1
Phenanthrene	0.19	U	0.19	0.059	ug/L		09/16/15 08:49	09/17/15 16:54	1
Phenol	0.95	U	0.95	0.57	ug/L		09/16/15 08:49	09/17/15 16:54	1
Pyrene	0.19	U	0.19	0.040	ug/L		09/16/15 08:49	09/17/15 16:54	1
3 & 4 Methylphenol	1.9	U	1.9	0.76	ug/L		09/16/15 08:49	09/17/15 16:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14 (Surr)	54		31 - 115	09/16/15 08:49	09/17/15 16:54	1
Phenol-d5 (Surr)	19		10 - 110	09/16/15 08:49	09/17/15 16:54	1
Nitrobenzene-d5 (Surr)	67		31 - 110	09/16/15 08:49	09/17/15 16:54	1
2-Fluorophenol (Surr)	34		15 - 110	09/16/15 08:49	09/17/15 16:54	1
2-Fluorobiphenyl (Surr)	68		29 - 110	09/16/15 08:49	09/17/15 16:54	1
2,4,6-Tribromophenol (Surr)	62		21 - 128	09/16/15 08:49	09/17/15 16:54	1

Client Sample ID: WG-11103430-091415-SG-006

Date Collected: 09/14/15 13:15

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55387-6

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	0.95	U	0.95	0.12	ug/L		09/16/15 08:49	09/17/15 17:16	1
bis (2-chloroisopropyl) ether	0.95	U	0.95	0.38	ug/L		09/16/15 08:49	09/17/15 17:16	1
2,4,5-Trichlorophenol	4.8	U	4.8	0.29	ug/L		09/16/15 08:49	09/17/15 17:16	1
2,4,6-Trichlorophenol	4.8	U	4.8	0.23	ug/L		09/16/15 08:49	09/17/15 17:16	1
2,4-Dichlorophenol	1.9	U	1.9	0.18	ug/L		09/16/15 08:49	09/17/15 17:16	1
2,4-Dimethylphenol	1.9	U	1.9	0.24	ug/L		09/16/15 08:49	09/17/15 17:16	1
2,4-Dinitrophenol	4.8	U	4.8	0.30	ug/L		09/16/15 08:49	09/17/15 17:16	1

TestAmerica Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11103430, NL Industries

TestAmerica Job ID: 240-55387-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: WG-11103430-091415-SG-006

Date Collected: 09/14/15 13:15

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55387-6

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dinitrotoluene	4.8	U	4.8	0.24	ug/L		09/16/15 08:49	09/17/15 17:16	1
2,6-Dinitrotoluene	4.8	U	4.8	0.76	ug/L		09/16/15 08:49	09/17/15 17:16	1
2-Chloronaphthalene	0.95	U	0.95	0.095	ug/L		09/16/15 08:49	09/17/15 17:16	1
2-Chlorophenol	0.95	U	0.95	0.28	ug/L		09/16/15 08:49	09/17/15 17:16	1
2-Methylnaphthalene	0.19	U	0.19	0.086	ug/L		09/16/15 08:49	09/17/15 17:16	1
2-Methylphenol	0.95	U	0.95	0.16	ug/L		09/16/15 08:49	09/17/15 17:16	1
2-Nitroaniline	1.9	U	1.9	0.20	ug/L		09/16/15 08:49	09/17/15 17:16	1
2-Nitrophenol	1.9	U	1.9	0.27	ug/L		09/16/15 08:49	09/17/15 17:16	1
3,3'-Dichlorobenzidine	4.8	U	4.8	0.35	ug/L		09/16/15 08:49	09/17/15 17:16	1
3-Nitroaniline	1.9	U	1.9	0.27	ug/L		09/16/15 08:49	09/17/15 17:16	1
4,6-Dinitro-2-methylphenol	4.8	U	4.8	2.3	ug/L		09/16/15 08:49	09/17/15 17:16	1
4-Bromophenyl phenyl ether	1.9	U	1.9	0.21	ug/L		09/16/15 08:49	09/17/15 17:16	1
4-Chloro-3-methylphenol	1.9	U	1.9	0.20	ug/L		09/16/15 08:49	09/17/15 17:16	1
4-Chloroaniline	1.9	U	1.9	0.20	ug/L		09/16/15 08:49	09/17/15 17:16	1
4-Chlorophenyl phenyl ether	1.9	U	1.9	0.29	ug/L		09/16/15 08:49	09/17/15 17:16	1
4-Nitroaniline	1.9	U	1.9	0.21	ug/L		09/16/15 08:49	09/17/15 17:16	1
4-Nitrophenol	4.8	U	4.8	0.28	ug/L		09/16/15 08:49	09/17/15 17:16	1
Acenaphthene	0.19	U	0.19	0.042	ug/L		09/16/15 08:49	09/17/15 17:16	1
Acenaphthylene	0.19	U	0.19	0.046	ug/L		09/16/15 08:49	09/17/15 17:16	1
Acetophenone	0.95	U	0.95	0.32	ug/L		09/16/15 08:49	09/17/15 17:16	1
Anthracene	0.19	U	0.19	0.084	ug/L		09/16/15 08:49	09/17/15 17:16	1
Atrazine	0.95	U	0.95	0.32	ug/L		09/16/15 08:49	09/17/15 17:16	1
Benzaldehyde	0.95	U	0.95	0.37	ug/L		09/16/15 08:49	09/17/15 17:16	1
Benzo[a]anthracene	0.19	U	0.19	0.028	ug/L		09/16/15 08:49	09/17/15 17:16	1
Benzo[a]pyrene	0.19	U	0.19	0.049	ug/L		09/16/15 08:49	09/17/15 17:16	1
Benzo[b]fluoranthene	0.19	U	0.19	0.038	ug/L		09/16/15 08:49	09/17/15 17:16	1
Benzo[g,h,i]perylene	0.19	U	0.19	0.044	ug/L		09/16/15 08:49	09/17/15 17:16	1
Benzo[k]fluoranthene	0.19	U	0.19	0.043	ug/L		09/16/15 08:49	09/17/15 17:16	1
Bis(2-chloroethoxy)methane	0.95	U	0.95	0.30	ug/L		09/16/15 08:49	09/17/15 17:16	1
Bis(2-chloroethyl)ether	0.95	U	0.95	0.095	ug/L		09/16/15 08:49	09/17/15 17:16	1
Bis(2-ethylhexyl) phthalate	4.8	U	4.8	1.6	ug/L		09/16/15 08:49	09/17/15 17:16	1
Butyl benzyl phthalate	1.9	U	1.9	0.25	ug/L		09/16/15 08:49	09/17/15 17:16	1
Caprolactam	4.8	U	4.8	0.19	ug/L		09/16/15 08:49	09/17/15 17:16	1
Carbazole	0.95	U	0.95	0.27	ug/L		09/16/15 08:49	09/17/15 17:16	1
Chrysene	0.19	U	0.19	0.048	ug/L		09/16/15 08:49	09/17/15 17:16	1
Dibenz(a,h)anthracene	0.19	U	0.19	0.042	ug/L		09/16/15 08:49	09/17/15 17:16	1
Dibenzofuran	0.95	U	0.95	0.019	ug/L		09/16/15 08:49	09/17/15 17:16	1
Diethyl phthalate	1.9	U	1.9	0.57	ug/L		09/16/15 08:49	09/17/15 17:16	1
Dimethyl phthalate	1.9	U	1.9	0.28	ug/L		09/16/15 08:49	09/17/15 17:16	1
Di-n-butyl phthalate	4.8	U	4.8	1.6	ug/L		09/16/15 08:49	09/17/15 17:16	1
Di-n-octyl phthalate	1.9	U	1.9	0.22	ug/L		09/16/15 08:49	09/17/15 17:16	1
Fluoranthene	0.19	U	0.19	0.042	ug/L		09/16/15 08:49	09/17/15 17:16	1
Fluorene	0.19	U	0.19	0.039	ug/L		09/16/15 08:49	09/17/15 17:16	1
Hexachlorobenzene	0.19	U	0.19	0.081	ug/L		09/16/15 08:49	09/17/15 17:16	1
Hexachlorobutadiene	0.95	U	0.95	0.26	ug/L		09/16/15 08:49	09/17/15 17:16	1
Hexachlorocyclopentadiene	9.5	U	9.5	0.23	ug/L		09/16/15 08:49	09/17/15 17:16	1
Hexachloroethane	0.95	U	0.95	0.18	ug/L		09/16/15 08:49	09/17/15 17:16	1
Indeno[1,2,3-cd]pyrene	0.19	U	0.19	0.041	ug/L		09/16/15 08:49	09/17/15 17:16	1
Isophorone	0.95	U	0.95	0.26	ug/L		09/16/15 08:49	09/17/15 17:16	1

TestAmerica Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11103430, NL Industries

TestAmerica Job ID: 240-55387-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: WG-11103430-091415-SG-006

Date Collected: 09/14/15 13:15

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55387-6

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	0.95	U	0.95	0.23	ug/L		09/16/15 08:49	09/17/15 17:16	1
N-Nitrosodiphenylamine	0.95	U	0.95	0.30	ug/L		09/16/15 08:49	09/17/15 17:16	1
Naphthalene	0.19	U	0.19	0.060	ug/L		09/16/15 08:49	09/17/15 17:16	1
Nitrobenzene	0.95	U	0.95	0.038	ug/L		09/16/15 08:49	09/17/15 17:16	1
Pentachlorophenol	4.8	U	4.8	0.26	ug/L		09/16/15 08:49	09/17/15 17:16	1
Phenanthrene	0.19	U	0.19	0.059	ug/L		09/16/15 08:49	09/17/15 17:16	1
Phenol	0.95	U	0.95	0.57	ug/L		09/16/15 08:49	09/17/15 17:16	1
Pyrene	0.19	U	0.19	0.040	ug/L		09/16/15 08:49	09/17/15 17:16	1
3 & 4 Methylphenol	1.9	U	1.9	0.76	ug/L		09/16/15 08:49	09/17/15 17:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14 (Surr)	57		31 - 115	09/16/15 08:49	09/17/15 17:16	1
Phenol-d5 (Surr)	15		10 - 110	09/16/15 08:49	09/17/15 17:16	1
Nitrobenzene-d5 (Surr)	59		31 - 110	09/16/15 08:49	09/17/15 17:16	1
2-Fluorophenol (Surr)	27		15 - 110	09/16/15 08:49	09/17/15 17:16	1
2-Fluorobiphenyl (Surr)	59		29 - 110	09/16/15 08:49	09/17/15 17:16	1
2,4,6-Tribromophenol (Surr)	52		21 - 128	09/16/15 08:49	09/17/15 17:16	1

Client Sample ID: WG-11103430-091415-SG-007

Date Collected: 09/14/15 15:20

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55387-7

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	0.95	U	0.95	0.12	ug/L		09/16/15 08:49	09/17/15 18:01	1
bis (2-chloroisopropyl) ether	0.95	U	0.95	0.38	ug/L		09/16/15 08:49	09/17/15 18:01	1
2,4,5-Trichlorophenol	4.8	U	4.8	0.29	ug/L		09/16/15 08:49	09/17/15 18:01	1
2,4,6-Trichlorophenol	4.8	U	4.8	0.23	ug/L		09/16/15 08:49	09/17/15 18:01	1
2,4-Dichlorophenol	1.9	U	1.9	0.18	ug/L		09/16/15 08:49	09/17/15 18:01	1
2,4-Dimethylphenol	1.9	U	1.9	0.24	ug/L		09/16/15 08:49	09/17/15 18:01	1
2,4-Dinitrophenol	4.8	U	4.8	0.30	ug/L		09/16/15 08:49	09/17/15 18:01	1
2,4-Dinitrotoluene	4.8	U	4.8	0.24	ug/L		09/16/15 08:49	09/17/15 18:01	1
2,6-Dinitrotoluene	4.8	U	4.8	0.76	ug/L		09/16/15 08:49	09/17/15 18:01	1
2-Chloronaphthalene	0.95	U	0.95	0.095	ug/L		09/16/15 08:49	09/17/15 18:01	1
2-Chlorophenol	0.95	U	0.95	0.28	ug/L		09/16/15 08:49	09/17/15 18:01	1
2-Methylnaphthalene	0.19	U	0.19	0.086	ug/L		09/16/15 08:49	09/17/15 18:01	1
2-Methylphenol	0.95	U	0.95	0.16	ug/L		09/16/15 08:49	09/17/15 18:01	1
2-Nitroaniline	1.9	U	1.9	0.20	ug/L		09/16/15 08:49	09/17/15 18:01	1
2-Nitrophenol	1.9	U	1.9	0.27	ug/L		09/16/15 08:49	09/17/15 18:01	1
3,3'-Dichlorobenzidine	4.8	U	4.8	0.35	ug/L		09/16/15 08:49	09/17/15 18:01	1
3-Nitroaniline	1.9	U	1.9	0.27	ug/L		09/16/15 08:49	09/17/15 18:01	1
4,6-Dinitro-2-methylphenol	4.8	U	4.8	2.3	ug/L		09/16/15 08:49	09/17/15 18:01	1
4-Bromophenyl phenyl ether	1.9	U	1.9	0.21	ug/L		09/16/15 08:49	09/17/15 18:01	1
4-Chloro-3-methylphenol	1.9	U	1.9	0.20	ug/L		09/16/15 08:49	09/17/15 18:01	1
4-Chloroaniline	1.9	U	1.9	0.20	ug/L		09/16/15 08:49	09/17/15 18:01	1
4-Chlorophenyl phenyl ether	1.9	U	1.9	0.29	ug/L		09/16/15 08:49	09/17/15 18:01	1
4-Nitroaniline	1.9	U	1.9	0.21	ug/L		09/16/15 08:49	09/17/15 18:01	1
4-Nitrophenol	4.8	U	4.8	0.28	ug/L		09/16/15 08:49	09/17/15 18:01	1
Acenaphthene	0.19	U	0.19	0.042	ug/L		09/16/15 08:49	09/17/15 18:01	1
Acenaphthylene	0.19	U	0.19	0.046	ug/L		09/16/15 08:49	09/17/15 18:01	1
Acetophenone	0.95	U	0.95	0.32	ug/L		09/16/15 08:49	09/17/15 18:01	1
Anthracene	0.19	U	0.19	0.084	ug/L		09/16/15 08:49	09/17/15 18:01	1

TestAmerica Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11103430, NL Industries

TestAmerica Job ID: 240-55387-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: WG-11103430-091415-SG-007

Date Collected: 09/14/15 15:20

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55387-7

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Atrazine	0.95	U	0.95	0.32	ug/L		09/16/15 08:49	09/17/15 18:01	1
Benzaldehyde	0.95	U	0.95	0.37	ug/L		09/16/15 08:49	09/17/15 18:01	1
Benzo[a]anthracene	0.19	U	0.19	0.028	ug/L		09/16/15 08:49	09/17/15 18:01	1
Benzo[a]pyrene	0.19	U	0.19	0.049	ug/L		09/16/15 08:49	09/17/15 18:01	1
Benzo[b]fluoranthene	0.19	U	0.19	0.038	ug/L		09/16/15 08:49	09/17/15 18:01	1
Benzo[g,h,i]perylene	0.19	U	0.19	0.044	ug/L		09/16/15 08:49	09/17/15 18:01	1
Benzo[k]fluoranthene	0.19	U	0.19	0.043	ug/L		09/16/15 08:49	09/17/15 18:01	1
Bis(2-chloroethoxy)methane	0.95	U	0.95	0.30	ug/L		09/16/15 08:49	09/17/15 18:01	1
Bis(2-chloroethyl)ether	0.95	U	0.95	0.095	ug/L		09/16/15 08:49	09/17/15 18:01	1
Bis(2-ethylhexyl) phthalate	4.8	U	4.8	1.6	ug/L		09/16/15 08:49	09/17/15 18:01	1
Butyl benzyl phthalate	1.9	U	1.9	0.25	ug/L		09/16/15 08:49	09/17/15 18:01	1
Caprolactam	4.8	U	4.8	0.19	ug/L		09/16/15 08:49	09/17/15 18:01	1
Carbazole	0.95	U	0.95	0.27	ug/L		09/16/15 08:49	09/17/15 18:01	1
Chrysene	0.19	U	0.19	0.048	ug/L		09/16/15 08:49	09/17/15 18:01	1
Dibenz(a,h)anthracene	0.19	U	0.19	0.042	ug/L		09/16/15 08:49	09/17/15 18:01	1
Dibenzofuran	0.95	U	0.95	0.019	ug/L		09/16/15 08:49	09/17/15 18:01	1
Diethyl phthalate	1.9	U	1.9	0.57	ug/L		09/16/15 08:49	09/17/15 18:01	1
Dimethyl phthalate	1.9	U	1.9	0.28	ug/L		09/16/15 08:49	09/17/15 18:01	1
Di-n-butyl phthalate	4.8	U	4.8	1.6	ug/L		09/16/15 08:49	09/17/15 18:01	1
Di-n-octyl phthalate	1.9	U	1.9	0.22	ug/L		09/16/15 08:49	09/17/15 18:01	1
Fluoranthene	0.19	U	0.19	0.042	ug/L		09/16/15 08:49	09/17/15 18:01	1
Fluorene	0.19	U	0.19	0.039	ug/L		09/16/15 08:49	09/17/15 18:01	1
Hexachlorobenzene	0.19	U	0.19	0.081	ug/L		09/16/15 08:49	09/17/15 18:01	1
Hexachlorobutadiene	0.95	U	0.95	0.26	ug/L		09/16/15 08:49	09/17/15 18:01	1
Hexachlorocyclopentadiene	9.5	U	9.5	0.23	ug/L		09/16/15 08:49	09/17/15 18:01	1
Hexachloroethane	0.95	U	0.95	0.18	ug/L		09/16/15 08:49	09/17/15 18:01	1
Indeno[1,2,3-cd]pyrene	0.19	U	0.19	0.041	ug/L		09/16/15 08:49	09/17/15 18:01	1
Isophorone	0.95	U	0.95	0.26	ug/L		09/16/15 08:49	09/17/15 18:01	1
N-Nitrosodi-n-propylamine	0.95	U	0.95	0.23	ug/L		09/16/15 08:49	09/17/15 18:01	1
N-Nitrosodiphenylamine	0.95	U	0.95	0.30	ug/L		09/16/15 08:49	09/17/15 18:01	1
Naphthalene	0.19	U	0.19	0.060	ug/L		09/16/15 08:49	09/17/15 18:01	1
Nitrobenzene	0.95	U	0.95	0.038	ug/L		09/16/15 08:49	09/17/15 18:01	1
Pentachlorophenol	4.8	U	4.8	0.26	ug/L		09/16/15 08:49	09/17/15 18:01	1
Phenanthrene	0.19	U	0.19	0.059	ug/L		09/16/15 08:49	09/17/15 18:01	1
Phenol	0.95	U	0.95	0.57	ug/L		09/16/15 08:49	09/17/15 18:01	1
Pyrene	0.19	U	0.19	0.040	ug/L		09/16/15 08:49	09/17/15 18:01	1
3 & 4 Methylphenol	1.9	U	1.9	0.76	ug/L		09/16/15 08:49	09/17/15 18:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14 (Surr)	52		31 - 115	09/16/15 08:49	09/17/15 18:01	1
Phenol-d5 (Surr)	14		10 - 110	09/16/15 08:49	09/17/15 18:01	1
Nitrobenzene-d5 (Surr)	52		31 - 110	09/16/15 08:49	09/17/15 18:01	1
2-Fluorophenol (Surr)	25		15 - 110	09/16/15 08:49	09/17/15 18:01	1
2-Fluorobiphenyl (Surr)	53		29 - 110	09/16/15 08:49	09/17/15 18:01	1
2,4,6-Tribromophenol (Surr)	50		21 - 128	09/16/15 08:49	09/17/15 18:01	1

TestAmerica Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11103430, NL Industries

TestAmerica Job ID: 240-55387-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Client Sample ID: WG-11103430-091415-SG-008

Date Collected: 09/14/15 13:15

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55387-8

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	0.95	U	0.95	0.12	ug/L		09/16/15 08:49	09/21/15 09:49	1
bis (2-chloroisopropyl) ether	0.95	U	0.95	0.38	ug/L		09/16/15 08:49	09/21/15 09:49	1
2,4,5-Trichlorophenol	4.8	U	4.8	0.29	ug/L		09/16/15 08:49	09/21/15 09:49	1
2,4,6-Trichlorophenol	4.8	U	4.8	0.23	ug/L		09/16/15 08:49	09/21/15 09:49	1
2,4-Dichlorophenol	1.9	U	1.9	0.18	ug/L		09/16/15 08:49	09/21/15 09:49	1
2,4-Dimethylphenol	1.9	U	1.9	0.24	ug/L		09/16/15 08:49	09/21/15 09:49	1
2,4-Dinitrophenol	4.8	U	4.8	0.30	ug/L		09/16/15 08:49	09/21/15 09:49	1
2,4-Dinitrotoluene	4.8	U	4.8	0.24	ug/L		09/16/15 08:49	09/21/15 09:49	1
2,6-Dinitrotoluene	4.8	U	4.8	0.76	ug/L		09/16/15 08:49	09/21/15 09:49	1
2-Chloronaphthalene	0.95	U	0.95	0.095	ug/L		09/16/15 08:49	09/21/15 09:49	1
2-Chlorophenol	0.95	U	0.95	0.28	ug/L		09/16/15 08:49	09/21/15 09:49	1
2-Methylnaphthalene	0.19	U	0.19	0.086	ug/L		09/16/15 08:49	09/21/15 09:49	1
2-Methylphenol	0.95	U	0.95	0.16	ug/L		09/16/15 08:49	09/21/15 09:49	1
2-Nitroaniline	1.9	U	1.9	0.20	ug/L		09/16/15 08:49	09/21/15 09:49	1
2-Nitrophenol	1.9	U	1.9	0.27	ug/L		09/16/15 08:49	09/21/15 09:49	1
3,3'-Dichlorobenzidine	4.8	U	4.8	0.35	ug/L		09/16/15 08:49	09/21/15 09:49	1
3-Nitroaniline	1.9	U	1.9	0.27	ug/L		09/16/15 08:49	09/21/15 09:49	1
4,6-Dinitro-2-methylphenol	4.8	U	4.8	2.3	ug/L		09/16/15 08:49	09/21/15 09:49	1
4-Bromophenyl phenyl ether	1.9	U	1.9	0.21	ug/L		09/16/15 08:49	09/21/15 09:49	1
4-Chloro-3-methylphenol	1.9	U	1.9	0.20	ug/L		09/16/15 08:49	09/21/15 09:49	1
4-Chloroaniline	1.9	U	1.9	0.20	ug/L		09/16/15 08:49	09/21/15 09:49	1
4-Chlorophenyl phenyl ether	1.9	U	1.9	0.29	ug/L		09/16/15 08:49	09/21/15 09:49	1
4-Nitroaniline	1.9	U	1.9	0.21	ug/L		09/16/15 08:49	09/21/15 09:49	1
4-Nitrophenol	4.8	U	4.8	0.28	ug/L		09/16/15 08:49	09/21/15 09:49	1
Acenaphthene	0.19	U	0.19	0.042	ug/L		09/16/15 08:49	09/21/15 09:49	1
Acenaphthylene	0.19	U	0.19	0.046	ug/L		09/16/15 08:49	09/21/15 09:49	1
Acetophenone	0.95	U	0.95	0.32	ug/L		09/16/15 08:49	09/21/15 09:49	1
Anthracene	0.19	U	0.19	0.084	ug/L		09/16/15 08:49	09/21/15 09:49	1
Atrazine	0.95	U	0.95	0.32	ug/L		09/16/15 08:49	09/21/15 09:49	1
Benzaldehyde	0.95	U	0.95	0.37	ug/L		09/16/15 08:49	09/21/15 09:49	1
Benzo[a]anthracene	0.19	U	0.19	0.028	ug/L		09/16/15 08:49	09/21/15 09:49	1
Benzo[a]pyrene	0.19	U	0.19	0.049	ug/L		09/16/15 08:49	09/21/15 09:49	1
Benzo[b]fluoranthene	0.19	U	0.19	0.038	ug/L		09/16/15 08:49	09/21/15 09:49	1
Benzo[g,h,i]perylene	0.19	U	0.19	0.044	ug/L		09/16/15 08:49	09/21/15 09:49	1
Benzo[k]fluoranthene	0.19	U	0.19	0.043	ug/L		09/16/15 08:49	09/21/15 09:49	1
Bis(2-chloroethoxy)methane	0.95	U	0.95	0.30	ug/L		09/16/15 08:49	09/21/15 09:49	1
Bis(2-chloroethyl)ether	0.95	U	0.95	0.095	ug/L		09/16/15 08:49	09/21/15 09:49	1
Bis(2-ethylhexyl) phthalate	4.8	U	4.8	1.6	ug/L		09/16/15 08:49	09/21/15 09:49	1
Butyl benzyl phthalate	1.9	U	1.9	0.25	ug/L		09/16/15 08:49	09/21/15 09:49	1
Caprolactam	4.8	U	4.8	0.19	ug/L		09/16/15 08:49	09/21/15 09:49	1
Carbazole	0.95	U	0.95	0.27	ug/L		09/16/15 08:49	09/21/15 09:49	1
Chrysene	0.19	U	0.19	0.048	ug/L		09/16/15 08:49	09/21/15 09:49	1
Dibenz(a,h)anthracene	0.19	U	0.19	0.042	ug/L		09/16/15 08:49	09/21/15 09:49	1
Dibenzofuran	0.95	U	0.95	0.019	ug/L		09/16/15 08:49	09/21/15 09:49	1
Diethyl phthalate	1.9	U	1.9	0.57	ug/L		09/16/15 08:49	09/21/15 09:49	1
Dimethyl phthalate	1.9	U	1.9	0.28	ug/L		09/16/15 08:49	09/21/15 09:49	1
Di-n-butyl phthalate	4.8	U	4.8	1.6	ug/L		09/16/15 08:49	09/21/15 09:49	1
Di-n-octyl phthalate	1.9	U	1.9	0.22	ug/L		09/16/15 08:49	09/21/15 09:49	1
Fluoranthene	0.19	U	0.19	0.042	ug/L		09/16/15 08:49	09/21/15 09:49	1

TestAmerica Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11103430, NL Industries

TestAmerica Job ID: 240-55387-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: WG-11103430-091415-SG-008

Date Collected: 09/14/15 13:15

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55387-8

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	0.19	U	0.19	0.039	ug/L		09/16/15 08:49	09/21/15 09:49	1
Hexachlorobenzene	0.19	U	0.19	0.081	ug/L		09/16/15 08:49	09/21/15 09:49	1
Hexachlorobutadiene	0.95	U	0.95	0.26	ug/L		09/16/15 08:49	09/21/15 09:49	1
Hexachlorocyclopentadiene	9.5	U	9.5	0.23	ug/L		09/16/15 08:49	09/21/15 09:49	1
Hexachloroethane	0.95	U	0.95	0.18	ug/L		09/16/15 08:49	09/21/15 09:49	1
Indeno[1,2,3-cd]pyrene	0.19	U	0.19	0.041	ug/L		09/16/15 08:49	09/21/15 09:49	1
Isophorone	0.95	U	0.95	0.26	ug/L		09/16/15 08:49	09/21/15 09:49	1
N-Nitrosodi-n-propylamine	0.95	U	0.95	0.23	ug/L		09/16/15 08:49	09/21/15 09:49	1
N-Nitrosodiphenylamine	0.95	U	0.95	0.30	ug/L		09/16/15 08:49	09/21/15 09:49	1
Naphthalene	0.19	U	0.19	0.060	ug/L		09/16/15 08:49	09/21/15 09:49	1
Nitrobenzene	0.95	U	0.95	0.038	ug/L		09/16/15 08:49	09/21/15 09:49	1
Pentachlorophenol	4.8	U	4.8	0.26	ug/L		09/16/15 08:49	09/21/15 09:49	1
Phenanthrene	0.19	U	0.19	0.059	ug/L		09/16/15 08:49	09/21/15 09:49	1
Phenol	0.95	U	0.95	0.57	ug/L		09/16/15 08:49	09/21/15 09:49	1
Pyrene	0.19	U	0.19	0.040	ug/L		09/16/15 08:49	09/21/15 09:49	1
3 & 4 Methylphenol	1.9	U	1.9	0.76	ug/L		09/16/15 08:49	09/21/15 09:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14 (Surr)	53		31 - 115	09/16/15 08:49	09/21/15 09:49	1
Phenol-d5 (Surr)	14		10 - 110	09/16/15 08:49	09/21/15 09:49	1
Nitrobenzene-d5 (Surr)	58		31 - 110	09/16/15 08:49	09/21/15 09:49	1
2-Fluorophenol (Surr)	26		15 - 110	09/16/15 08:49	09/21/15 09:49	1
2-Fluorobiphenyl (Surr)	59		29 - 110	09/16/15 08:49	09/21/15 09:49	1
2,4,6-Tribromophenol (Surr)	45		21 - 128	09/16/15 08:49	09/21/15 09:49	1

TestAmerica Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11103430, NL Industries

TestAmerica Job ID: 240-55387-1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Client Sample ID: WG-11103430-091415-DT-001

Date Collected: 09/14/15 11:35

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55387-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	0.032	J	1.0	0.020	ug/L		09/16/15 10:13	09/17/15 16:59	1
Aluminum	340		50	9.0	ug/L		09/16/15 10:13	09/17/15 16:59	1
Arsenic	0.88	J	5.0	0.49	ug/L		09/16/15 10:13	09/17/15 16:59	1
Barium	190		5.0	1.1	ug/L		09/16/15 10:13	09/17/15 16:59	1
Beryllium	0.097	J	1.0	0.053	ug/L		09/16/15 10:13	09/17/15 16:59	1
Cadmium	0.27	J	1.0	0.061	ug/L		09/16/15 10:13	09/17/15 16:59	1
Cobalt	0.29	J	1.0	0.021	ug/L		09/16/15 10:13	09/17/15 16:59	1
Chromium	1.2	J B	2.0	0.60	ug/L		09/16/15 10:13	09/17/15 16:59	1
Copper	10		2.0	0.75	ug/L		09/16/15 10:13	09/17/15 16:59	1
Iron	290		100	16	ug/L		09/16/15 10:13	09/17/15 16:59	1
Manganese	4.3	J	5.0	1.1	ug/L		09/16/15 10:13	09/17/15 16:59	1
Nickel	1.2	J	2.0	0.23	ug/L		09/16/15 10:13	09/17/15 16:59	1
Lead	8.0	B	1.0	0.11	ug/L		09/16/15 10:13	09/17/15 16:59	1
Antimony	1.3	J	2.0	0.16	ug/L		09/16/15 10:13	09/17/15 16:59	1
Selenium	0.58	J	5.0	0.25	ug/L		09/16/15 10:13	09/17/15 16:59	1
Thallium	0.11	J	2.0	0.074	ug/L		09/16/15 10:13	09/17/15 16:59	1
Vanadium	1.3	J	5.0	0.23	ug/L		09/16/15 10:13	09/17/15 16:59	1
Zinc	17	J	20	7.3	ug/L		09/16/15 10:13	09/17/15 16:59	1
Calcium	89000		1000	240	ug/L		09/16/15 10:13	09/17/15 16:59	1
Potassium	1000		1000	30	ug/L		09/16/15 10:13	09/17/15 16:59	1
Magnesium	94000		1000	48	ug/L		09/16/15 10:13	09/17/15 16:59	1
Sodium	86000	B	1000	68	ug/L		09/16/15 10:13	09/17/15 16:59	1

Client Sample ID: EB-11103430-091415-SG-002

Date Collected: 09/14/15 00:00

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55387-2

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	1.0	U	1.0	0.020	ug/L		09/16/15 10:13	09/17/15 17:16	1
Aluminum	50	U	50	9.0	ug/L		09/16/15 10:13	09/17/15 17:16	1
Arsenic	5.0	U	5.0	0.49	ug/L		09/16/15 10:13	09/17/15 17:16	1
Barium	5.0	U	5.0	1.1	ug/L		09/16/15 10:13	09/17/15 17:16	1
Beryllium	0.11	J	1.0	0.053	ug/L		09/16/15 10:13	09/17/15 17:16	1
Cadmium	0.29	J	1.0	0.061	ug/L		09/16/15 10:13	09/17/15 17:16	1
Cobalt	0.19	J	1.0	0.021	ug/L		09/16/15 10:13	09/17/15 17:16	1
Chromium	3.6	B	2.0	0.60	ug/L		09/16/15 10:13	09/17/15 17:16	1
Copper	2.0	U	2.0	0.75	ug/L		09/16/15 10:13	09/17/15 17:16	1
Iron	100	U	100	16	ug/L		09/16/15 10:13	09/17/15 17:16	1
Manganese	5.0	U	5.0	1.1	ug/L		09/16/15 10:13	09/17/15 17:16	1
Nickel	7.7		2.0	0.23	ug/L		09/16/15 10:13	09/17/15 17:16	1
Lead	0.20	J B	1.0	0.11	ug/L		09/16/15 10:13	09/17/15 17:16	1
Antimony	0.27	J	2.0	0.16	ug/L		09/16/15 10:13	09/17/15 17:16	1
Selenium	0.32	J	5.0	0.25	ug/L		09/16/15 10:13	09/17/15 17:16	1
Thallium	0.18	J	2.0	0.074	ug/L		09/16/15 10:13	09/17/15 17:16	1
Vanadium	5.0	U	5.0	0.23	ug/L		09/16/15 10:13	09/17/15 17:16	1
Zinc	20	U	20	7.3	ug/L		09/16/15 10:13	09/17/15 17:16	1
Calcium	1000	U	1000	240	ug/L		09/16/15 10:13	09/17/15 17:16	1
Potassium	1000	U	1000	30	ug/L		09/16/15 10:13	09/17/15 17:16	1
Magnesium	1000	U	1000	48	ug/L		09/16/15 10:13	09/17/15 17:16	1
Sodium	190	J B	1000	68	ug/L		09/16/15 10:13	09/17/15 17:16	1

TestAmerica Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11103430, NL Industries

TestAmerica Job ID: 240-55387-1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Client Sample ID: WG-11103430-091415-DT-003

Date Collected: 09/14/15 12:30

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55387-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	0.075	J	1.0	0.020	ug/L		09/16/15 10:13	09/17/15 17:19	1
Aluminum	50	U	50	9.0	ug/L		09/16/15 10:13	09/17/15 17:19	1
Arsenic	9.9		5.0	0.49	ug/L		09/16/15 10:13	09/17/15 17:19	1
Barium	39		5.0	1.1	ug/L		09/16/15 10:13	09/17/15 17:19	1
Beryllium	1.0	U	1.0	0.053	ug/L		09/16/15 10:13	09/17/15 17:19	1
Cadmium	0.076	J	1.0	0.061	ug/L		09/16/15 10:13	09/17/15 17:19	1
Cobalt	0.22	J	1.0	0.021	ug/L		09/16/15 10:13	09/17/15 17:19	1
Chromium	2.0	U	2.0	0.60	ug/L		09/16/15 10:13	09/17/15 17:19	1
Copper	2.0	U	2.0	0.75	ug/L		09/16/15 10:13	09/17/15 17:19	1
Iron	480		100	16	ug/L		09/16/15 10:13	09/17/15 17:19	1
Manganese	14		5.0	1.1	ug/L		09/16/15 10:13	09/17/15 17:19	1
Nickel	0.29	J	2.0	0.23	ug/L		09/16/15 10:13	09/17/15 17:19	1
Lead	0.12	J B	1.0	0.11	ug/L		09/16/15 10:13	09/17/15 17:19	1
Antimony	0.30	J	2.0	0.16	ug/L		09/16/15 10:13	09/17/15 17:19	1
Selenium	5.0	U	5.0	0.25	ug/L		09/16/15 10:13	09/17/15 17:19	1
Thallium	2.0	U	2.0	0.074	ug/L		09/16/15 10:13	09/17/15 17:19	1
Vanadium	5.0	U	5.0	0.23	ug/L		09/16/15 10:13	09/17/15 17:19	1
Zinc	20	U	20	7.3	ug/L		09/16/15 10:13	09/17/15 17:19	1
Calcium	76000		1000	240	ug/L		09/16/15 10:13	09/17/15 17:19	1
Potassium	1800		1000	30	ug/L		09/16/15 10:13	09/17/15 17:19	1
Magnesium	95000		1000	48	ug/L		09/16/15 10:13	09/17/15 17:19	1
Sodium	60000	B	1000	68	ug/L		09/16/15 10:13	09/17/15 17:19	1

Client Sample ID: WG-11103430-091415-SG-004

Date Collected: 09/14/15 11:55

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55387-4

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	0.068	J	1.0	0.020	ug/L		09/16/15 10:13	09/17/15 17:23	1
Aluminum	230		50	9.0	ug/L		09/16/15 10:13	09/17/15 17:23	1
Arsenic	3.1	J	5.0	0.49	ug/L		09/16/15 10:13	09/17/15 17:23	1
Barium	170		5.0	1.1	ug/L		09/16/15 10:13	09/17/15 17:23	1
Beryllium	1.0	U	1.0	0.053	ug/L		09/16/15 10:13	09/17/15 17:23	1
Cadmium	0.11	J	1.0	0.061	ug/L		09/16/15 10:13	09/17/15 17:23	1
Cobalt	0.53	J	1.0	0.021	ug/L		09/16/15 10:13	09/17/15 17:23	1
Chromium	0.81	J B	2.0	0.60	ug/L		09/16/15 10:13	09/17/15 17:23	1
Copper	62		2.0	0.75	ug/L		09/16/15 10:13	09/17/15 17:23	1
Iron	230		100	16	ug/L		09/16/15 10:13	09/17/15 17:23	1
Manganese	99		5.0	1.1	ug/L		09/16/15 10:13	09/17/15 17:23	1
Nickel	1.0	J	2.0	0.23	ug/L		09/16/15 10:13	09/17/15 17:23	1
Lead	17	B	1.0	0.11	ug/L		09/16/15 10:13	09/17/15 17:23	1
Antimony	1.3	J	2.0	0.16	ug/L		09/16/15 10:13	09/17/15 17:23	1
Selenium	5.0	U	5.0	0.25	ug/L		09/16/15 10:13	09/17/15 17:23	1
Thallium	2.0	U	2.0	0.074	ug/L		09/16/15 10:13	09/17/15 17:23	1
Vanadium	0.85	J	5.0	0.23	ug/L		09/16/15 10:13	09/17/15 17:23	1
Zinc	62		20	7.3	ug/L		09/16/15 10:13	09/17/15 17:23	1
Calcium	66000		1000	240	ug/L		09/16/15 10:13	09/17/15 17:23	1
Potassium	2500		1000	30	ug/L		09/16/15 10:13	09/17/15 17:23	1
Magnesium	83000		1000	48	ug/L		09/16/15 10:13	09/17/15 17:23	1
Sodium	78000	B	1000	68	ug/L		09/16/15 10:13	09/17/15 17:23	1

TestAmerica Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11103430, NL Industries

TestAmerica Job ID: 240-55387-1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Client Sample ID: WG-11103430-091415-DT-005

Date Collected: 09/14/15 14:25

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55387-5

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	0.035	J	1.0	0.020	ug/L		09/16/15 10:13	09/17/15 17:34	1
Aluminum	13	J	50	9.0	ug/L		09/16/15 10:13	09/17/15 17:34	1
Arsenic	2.1	J	5.0	0.49	ug/L		09/16/15 10:13	09/17/15 17:34	1
Barium	110		5.0	1.1	ug/L		09/16/15 10:13	09/17/15 17:34	1
Beryllium	1.0	U	1.0	0.053	ug/L		09/16/15 10:13	09/17/15 17:34	1
Cadmium	1.0	U	1.0	0.061	ug/L		09/16/15 10:13	09/17/15 17:34	1
Cobalt	0.46	J	1.0	0.021	ug/L		09/16/15 10:13	09/17/15 17:34	1
Chromium	2.0	U	2.0	0.60	ug/L		09/16/15 10:13	09/17/15 17:34	1
Copper	0.94	J	2.0	0.75	ug/L		09/16/15 10:13	09/17/15 17:34	1
Iron	650		100	16	ug/L		09/16/15 10:13	09/17/15 17:34	1
Manganese	48		5.0	1.1	ug/L		09/16/15 10:13	09/17/15 17:34	1
Nickel	0.89	J	2.0	0.23	ug/L		09/16/15 10:13	09/17/15 17:34	1
Lead	1.1	B	1.0	0.11	ug/L		09/16/15 10:13	09/17/15 17:34	1
Antimony	0.16	J	2.0	0.16	ug/L		09/16/15 10:13	09/17/15 17:34	1
Selenium	5.0	U	5.0	0.25	ug/L		09/16/15 10:13	09/17/15 17:34	1
Thallium	2.0	U	2.0	0.074	ug/L		09/16/15 10:13	09/17/15 17:34	1
Vanadium	5.0	U	5.0	0.23	ug/L		09/16/15 10:13	09/17/15 17:34	1
Zinc	20	U	20	7.3	ug/L		09/16/15 10:13	09/17/15 17:34	1
Calcium	110000		1000	240	ug/L		09/16/15 10:13	09/17/15 17:34	1
Potassium	3300		1000	30	ug/L		09/16/15 10:13	09/17/15 17:34	1
Magnesium	89000		1000	48	ug/L		09/16/15 10:13	09/17/15 17:34	1
Sodium	140000	B	1000	68	ug/L		09/16/15 10:13	09/17/15 17:34	1

Client Sample ID: WG-11103430-091415-SG-006

Date Collected: 09/14/15 13:15

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55387-6

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	0.032	J	1.0	0.020	ug/L		09/16/15 10:13	09/17/15 17:38	1
Aluminum	110		50	9.0	ug/L		09/16/15 10:13	09/17/15 17:38	1
Arsenic	2.3	J	5.0	0.49	ug/L		09/16/15 10:13	09/17/15 17:38	1
Barium	88		5.0	1.1	ug/L		09/16/15 10:13	09/17/15 17:38	1
Beryllium	1.0	U	1.0	0.053	ug/L		09/16/15 10:13	09/17/15 17:38	1
Cadmium	1.0	U	1.0	0.061	ug/L		09/16/15 10:13	09/17/15 17:38	1
Cobalt	1.0		1.0	0.021	ug/L		09/16/15 10:13	09/17/15 17:38	1
Chromium	0.80	J B	2.0	0.60	ug/L		09/16/15 10:13	09/17/15 17:38	1
Copper	2.0	U	2.0	0.75	ug/L		09/16/15 10:13	09/17/15 17:38	1
Iron	1100		100	16	ug/L		09/16/15 10:13	09/17/15 17:38	1
Manganese	150		5.0	1.1	ug/L		09/16/15 10:13	09/17/15 17:38	1
Nickel	0.76	J	2.0	0.23	ug/L		09/16/15 10:13	09/17/15 17:38	1
Lead	0.84	J B	1.0	0.11	ug/L		09/16/15 10:13	09/17/15 17:38	1
Antimony	0.18	J	2.0	0.16	ug/L		09/16/15 10:13	09/17/15 17:38	1
Selenium	5.0	U	5.0	0.25	ug/L		09/16/15 10:13	09/17/15 17:38	1
Thallium	2.0	U	2.0	0.074	ug/L		09/16/15 10:13	09/17/15 17:38	1
Vanadium	0.23	J	5.0	0.23	ug/L		09/16/15 10:13	09/17/15 17:38	1
Zinc	20	U	20	7.3	ug/L		09/16/15 10:13	09/17/15 17:38	1
Calcium	90000		1000	240	ug/L		09/16/15 10:13	09/17/15 17:38	1
Potassium	2200		1000	30	ug/L		09/16/15 10:13	09/17/15 17:38	1
Magnesium	110000		1000	48	ug/L		09/16/15 10:13	09/17/15 17:38	1
Sodium	62000	B	1000	68	ug/L		09/16/15 10:13	09/17/15 17:38	1

TestAmerica Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11103430, NL Industries

TestAmerica Job ID: 240-55387-1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Client Sample ID: WG-11103430-091415-SG-007

Date Collected: 09/14/15 15:20

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55387-7

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	0.034	J	1.0	0.020	ug/L		09/16/15 10:13	09/17/15 17:41	1
Aluminum	49	J	50	9.0	ug/L		09/16/15 10:13	09/17/15 17:41	1
Arsenic	0.81	J	5.0	0.49	ug/L		09/16/15 10:13	09/17/15 17:41	1
Barium	170		5.0	1.1	ug/L		09/16/15 10:13	09/17/15 17:41	1
Beryllium	1.0	U	1.0	0.053	ug/L		09/16/15 10:13	09/17/15 17:41	1
Cadmium	1.0	U	1.0	0.061	ug/L		09/16/15 10:13	09/17/15 17:41	1
Cobalt	0.30	J	1.0	0.021	ug/L		09/16/15 10:13	09/17/15 17:41	1
Chromium	0.62	J B	2.0	0.60	ug/L		09/16/15 10:13	09/17/15 17:41	1
Copper	2.0	U	2.0	0.75	ug/L		09/16/15 10:13	09/17/15 17:41	1
Iron	640		100	16	ug/L		09/16/15 10:13	09/17/15 17:41	1
Manganese	22		5.0	1.1	ug/L		09/16/15 10:13	09/17/15 17:41	1
Nickel	0.67	J	2.0	0.23	ug/L		09/16/15 10:13	09/17/15 17:41	1
Lead	1.0	U	1.0	0.11	ug/L		09/16/15 10:13	09/17/15 17:41	1
Antimony	2.0	U	2.0	0.16	ug/L		09/16/15 10:13	09/17/15 17:41	1
Selenium	5.0	U	5.0	0.25	ug/L		09/16/15 10:13	09/17/15 17:41	1
Thallium	2.0	U	2.0	0.074	ug/L		09/16/15 10:13	09/17/15 17:41	1
Vanadium	5.0	U	5.0	0.23	ug/L		09/16/15 10:13	09/17/15 17:41	1
Zinc	20	U	20	7.3	ug/L		09/16/15 10:13	09/17/15 17:41	1
Calcium	44000		1000	240	ug/L		09/16/15 10:13	09/17/15 17:41	1
Potassium	3200		1000	30	ug/L		09/16/15 10:13	09/17/15 17:41	1
Magnesium	68000		1000	48	ug/L		09/16/15 10:13	09/17/15 17:41	1
Sodium	55000	B	1000	68	ug/L		09/16/15 10:13	09/17/15 17:41	1

Client Sample ID: WG-11103430-091415-SG-008

Date Collected: 09/14/15 13:15

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55387-8

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	0.030	J	1.0	0.020	ug/L		09/16/15 10:13	09/17/15 17:45	1
Aluminum	120		50	9.0	ug/L		09/16/15 10:13	09/17/15 17:45	1
Arsenic	2.3	J	5.0	0.49	ug/L		09/16/15 10:13	09/17/15 17:45	1
Barium	86		5.0	1.1	ug/L		09/16/15 10:13	09/17/15 17:45	1
Beryllium	1.0	U	1.0	0.053	ug/L		09/16/15 10:13	09/17/15 17:45	1
Cadmium	1.0	U	1.0	0.061	ug/L		09/16/15 10:13	09/17/15 17:45	1
Cobalt	1.0		1.0	0.021	ug/L		09/16/15 10:13	09/17/15 17:45	1
Chromium	0.74	J B	2.0	0.60	ug/L		09/16/15 10:13	09/17/15 17:45	1
Copper	2.0	U	2.0	0.75	ug/L		09/16/15 10:13	09/17/15 17:45	1
Iron	1100		100	16	ug/L		09/16/15 10:13	09/17/15 17:45	1
Manganese	140		5.0	1.1	ug/L		09/16/15 10:13	09/17/15 17:45	1
Nickel	0.75	J	2.0	0.23	ug/L		09/16/15 10:13	09/17/15 17:45	1
Lead	0.71	J B	1.0	0.11	ug/L		09/16/15 10:13	09/17/15 17:45	1
Antimony	2.0	U	2.0	0.16	ug/L		09/16/15 10:13	09/17/15 17:45	1
Selenium	5.0	U	5.0	0.25	ug/L		09/16/15 10:13	09/17/15 17:45	1
Thallium	2.0	U	2.0	0.074	ug/L		09/16/15 10:13	09/17/15 17:45	1
Vanadium	0.23	J	5.0	0.23	ug/L		09/16/15 10:13	09/17/15 17:45	1
Zinc	20	U	20	7.3	ug/L		09/16/15 10:13	09/17/15 17:45	1
Calcium	86000		1000	240	ug/L		09/16/15 10:13	09/17/15 17:45	1
Potassium	2200		1000	30	ug/L		09/16/15 10:13	09/17/15 17:45	1
Magnesium	100000		1000	48	ug/L		09/16/15 10:13	09/17/15 17:45	1
Sodium	60000	B	1000	68	ug/L		09/16/15 10:13	09/17/15 17:45	1

TestAmerica Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11103430, NL Industries

TestAmerica Job ID: 240-55387-1

Method: 7470A - Mercury (CVAA)

Client Sample ID: WG-11103430-091415-DT-001

Date Collected: 09/14/15 11:35

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55387-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.20	U	0.20	0.090	ug/L	—	09/16/15 14:00	09/17/15 11:20	1

Client Sample ID: EB-11103430-091415-SG-002

Date Collected: 09/14/15 00:00

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55387-2

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.20	U	0.20	0.090	ug/L	—	09/16/15 14:00	09/17/15 11:25	1

Client Sample ID: WG-11103430-091415-DT-003

Date Collected: 09/14/15 12:30

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55387-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.20	U	0.20	0.090	ug/L	—	09/16/15 14:00	09/17/15 11:26	1

Client Sample ID: WG-11103430-091415-SG-004

Date Collected: 09/14/15 11:55

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55387-4

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.20	U	0.20	0.090	ug/L	—	09/16/15 14:00	09/17/15 11:27	1

Client Sample ID: WG-11103430-091415-DT-005

Date Collected: 09/14/15 14:25

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55387-5

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.20	U	0.20	0.090	ug/L	—	09/16/15 14:00	09/17/15 11:29	1

Client Sample ID: WG-11103430-091415-SG-006

Date Collected: 09/14/15 13:15

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55387-6

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.20	U	0.20	0.090	ug/L	—	09/16/15 14:00	09/17/15 11:30	1

Client Sample ID: WG-11103430-091415-SG-007

Date Collected: 09/14/15 15:20

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55387-7

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.20	U	0.20	0.090	ug/L	—	09/16/15 14:00	09/17/15 11:36	1

Client Sample ID: WG-11103430-091415-SG-008

Date Collected: 09/14/15 13:15

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55387-8

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.20	U	0.20	0.090	ug/L	—	09/16/15 14:00	09/17/15 11:39	1

TestAmerica Canton

Surrogate Summary

Client: GHD Services Inc.
Project/Site: 11103430, NL Industries

TestAmerica Job ID: 240-55387-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		TOL (80-120)	DBFM (79-120)	BFB (61-120)	12DCE (78-125)
240-55387-1	WG-11103430-091415-DT-001	89	85	91	98
240-55387-2	EB-11103430-091415-SG-002	87	89	89	97
240-55387-3	WG-11103430-091415-DT-003	86	88	89	97
240-55387-4	WG-11103430-091415-SG-004	85	88	89	98
240-55387-5	WG-11103430-091415-DT-005	85	90	89	98
240-55387-6	WG-11103430-091415-SG-006	86	89	90	96
240-55387-7	WG-11103430-091415-SG-007	86	89	90	101
240-55387-8	WG-11103430-091415-SG-008	85	89	88	96
240-55387-9	TB-11103430-091415-DT	85	89	90	99
LCS 240-197949/4	Lab Control Sample	91	97	99	96
MB 240-197949/30	Method Blank	87	89	91	97

Surrogate Legend

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

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		TPH (31-115)	PHL (10-110)	NBZ (31-110)	2FP (15-110)	FBP (29-110)	TBP (21-128)
240-55387-1	WG-11103430-091415-DT-001	50	15	56	27	54	49
240-55387-2	EB-11103430-091415-SG-002	67	14	50	25	49	43
240-55387-3	WG-11103430-091415-DT-003	56	14	59	26	60	55
240-55387-4	WG-11103430-091415-SG-004	53	15	56	26	56	55
240-55387-5	WG-11103430-091415-DT-005	54	19	67	34	68	62
240-55387-6	WG-11103430-091415-SG-006	57	15	59	27	59	52
240-55387-7	WG-11103430-091415-SG-007	52	14	52	25	53	50
240-55387-8	WG-11103430-091415-SG-008	53	14	58	26	59	45
LCS 240-197709/22-A	Lab Control Sample	74	31	74	48	69	71
MB 240-197709/21-A	Method Blank	74	32	66	49	64	61

Surrogate Legend

TPH = Terphenyl-d14 (Surr)
PHL = Phenol-d5 (Surr)
NBZ = Nitrobenzene-d5 (Surr)
2FP = 2-Fluorophenol (Surr)
FBP = 2-Fluorobiphenyl (Surr)
TBP = 2,4,6-Tribromophenol (Surr)

TestAmerica Canton

QC Sample Results

Client: GHD Services Inc.
Project/Site: 11103430, NL Industries

TestAmerica Job ID: 240-55387-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 240-197949/30

Matrix: Water

Analysis Batch: 197949

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.44	ug/L			09/17/15 12:43	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.22	ug/L			09/17/15 12:43	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.45	ug/L			09/17/15 12:43	1
1,1,2-Trichloroethane	1.0	U	1.0	0.24	ug/L			09/17/15 12:43	1
1,1-Dichloroethane	1.0	U	1.0	0.30	ug/L			09/17/15 12:43	1
1,1-Dichloroethene	1.0	U	1.0	0.45	ug/L			09/17/15 12:43	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.32	ug/L			09/17/15 12:43	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.82	ug/L			09/17/15 12:43	1
Ethylene Dibromide	1.0	U	1.0	0.32	ug/L			09/17/15 12:43	1
1,2-Dichlorobenzene	1.0	U	1.0	0.25	ug/L			09/17/15 12:43	1
1,2-Dichloroethane	1.0	U	1.0	0.23	ug/L			09/17/15 12:43	1
1,2-Dichloropropane	1.0	U	1.0	0.25	ug/L			09/17/15 12:43	1
1,3-Dichlorobenzene	1.0	U	1.0	0.19	ug/L			09/17/15 12:43	1
1,4-Dichlorobenzene	1.0	U	1.0	0.27	ug/L			09/17/15 12:43	1
2-Butanone (MEK)	10	U	10	0.53	ug/L			09/17/15 12:43	1
2-Hexanone	10	U	10	0.48	ug/L			09/17/15 12:43	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			09/17/15 12:43	1
Acetone	1.36	J	10	0.94	ug/L			09/17/15 12:43	1
Benzene	1.0	U	1.0	0.35	ug/L			09/17/15 12:43	1
Dichlorobromomethane	1.0	U	1.0	0.29	ug/L			09/17/15 12:43	1
Bromoform	1.0	U	1.0	0.56	ug/L			09/17/15 12:43	1
Bromomethane	1.0	U	1.0	0.44	ug/L			09/17/15 12:43	1
Carbon disulfide	1.0	U	1.0	0.38	ug/L			09/17/15 12:43	1
Carbon tetrachloride	1.0	U	1.0	0.43	ug/L			09/17/15 12:43	1
Chlorobenzene	1.0	U	1.0	0.25	ug/L			09/17/15 12:43	1
Chloroethane	1.0	U	1.0	0.32	ug/L			09/17/15 12:43	1
Chloroform	1.0	U	1.0	0.25	ug/L			09/17/15 12:43	1
Chloromethane	1.0	U	1.0	0.44	ug/L			09/17/15 12:43	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.26	ug/L			09/17/15 12:43	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.46	ug/L			09/17/15 12:43	1
Cyclohexane	1.0	U	1.0	0.45	ug/L			09/17/15 12:43	1
Chlorodibromomethane	1.0	U	1.0	0.43	ug/L			09/17/15 12:43	1
Dichlorodifluoromethane	1.0	U	1.0	0.32	ug/L			09/17/15 12:43	1
Ethylbenzene	1.0	U	1.0	0.25	ug/L			09/17/15 12:43	1
Isopropylbenzene	1.0	U	1.0	0.35	ug/L			09/17/15 12:43	1
Methyl acetate	10	U	10	2.3	ug/L			09/17/15 12:43	1
Methyl tert-butyl ether	1.0	U	1.0	0.20	ug/L			09/17/15 12:43	1
Methylcyclohexane	1.0	U	1.0	0.43	ug/L			09/17/15 12:43	1
Methylene Chloride	1.0	U	1.0	0.33	ug/L			09/17/15 12:43	1
Styrene	1.0	U	1.0	0.45	ug/L			09/17/15 12:43	1
Tetrachloroethene	1.0	U	1.0	0.31	ug/L			09/17/15 12:43	1
Toluene	1.0	U	1.0	0.23	ug/L			09/17/15 12:43	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			09/17/15 12:43	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.56	ug/L			09/17/15 12:43	1
Trichloroethene	1.0	U	1.0	0.22	ug/L			09/17/15 12:43	1
Trichlorofluoromethane	1.0	U	1.0	0.49	ug/L			09/17/15 12:43	1
Vinyl chloride	1.0	U	1.0	0.29	ug/L			09/17/15 12:43	1
Xylenes, Total	2.0	U	2.0	0.52	ug/L			09/17/15 12:43	1

TestAmerica Canton

QC Sample Results

Client: GHD Services Inc.
Project/Site: 11103430, NL Industries

TestAmerica Job ID: 240-55387-1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	87		80 - 120		09/17/15 12:43	1
Dibromofluoromethane (Surr)	89		79 - 120		09/17/15 12:43	1
4-Bromofluorobenzene (Surr)	91		61 - 120		09/17/15 12:43	1
1,2-Dichloroethane-d4 (Surr)	97		78 - 125		09/17/15 12:43	1

Lab Sample ID: LCS 240-197949/4
Matrix: Water
Analysis Batch: 197949

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	10.0	9.65		ug/L		96	77 - 123
1,1,2,2-Tetrachloroethane	10.0	9.99		ug/L		100	71 - 123
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	9.70		ug/L		97	67 - 138
1,1,2-Trichloroethane	10.0	9.75		ug/L		98	80 - 120
1,1-Dichloroethane	10.0	9.66		ug/L		97	79 - 125
1,1-Dichloroethene	10.0	8.64		ug/L		86	76 - 124
1,2,4-Trichlorobenzene	10.0	7.07		ug/L		71	61 - 120
1,2-Dibromo-3-Chloropropane	10.0	7.12		ug/L		71	50 - 132
Ethylene Dibromide	10.0	10.2		ug/L		102	80 - 120
1,2-Dichlorobenzene	10.0	9.21		ug/L		92	79 - 120
1,2-Dichloroethane	10.0	10.3		ug/L		103	80 - 120
1,2-Dichloropropane	10.0	9.68		ug/L		97	78 - 124
1,3-Dichlorobenzene	10.0	9.66		ug/L		97	79 - 120
1,4-Dichlorobenzene	10.0	9.92		ug/L		99	79 - 120
2-Butanone (MEK)	20.0	23.6		ug/L		118	56 - 138
2-Hexanone	20.0	25.1		ug/L		126	55 - 141
4-Methyl-2-pentanone (MIBK)	20.0	22.5		ug/L		113	64 - 135
Acetone	20.0	26.0		ug/L		130	34 - 148
Benzene	10.0	9.41		ug/L		94	80 - 120
Dichlorobromomethane	10.0	9.49		ug/L		95	80 - 120
Bromoform	10.0	9.09		ug/L		91	56 - 122
Bromomethane	10.0	6.89		ug/L		69	38 - 132
Carbon disulfide	10.0	7.96		ug/L		80	65 - 144
Carbon tetrachloride	10.0	10.6		ug/L		106	77 - 131
Chlorobenzene	10.0	9.49		ug/L		95	80 - 120
Chloroethane	10.0	7.12		ug/L		71	36 - 126
Chloroform	10.0	9.65		ug/L		96	80 - 120
Chloromethane	10.0	7.91		ug/L		79	48 - 133
cis-1,2-Dichloroethene	10.0	9.58		ug/L		96	79 - 120
cis-1,3-Dichloropropene	10.0	7.89		ug/L		79	74 - 126
Cyclohexane	10.0	10.1		ug/L		101	60 - 140
Chlorodibromomethane	10.0	8.53		ug/L		85	74 - 120
Dichlorodifluoromethane	10.0	5.12		ug/L		51	23 - 136
Ethylbenzene	10.0	9.26		ug/L		93	80 - 120
Isopropylbenzene	10.0	9.63		ug/L		96	77 - 120
Methyl acetate	50.0	56.8		ug/L		114	67 - 131
Methyl tert-butyl ether	10.0	7.96		ug/L		80	69 - 121
Methylcyclohexane	10.0	8.82		ug/L		88	61 - 134
Methylene Chloride	10.0	9.63		ug/L		96	77 - 129
Styrene	10.0	9.40		ug/L		94	76 - 122
Tetrachloroethene	10.0	9.91		ug/L		99	78 - 121
Toluene	10.0	9.29		ug/L		93	80 - 120
trans-1,2-Dichloroethene	10.0	9.51		ug/L		95	80 - 124

TestAmerica Canton

QC Sample Results

Client: GHD Services Inc.
Project/Site: 11103430, NL Industries

TestAmerica Job ID: 240-55387-1

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

Lab Sample ID: LCS 240-197949/4

Matrix: Water

Analysis Batch: 197949

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	10.0	8.01		ug/L		80	75 - 131
Trichloroethene	10.0	10.3		ug/L		103	80 - 121
Trichlorofluoromethane	10.0	7.73		ug/L		77	61 - 133
Vinyl chloride	10.0	6.74		ug/L		67	52 - 121
Xylenes, Total	20.0	18.7		ug/L		94	80 - 120
m-Xylene & p-Xylene	10.0	9.52		ug/L		95	80 - 120
o-Xylene	10.0	9.20		ug/L		92	80 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	91		80 - 120
Dibromofluoromethane (Surr)	97		79 - 120
4-Bromofluorobenzene (Surr)	99		61 - 120
1,2-Dichloroethane-d4 (Surr)	96		78 - 125

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-197709/21-A

Matrix: Water

Analysis Batch: 197942

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 197709

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	1.0	U	1.0	0.13	ug/L		09/16/15 08:49	09/17/15 14:40	1
bis (2-chloroisopropyl) ether	1.0	U	1.0	0.40	ug/L		09/16/15 08:49	09/17/15 14:40	1
2,4,5-Trichlorophenol	5.0	U	5.0	0.30	ug/L		09/16/15 08:49	09/17/15 14:40	1
2,4,6-Trichlorophenol	5.0	U	5.0	0.24	ug/L		09/16/15 08:49	09/17/15 14:40	1
2,4-Dichlorophenol	2.0	U	2.0	0.19	ug/L		09/16/15 08:49	09/17/15 14:40	1
2,4-Dimethylphenol	2.0	U	2.0	0.25	ug/L		09/16/15 08:49	09/17/15 14:40	1
2,4-Dinitrophenol	5.0	U	5.0	0.32	ug/L		09/16/15 08:49	09/17/15 14:40	1
2,4-Dinitrotoluene	5.0	U	5.0	0.25	ug/L		09/16/15 08:49	09/17/15 14:40	1
2,6-Dinitrotoluene	5.0	U	5.0	0.80	ug/L		09/16/15 08:49	09/17/15 14:40	1
2-Chloronaphthalene	1.0	U	1.0	0.10	ug/L		09/16/15 08:49	09/17/15 14:40	1
2-Chlorophenol	1.0	U	1.0	0.29	ug/L		09/16/15 08:49	09/17/15 14:40	1
2-Methylnaphthalene	0.20	U	0.20	0.090	ug/L		09/16/15 08:49	09/17/15 14:40	1
2-Methylphenol	1.0	U	1.0	0.17	ug/L		09/16/15 08:49	09/17/15 14:40	1
2-Nitroaniline	2.0	U	2.0	0.21	ug/L		09/16/15 08:49	09/17/15 14:40	1
2-Nitrophenol	2.0	U	2.0	0.28	ug/L		09/16/15 08:49	09/17/15 14:40	1
3,3'-Dichlorobenzidine	5.0	U	5.0	0.37	ug/L		09/16/15 08:49	09/17/15 14:40	1
3-Nitroaniline	2.0	U	2.0	0.28	ug/L		09/16/15 08:49	09/17/15 14:40	1
4,6-Dinitro-2-methylphenol	5.0	U	5.0	2.4	ug/L		09/16/15 08:49	09/17/15 14:40	1
4-Bromophenyl phenyl ether	2.0	U	2.0	0.22	ug/L		09/16/15 08:49	09/17/15 14:40	1
4-Chloro-3-methylphenol	2.0	U	2.0	0.21	ug/L		09/16/15 08:49	09/17/15 14:40	1
4-Chloroaniline	2.0	U	2.0	0.21	ug/L		09/16/15 08:49	09/17/15 14:40	1
4-Chlorophenyl phenyl ether	2.0	U	2.0	0.30	ug/L		09/16/15 08:49	09/17/15 14:40	1
4-Nitroaniline	2.0	U	2.0	0.22	ug/L		09/16/15 08:49	09/17/15 14:40	1
4-Nitrophenol	5.0	U	5.0	0.29	ug/L		09/16/15 08:49	09/17/15 14:40	1
Acenaphthene	0.20	U	0.20	0.044	ug/L		09/16/15 08:49	09/17/15 14:40	1
Acenaphthylene	0.20	U	0.20	0.048	ug/L		09/16/15 08:49	09/17/15 14:40	1
Acetophenone	1.0	U	1.0	0.34	ug/L		09/16/15 08:49	09/17/15 14:40	1

TestAmerica Canton

QC Sample Results

Client: GHD Services Inc.
Project/Site: 11103430, NL Industries

TestAmerica Job ID: 240-55387-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-197709/21-A

Matrix: Water

Analysis Batch: 197942

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 197709

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anthracene	0.20	U	0.20	0.088	ug/L		09/16/15 08:49	09/17/15 14:40	1
Atrazine	1.0	U	1.0	0.34	ug/L		09/16/15 08:49	09/17/15 14:40	1
Benzaldehyde	1.0	U	1.0	0.39	ug/L		09/16/15 08:49	09/17/15 14:40	1
Benzo[a]anthracene	0.20	U	0.20	0.030	ug/L		09/16/15 08:49	09/17/15 14:40	1
Benzo[a]pyrene	0.20	U	0.20	0.051	ug/L		09/16/15 08:49	09/17/15 14:40	1
Benzo[b]fluoranthene	0.20	U	0.20	0.039	ug/L		09/16/15 08:49	09/17/15 14:40	1
Benzo[g,h,i]perylene	0.20	U	0.20	0.046	ug/L		09/16/15 08:49	09/17/15 14:40	1
Benzo[k]fluoranthene	0.20	U	0.20	0.045	ug/L		09/16/15 08:49	09/17/15 14:40	1
Bis(2-chloroethoxy)methane	1.0	U	1.0	0.32	ug/L		09/16/15 08:49	09/17/15 14:40	1
Bis(2-chloroethyl)ether	1.0	U	1.0	0.10	ug/L		09/16/15 08:49	09/17/15 14:40	1
Bis(2-ethylhexyl) phthalate	5.0	U	5.0	1.7	ug/L		09/16/15 08:49	09/17/15 14:40	1
Butyl benzyl phthalate	2.0	U	2.0	0.26	ug/L		09/16/15 08:49	09/17/15 14:40	1
Caprolactam	5.0	U	5.0	0.20	ug/L		09/16/15 08:49	09/17/15 14:40	1
Carbazole	1.0	U	1.0	0.28	ug/L		09/16/15 08:49	09/17/15 14:40	1
Chrysene	0.20	U	0.20	0.050	ug/L		09/16/15 08:49	09/17/15 14:40	1
Dibenz(a,h)anthracene	0.20	U	0.20	0.045	ug/L		09/16/15 08:49	09/17/15 14:40	1
Dibenzofuran	1.0	U	1.0	0.020	ug/L		09/16/15 08:49	09/17/15 14:40	1
Diethyl phthalate	2.0	U	2.0	0.60	ug/L		09/16/15 08:49	09/17/15 14:40	1
Dimethyl phthalate	2.0	U	2.0	0.29	ug/L		09/16/15 08:49	09/17/15 14:40	1
Di-n-butyl phthalate	5.0	U	5.0	1.7	ug/L		09/16/15 08:49	09/17/15 14:40	1
Di-n-octyl phthalate	2.0	U	2.0	0.23	ug/L		09/16/15 08:49	09/17/15 14:40	1
Fluoranthene	0.20	U	0.20	0.045	ug/L		09/16/15 08:49	09/17/15 14:40	1
Fluorene	0.20	U	0.20	0.041	ug/L		09/16/15 08:49	09/17/15 14:40	1
Hexachlorobenzene	0.20	U	0.20	0.085	ug/L		09/16/15 08:49	09/17/15 14:40	1
Hexachlorobutadiene	1.0	U	1.0	0.27	ug/L		09/16/15 08:49	09/17/15 14:40	1
Hexachlorocyclopentadiene	10	U	10	0.24	ug/L		09/16/15 08:49	09/17/15 14:40	1
Hexachloroethane	1.0	U	1.0	0.19	ug/L		09/16/15 08:49	09/17/15 14:40	1
Indeno[1,2,3-cd]pyrene	0.20	U	0.20	0.043	ug/L		09/16/15 08:49	09/17/15 14:40	1
Isophorone	1.0	U	1.0	0.27	ug/L		09/16/15 08:49	09/17/15 14:40	1
N-Nitrosodi-n-propylamine	1.0	U	1.0	0.24	ug/L		09/16/15 08:49	09/17/15 14:40	1
N-Nitrosodiphenylamine	1.0	U	1.0	0.31	ug/L		09/16/15 08:49	09/17/15 14:40	1
Naphthalene	0.20	U	0.20	0.063	ug/L		09/16/15 08:49	09/17/15 14:40	1
Nitrobenzene	1.0	U	1.0	0.040	ug/L		09/16/15 08:49	09/17/15 14:40	1
Pentachlorophenol	5.0	U	5.0	0.27	ug/L		09/16/15 08:49	09/17/15 14:40	1
Phenanthrene	0.20	U	0.20	0.062	ug/L		09/16/15 08:49	09/17/15 14:40	1
Phenol	1.0	U	1.0	0.60	ug/L		09/16/15 08:49	09/17/15 14:40	1
Pyrene	0.20	U	0.20	0.042	ug/L		09/16/15 08:49	09/17/15 14:40	1
3 & 4 Methylphenol	2.0	U	2.0	0.80	ug/L		09/16/15 08:49	09/17/15 14:40	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14 (Surr)	74		31 - 115	09/16/15 08:49	09/17/15 14:40	1
Phenol-d5 (Surr)	32		10 - 110	09/16/15 08:49	09/17/15 14:40	1
Nitrobenzene-d5 (Surr)	66		31 - 110	09/16/15 08:49	09/17/15 14:40	1
2-Fluorophenol (Surr)	49		15 - 110	09/16/15 08:49	09/17/15 14:40	1
2-Fluorobiphenyl (Surr)	64		29 - 110	09/16/15 08:49	09/17/15 14:40	1
2,4,6-Tribromophenol (Surr)	61		21 - 128	09/16/15 08:49	09/17/15 14:40	1

TestAmerica Canton

QC Sample Results

Client: GHD Services Inc.
Project/Site: 11103430, NL Industries

TestAmerica Job ID: 240-55387-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-197709/22-A

Matrix: Water

Analysis Batch: 197942

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 197709

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1'-Biphenyl	20.0	13.3		ug/L		67	52 - 120
bis (2-chloroisopropyl) ether	20.0	15.1		ug/L		75	42 - 120
2,4,5-Trichlorophenol	20.0	14.1		ug/L		71	47 - 120
2,4,6-Trichlorophenol	20.0	14.6		ug/L		73	43 - 120
2,4-Dichlorophenol	20.0	14.2		ug/L		71	46 - 120
2,4-Dimethylphenol	20.0	13.7		ug/L		69	38 - 120
2,4-Dinitrophenol	40.0	20.5		ug/L		51	10 - 120
2,4-Dinitrotoluene	20.0	14.7		ug/L		73	52 - 120
2,6-Dinitrotoluene	20.0	14.4		ug/L		72	52 - 120
2-Chloronaphthalene	20.0	13.0		ug/L		65	47 - 120
2-Chlorophenol	20.0	13.8		ug/L		69	43 - 120
2-Methylnaphthalene	20.0	13.6		ug/L		68	52 - 120
2-Methylphenol	20.0	12.7		ug/L		64	38 - 120
2-Nitroaniline	20.0	15.6		ug/L		78	48 - 127
2-Nitrophenol	20.0	14.1		ug/L		70	42 - 120
3,3'-Dichlorobenzidine	40.0	23.2		ug/L		58	29 - 120
3-Nitroaniline	20.0	13.2		ug/L		66	52 - 120
4,6-Dinitro-2-methylphenol	40.0	22.5		ug/L		56	33 - 120
4-Bromophenyl phenyl ether	20.0	13.8		ug/L		69	47 - 120
4-Chloro-3-methylphenol	20.0	15.2		ug/L		76	45 - 120
4-Chloroaniline	20.0	4.40		ug/L		22	15 - 120
4-Chlorophenyl phenyl ether	20.0	14.0		ug/L		70	47 - 120
4-Nitroaniline	20.0	14.0		ug/L		70	48 - 120
4-Nitrophenol	40.0	12.5		ug/L		31	16 - 120
Acenaphthene	20.0	13.6		ug/L		68	55 - 120
Acenaphthylene	20.0	13.8		ug/L		69	55 - 120
Acetophenone	20.0	14.6		ug/L		73	50 - 120
Anthracene	20.0	13.8		ug/L		69	56 - 120
Atrazine	40.0	29.6		ug/L		74	65 - 161
Benzaldehyde	40.0	31.0		ug/L		77	40 - 122
Benzo[a]anthracene	20.0	13.6		ug/L		68	46 - 120
Benzo[a]pyrene	20.0	15.4		ug/L		77	24 - 120
Benzo[b]fluoranthene	20.0	16.1		ug/L		80	24 - 120
Benzo[g,h,i]perylene	20.0	14.8		ug/L		74	24 - 126
Benzo[k]fluoranthene	20.0	15.9		ug/L		79	30 - 120
Bis(2-chloroethoxy)methane	20.0	15.4		ug/L		77	48 - 120
Bis(2-chloroethyl)ether	20.0	15.0		ug/L		75	43 - 120
Bis(2-ethylhexyl) phthalate	20.0	14.2		ug/L		71	21 - 125
Butyl benzyl phthalate	20.0	14.2		ug/L		71	51 - 120
Caprolactam	40.0	5.96		ug/L		15	10 - 120
Carbazole	20.0	14.8		ug/L		74	57 - 120
Chrysene	20.0	14.3		ug/L		72	49 - 120
Dibenz(a,h)anthracene	20.0	15.2		ug/L		76	24 - 125
Dibenzofuran	20.0	13.9		ug/L		70	56 - 120
Diethyl phthalate	20.0	14.9		ug/L		75	58 - 120
Dimethyl phthalate	20.0	14.7		ug/L		73	59 - 120
Di-n-butyl phthalate	20.0	15.2		ug/L		76	57 - 122
Di-n-octyl phthalate	20.0	16.0		ug/L		80	21 - 122

TestAmerica Canton

QC Sample Results

Client: GHD Services Inc.
Project/Site: 11103430, NL Industries

TestAmerica Job ID: 240-55387-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-197709/22-A

Matrix: Water

Analysis Batch: 197942

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 197709

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoranthene	20.0	14.3		ug/L		72	57 - 120
Fluorene	20.0	13.9		ug/L		70	56 - 120
Hexachlorobenzene	20.0	13.6		ug/L		68	52 - 120
Hexachlorobutadiene	20.0	12.3		ug/L		62	38 - 120
Hexachlorocyclopentadiene	20.0	8.73	J	ug/L		44	4 - 120
Hexachloroethane	20.0	12.4		ug/L		62	42 - 120
Indeno[1,2,3-cd]pyrene	20.0	15.0		ug/L		75	25 - 120
Isophorone	20.0	15.6		ug/L		78	48 - 123
N-Nitrosodi-n-propylamine	20.0	15.4		ug/L		77	48 - 123
N-Nitrosodiphenylamine	40.0	27.7		ug/L		69	51 - 120
Naphthalene	20.0	13.3		ug/L		66	52 - 120
Nitrobenzene	20.0	14.7		ug/L		73	41 - 120
Pentachlorophenol	40.0	23.4		ug/L		58	14 - 120
Phenanthrene	20.0	14.1		ug/L		71	57 - 120
Phenol	20.0	6.29		ug/L		31	16 - 120
Pyrene	20.0	14.0		ug/L		70	50 - 120
3 & 4 Methylphenol	20.0	11.6		ug/L		58	34 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Terphenyl-d14 (Surr)	74		31 - 115
Phenol-d5 (Surr)	31		10 - 110
Nitrobenzene-d5 (Surr)	74		31 - 110
2-Fluorophenol (Surr)	48		15 - 110
2-Fluorobiphenyl (Surr)	69		29 - 110
2,4,6-Tribromophenol (Surr)	71		21 - 128

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 240-197737/1-A

Matrix: Water

Analysis Batch: 198116

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 197737

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	1.0	U	1.0	0.020	ug/L		09/16/15 10:13	09/17/15 16:52	1
Aluminum	50	U	50	9.0	ug/L		09/16/15 10:13	09/17/15 16:52	1
Arsenic	5.0	U	5.0	0.49	ug/L		09/16/15 10:13	09/17/15 16:52	1
Barium	5.0	U	5.0	1.1	ug/L		09/16/15 10:13	09/17/15 16:52	1
Beryllium	1.0	U	1.0	0.053	ug/L		09/16/15 10:13	09/17/15 16:52	1
Cadmium	1.0	U	1.0	0.061	ug/L		09/16/15 10:13	09/17/15 16:52	1
Cobalt	1.0	U	1.0	0.021	ug/L		09/16/15 10:13	09/17/15 16:52	1
Chromium	0.732	J	2.0	0.60	ug/L		09/16/15 10:13	09/17/15 16:52	1
Copper	2.0	U	2.0	0.75	ug/L		09/16/15 10:13	09/17/15 16:52	1
Iron	100	U	100	16	ug/L		09/16/15 10:13	09/17/15 16:52	1
Manganese	5.0	U	5.0	1.1	ug/L		09/16/15 10:13	09/17/15 16:52	1
Nickel	2.0	U	2.0	0.23	ug/L		09/16/15 10:13	09/17/15 16:52	1
Lead	0.339	J	1.0	0.11	ug/L		09/16/15 10:13	09/17/15 16:52	1
Antimony	2.0	U	2.0	0.16	ug/L		09/16/15 10:13	09/17/15 16:52	1
Selenium	5.0	U	5.0	0.25	ug/L		09/16/15 10:13	09/17/15 16:52	1

TestAmerica Canton

QC Sample Results

Client: GHD Services Inc.
Project/Site: 11103430, NL Industries

TestAmerica Job ID: 240-55387-1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 240-197737/1-A

Matrix: Water

Analysis Batch: 198116

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 197737

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thallium	2.0	U	2.0	0.074	ug/L		09/16/15 10:13	09/17/15 16:52	1
Vanadium	5.0	U	5.0	0.23	ug/L		09/16/15 10:13	09/17/15 16:52	1
Zinc	20	U	20	7.3	ug/L		09/16/15 10:13	09/17/15 16:52	1
Calcium	1000	U	1000	240	ug/L		09/16/15 10:13	09/17/15 16:52	1
Potassium	1000	U	1000	30	ug/L		09/16/15 10:13	09/17/15 16:52	1
Magnesium	1000	U	1000	48	ug/L		09/16/15 10:13	09/17/15 16:52	1
Sodium	91.4	J	1000	68	ug/L		09/16/15 10:13	09/17/15 16:52	1

Lab Sample ID: LCS 240-197737/2-A

Matrix: Water

Analysis Batch: 198116

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 197737

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	100	96.8		ug/L		97	80 - 120
Aluminum	10000	9250		ug/L		92	80 - 120
Arsenic	1000	937		ug/L		94	80 - 120
Barium	1000	1010		ug/L		101	80 - 120
Beryllium	1000	936		ug/L		94	80 - 120
Cadmium	1000	1010		ug/L		101	80 - 120
Cobalt	1000	963		ug/L		96	80 - 120
Chromium	1000	938		ug/L		94	80 - 120
Copper	1000	974		ug/L		97	80 - 120
Iron	10000	9670		ug/L		97	80 - 120
Manganese	1000	959		ug/L		96	80 - 120
Nickel	1000	1000		ug/L		100	80 - 120
Lead	1000	1000		ug/L		100	80 - 120
Antimony	100	94.3		ug/L		94	80 - 120
Selenium	1000	916		ug/L		92	80 - 120
Thallium	250	245		ug/L		98	80 - 120
Vanadium	1000	895		ug/L		89	80 - 120
Zinc	1000	1050		ug/L		105	80 - 120
Calcium	10000	10600		ug/L		106	80 - 120
Potassium	10000	9480		ug/L		95	80 - 120
Magnesium	10000	9670		ug/L		97	80 - 120
Sodium	10000	9660		ug/L		97	80 - 120

Lab Sample ID: 240-55387-1 MS

Matrix: Water

Analysis Batch: 198116

Client Sample ID: WG-11103430-091415-DT-001

Prep Type: Total Recoverable

Prep Batch: 197737

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	0.032	J	100	100		ug/L		100	75 - 125
Aluminum	340		10000	9860		ug/L		95	75 - 125
Arsenic	0.88	J	1000	989		ug/L		99	75 - 125
Barium	190		1000	1250		ug/L		106	75 - 125
Beryllium	0.097	J	1000	986		ug/L		99	75 - 125
Cadmium	0.27	J	1000	1040		ug/L		104	75 - 125
Cobalt	0.29	J	1000	964		ug/L		96	75 - 125
Chromium	1.2	J B	1000	963		ug/L		96	75 - 125

TestAmerica Canton

QC Sample Results

Client: GHD Services Inc.
Project/Site: 11103430, NL Industries

TestAmerica Job ID: 240-55387-1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 240-55387-1 MS

Matrix: Water

Analysis Batch: 198116

Client Sample ID: WG-11103430-091415-DT-001

Prep Type: Total Recoverable

Prep Batch: 197737

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Copper	10		1000	964		ug/L		95	75 - 125
Iron	290		10000	10000		ug/L		98	75 - 125
Manganese	4.3	J	1000	977		ug/L		97	75 - 125
Nickel	1.2	J	1000	987		ug/L		99	75 - 125
Lead	8.0	B	1000	998		ug/L		99	75 - 125
Antimony	1.3	J	100	100		ug/L		99	75 - 125
Selenium	0.58	J	1000	939		ug/L		94	75 - 125
Thallium	0.11	J	250	245		ug/L		98	75 - 125
Vanadium	1.3	J	1000	928		ug/L		93	75 - 125
Zinc	17	J	1000	1040		ug/L		102	75 - 125
Calcium	89000		10000	96700	4	ug/L		79	75 - 125
Potassium	1000		10000	10700		ug/L		97	75 - 125
Magnesium	94000		10000	101000	4	ug/L		73	75 - 125
Sodium	86000	B	10000	92700	4	ug/L		69	75 - 125

Lab Sample ID: 240-55387-1 MSD

Matrix: Water

Analysis Batch: 198116

Client Sample ID: WG-11103430-091415-DT-001

Prep Type: Total Recoverable

Prep Batch: 197737

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Silver	0.032	J	100	97.2		ug/L		97	75 - 125	3	20
Aluminum	340		10000	9890		ug/L		95	75 - 125	0	20
Arsenic	0.88	J	1000	984		ug/L		98	75 - 125	0	20
Barium	190		1000	1250		ug/L		106	75 - 125	0	20
Beryllium	0.097	J	1000	967		ug/L		97	75 - 125	2	20
Cadmium	0.27	J	1000	1040		ug/L		104	75 - 125	0	20
Cobalt	0.29	J	1000	942		ug/L		94	75 - 125	2	20
Chromium	1.2	J B	1000	951		ug/L		95	75 - 125	1	20
Copper	10		1000	956		ug/L		95	75 - 125	1	20
Iron	290		10000	9910		ug/L		96	75 - 125	1	20
Manganese	4.3	J	1000	968		ug/L		96	75 - 125	1	20
Nickel	1.2	J	1000	975		ug/L		97	75 - 125	1	20
Lead	8.0	B	1000	1000		ug/L		99	75 - 125	0	20
Antimony	1.3	J	100	98.7		ug/L		97	75 - 125	1	20
Selenium	0.58	J	1000	927		ug/L		93	75 - 125	1	20
Thallium	0.11	J	250	245		ug/L		98	75 - 125	0	20
Vanadium	1.3	J	1000	928		ug/L		93	75 - 125	0	20
Zinc	17	J	1000	1030		ug/L		101	75 - 125	1	20
Calcium	89000		10000	96100	4	ug/L		73	75 - 125	1	20
Potassium	1000		10000	10700		ug/L		97	75 - 125	0	20
Magnesium	94000		10000	101000	4	ug/L		68	75 - 125	1	20
Sodium	86000	B	10000	92500	4	ug/L		67	75 - 125	0	20

TestAmerica Canton

QC Sample Results

Client: GHD Services Inc.
Project/Site: 11103430, NL Industries

TestAmerica Job ID: 240-55387-1

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 240-197742/1-A
Matrix: Water
Analysis Batch: 198023

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 197742

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.20	U	0.20	0.090	ug/L	-	09/16/15 14:00	09/17/15 11:17	1

Lab Sample ID: LCS 240-197742/2-A
Matrix: Water
Analysis Batch: 198023

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 197742

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	5.00	4.81		ug/L	-	96	80 - 120

Lab Sample ID: 240-55387-1 MS
Matrix: Water
Analysis Batch: 198023

Client Sample ID: WG-11103430-091415-DT-001
Prep Type: Total/NA
Prep Batch: 197742

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.20	U	1.00	0.956		ug/L	-	96	80 - 120

Lab Sample ID: 240-55387-1 MSD
Matrix: Water
Analysis Batch: 198023

Client Sample ID: WG-11103430-091415-DT-001
Prep Type: Total/NA
Prep Batch: 197742

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.20	U	1.00	0.947		ug/L	-	95	80 - 120	1	20

QC Association Summary

Client: GHD Services Inc.
Project/Site: 11103430, NL Industries

TestAmerica Job ID: 240-55387-1

GC/MS VOA

Analysis Batch: 197949

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-55387-1	WG-11103430-091415-DT-001	Total/NA	Water	8260C	
240-55387-2	EB-11103430-091415-SG-002	Total/NA	Water	8260C	
240-55387-3	WG-11103430-091415-DT-003	Total/NA	Water	8260C	
240-55387-4	WG-11103430-091415-SG-004	Total/NA	Water	8260C	
240-55387-5	WG-11103430-091415-DT-005	Total/NA	Water	8260C	
240-55387-6	WG-11103430-091415-SG-006	Total/NA	Water	8260C	
240-55387-7	WG-11103430-091415-SG-007	Total/NA	Water	8260C	
240-55387-8	WG-11103430-091415-SG-008	Total/NA	Water	8260C	
240-55387-9	TB-11103430-091415-DT	Total/NA	Water	8260C	
LCS 240-197949/4	Lab Control Sample	Total/NA	Water	8260C	
MB 240-197949/30	Method Blank	Total/NA	Water	8260C	

GC/MS Semi VOA

Prep Batch: 197709

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-55387-1	WG-11103430-091415-DT-001	Total/NA	Water	3510C	
240-55387-2	EB-11103430-091415-SG-002	Total/NA	Water	3510C	
240-55387-3	WG-11103430-091415-DT-003	Total/NA	Water	3510C	
240-55387-4	WG-11103430-091415-SG-004	Total/NA	Water	3510C	
240-55387-5	WG-11103430-091415-DT-005	Total/NA	Water	3510C	
240-55387-6	WG-11103430-091415-SG-006	Total/NA	Water	3510C	
240-55387-7	WG-11103430-091415-SG-007	Total/NA	Water	3510C	
240-55387-8	WG-11103430-091415-SG-008	Total/NA	Water	3510C	
LCS 240-197709/22-A	Lab Control Sample	Total/NA	Water	3510C	
MB 240-197709/21-A	Method Blank	Total/NA	Water	3510C	

Analysis Batch: 197942

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-55387-1	WG-11103430-091415-DT-001	Total/NA	Water	8270D	197709
240-55387-2	EB-11103430-091415-SG-002	Total/NA	Water	8270D	197709
240-55387-3	WG-11103430-091415-DT-003	Total/NA	Water	8270D	197709
240-55387-4	WG-11103430-091415-SG-004	Total/NA	Water	8270D	197709
240-55387-5	WG-11103430-091415-DT-005	Total/NA	Water	8270D	197709
240-55387-6	WG-11103430-091415-SG-006	Total/NA	Water	8270D	197709
240-55387-7	WG-11103430-091415-SG-007	Total/NA	Water	8270D	197709
LCS 240-197709/22-A	Lab Control Sample	Total/NA	Water	8270D	197709
MB 240-197709/21-A	Method Blank	Total/NA	Water	8270D	197709

Analysis Batch: 198295

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-55387-8	WG-11103430-091415-SG-008	Total/NA	Water	8270D	197709

Metals

Prep Batch: 197737

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-55387-1	WG-11103430-091415-DT-001	Total Recoverable	Water	3005A	
240-55387-1 MS	WG-11103430-091415-DT-001	Total Recoverable	Water	3005A	
240-55387-1 MSD	WG-11103430-091415-DT-001	Total Recoverable	Water	3005A	

TestAmerica Canton

QC Association Summary

Client: GHD Services Inc.
Project/Site: 11103430, NL Industries

TestAmerica Job ID: 240-55387-1

Metals (Continued)

Prep Batch: 197737 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-55387-2	EB-11103430-091415-SG-002	Total Recoverable	Water	3005A	
240-55387-3	WG-11103430-091415-DT-003	Total Recoverable	Water	3005A	
240-55387-4	WG-11103430-091415-SG-004	Total Recoverable	Water	3005A	
240-55387-5	WG-11103430-091415-DT-005	Total Recoverable	Water	3005A	
240-55387-6	WG-11103430-091415-SG-006	Total Recoverable	Water	3005A	
240-55387-7	WG-11103430-091415-SG-007	Total Recoverable	Water	3005A	
240-55387-8	WG-11103430-091415-SG-008	Total Recoverable	Water	3005A	
LCS 240-197737/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
MB 240-197737/1-A	Method Blank	Total Recoverable	Water	3005A	

Prep Batch: 197742

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-55387-1	WG-11103430-091415-DT-001	Total/NA	Water	7470A	
240-55387-1 MS	WG-11103430-091415-DT-001	Total/NA	Water	7470A	
240-55387-1 MSD	WG-11103430-091415-DT-001	Total/NA	Water	7470A	
240-55387-2	EB-11103430-091415-SG-002	Total/NA	Water	7470A	
240-55387-3	WG-11103430-091415-DT-003	Total/NA	Water	7470A	
240-55387-4	WG-11103430-091415-SG-004	Total/NA	Water	7470A	
240-55387-5	WG-11103430-091415-DT-005	Total/NA	Water	7470A	
240-55387-6	WG-11103430-091415-SG-006	Total/NA	Water	7470A	
240-55387-7	WG-11103430-091415-SG-007	Total/NA	Water	7470A	
240-55387-8	WG-11103430-091415-SG-008	Total/NA	Water	7470A	
LCS 240-197742/2-A	Lab Control Sample	Total/NA	Water	7470A	
MB 240-197742/1-A	Method Blank	Total/NA	Water	7470A	

Analysis Batch: 198023

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-55387-1	WG-11103430-091415-DT-001	Total/NA	Water	7470A	197742
240-55387-1 MS	WG-11103430-091415-DT-001	Total/NA	Water	7470A	197742
240-55387-1 MSD	WG-11103430-091415-DT-001	Total/NA	Water	7470A	197742
240-55387-2	EB-11103430-091415-SG-002	Total/NA	Water	7470A	197742
240-55387-3	WG-11103430-091415-DT-003	Total/NA	Water	7470A	197742
240-55387-4	WG-11103430-091415-SG-004	Total/NA	Water	7470A	197742
240-55387-5	WG-11103430-091415-DT-005	Total/NA	Water	7470A	197742
240-55387-6	WG-11103430-091415-SG-006	Total/NA	Water	7470A	197742
240-55387-7	WG-11103430-091415-SG-007	Total/NA	Water	7470A	197742
240-55387-8	WG-11103430-091415-SG-008	Total/NA	Water	7470A	197742
LCS 240-197742/2-A	Lab Control Sample	Total/NA	Water	7470A	197742
MB 240-197742/1-A	Method Blank	Total/NA	Water	7470A	197742

Analysis Batch: 198116

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-55387-1	WG-11103430-091415-DT-001	Total Recoverable	Water	6020A	197737
240-55387-1 MS	WG-11103430-091415-DT-001	Total Recoverable	Water	6020A	197737
240-55387-1 MSD	WG-11103430-091415-DT-001	Total Recoverable	Water	6020A	197737
240-55387-2	EB-11103430-091415-SG-002	Total Recoverable	Water	6020A	197737
240-55387-3	WG-11103430-091415-DT-003	Total Recoverable	Water	6020A	197737
240-55387-4	WG-11103430-091415-SG-004	Total Recoverable	Water	6020A	197737
240-55387-5	WG-11103430-091415-DT-005	Total Recoverable	Water	6020A	197737
240-55387-6	WG-11103430-091415-SG-006	Total Recoverable	Water	6020A	197737
240-55387-7	WG-11103430-091415-SG-007	Total Recoverable	Water	6020A	197737

TestAmerica Canton

QC Association Summary

Client: GHD Services Inc.
Project/Site: 11103430, NL Industries

TestAmerica Job ID: 240-55387-1

Metals (Continued)

Analysis Batch: 198116 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-55387-8	WG-11103430-091415-SG-008	Total Recoverable	Water	6020A	197737
LCS 240-197737/2-A	Lab Control Sample	Total Recoverable	Water	6020A	197737
MB 240-197737/1-A	Method Blank	Total Recoverable	Water	6020A	197737

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 11103430, NL Industries

TestAmerica Job ID: 240-55387-1

Client Sample ID: WG-11103430-091415-DT-001

Date Collected: 09/14/15 11:35

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55387-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	197949	09/17/15 13:05	LEE	TAL CAN
Total/NA	Prep	3510C			197709	09/16/15 08:49	CS	TAL CAN
Total/NA	Analysis	8270D		1	197942	09/17/15 15:25	TMH	TAL CAN
Total Recoverable	Prep	3005A			197737	09/16/15 10:13	WKD	TAL CAN
Total Recoverable	Analysis	6020A		1	198116	09/17/15 16:59	AS1	TAL CAN
Total/NA	Prep	7470A			197742	09/16/15 14:00	WKD	TAL CAN
Total/NA	Analysis	7470A		1	198023	09/17/15 11:20	WAL	TAL CAN

Client Sample ID: EB-11103430-091415-SG-002

Date Collected: 09/14/15 00:00

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55387-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	197949	09/17/15 13:28	LEE	TAL CAN
Total/NA	Prep	3510C			197709	09/16/15 08:49	CS	TAL CAN
Total/NA	Analysis	8270D		1	197942	09/17/15 15:47	TMH	TAL CAN
Total Recoverable	Prep	3005A			197737	09/16/15 10:13	WKD	TAL CAN
Total Recoverable	Analysis	6020A		1	198116	09/17/15 17:16	AS1	TAL CAN
Total/NA	Prep	7470A			197742	09/16/15 14:00	WKD	TAL CAN
Total/NA	Analysis	7470A		1	198023	09/17/15 11:25	WAL	TAL CAN

Client Sample ID: WG-11103430-091415-DT-003

Date Collected: 09/14/15 12:30

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55387-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	197949	09/17/15 13:51	LEE	TAL CAN
Total/NA	Prep	3510C			197709	09/16/15 08:49	CS	TAL CAN
Total/NA	Analysis	8270D		1	197942	09/17/15 16:09	TMH	TAL CAN
Total Recoverable	Prep	3005A			197737	09/16/15 10:13	WKD	TAL CAN
Total Recoverable	Analysis	6020A		1	198116	09/17/15 17:19	AS1	TAL CAN
Total/NA	Prep	7470A			197742	09/16/15 14:00	WKD	TAL CAN
Total/NA	Analysis	7470A		1	198023	09/17/15 11:26	WAL	TAL CAN

Client Sample ID: WG-11103430-091415-SG-004

Date Collected: 09/14/15 11:55

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55387-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	197949	09/17/15 14:13	LEE	TAL CAN
Total/NA	Prep	3510C			197709	09/16/15 08:49	CS	TAL CAN
Total/NA	Analysis	8270D		1	197942	09/17/15 16:32	TMH	TAL CAN

TestAmerica Canton

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 11103430, NL Industries

TestAmerica Job ID: 240-55387-1

Client Sample ID: WG-11103430-091415-SG-004

Lab Sample ID: 240-55387-4

Date Collected: 09/14/15 11:55

Matrix: Water

Date Received: 09/15/15 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			197737	09/16/15 10:13	WKD	TAL CAN
Total Recoverable	Analysis	6020A		1	198116	09/17/15 17:23	AS1	TAL CAN
Total/NA	Prep	7470A			197742	09/16/15 14:00	WKD	TAL CAN
Total/NA	Analysis	7470A		1	198023	09/17/15 11:27	WAL	TAL CAN

Client Sample ID: WG-11103430-091415-DT-005

Lab Sample ID: 240-55387-5

Date Collected: 09/14/15 14:25

Matrix: Water

Date Received: 09/15/15 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	197949	09/17/15 14:35	LEE	TAL CAN
Total/NA	Prep	3510C			197709	09/16/15 08:49	CS	TAL CAN
Total/NA	Analysis	8270D		1	197942	09/17/15 16:54	TMH	TAL CAN
Total Recoverable	Prep	3005A			197737	09/16/15 10:13	WKD	TAL CAN
Total Recoverable	Analysis	6020A		1	198116	09/17/15 17:34	AS1	TAL CAN
Total/NA	Prep	7470A			197742	09/16/15 14:00	WKD	TAL CAN
Total/NA	Analysis	7470A		1	198023	09/17/15 11:29	WAL	TAL CAN

Client Sample ID: WG-11103430-091415-SG-006

Lab Sample ID: 240-55387-6

Date Collected: 09/14/15 13:15

Matrix: Water

Date Received: 09/15/15 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	197949	09/17/15 14:57	LEE	TAL CAN
Total/NA	Prep	3510C			197709	09/16/15 08:49	CS	TAL CAN
Total/NA	Analysis	8270D		1	197942	09/17/15 17:16	TMH	TAL CAN
Total Recoverable	Prep	3005A			197737	09/16/15 10:13	WKD	TAL CAN
Total Recoverable	Analysis	6020A		1	198116	09/17/15 17:38	AS1	TAL CAN
Total/NA	Prep	7470A			197742	09/16/15 14:00	WKD	TAL CAN
Total/NA	Analysis	7470A		1	198023	09/17/15 11:30	WAL	TAL CAN

Client Sample ID: WG-11103430-091415-SG-007

Lab Sample ID: 240-55387-7

Date Collected: 09/14/15 15:20

Matrix: Water

Date Received: 09/15/15 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	197949	09/17/15 15:20	LEE	TAL CAN
Total/NA	Prep	3510C			197709	09/16/15 08:49	CS	TAL CAN
Total/NA	Analysis	8270D		1	197942	09/17/15 18:01	TMH	TAL CAN
Total Recoverable	Prep	3005A			197737	09/16/15 10:13	WKD	TAL CAN
Total Recoverable	Analysis	6020A		1	198116	09/17/15 17:41	AS1	TAL CAN
Total/NA	Prep	7470A			197742	09/16/15 14:00	WKD	TAL CAN
Total/NA	Analysis	7470A		1	198023	09/17/15 11:36	WAL	TAL CAN

TestAmerica Canton

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 11103430, NL Industries

TestAmerica Job ID: 240-55387-1

Client Sample ID: WG-11103430-091415-SG-008

Lab Sample ID: 240-55387-8

Date Collected: 09/14/15 13:15

Matrix: Water

Date Received: 09/15/15 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	197949	09/17/15 15:43	LEE	TAL CAN
Total/NA	Prep	3510C			197709	09/16/15 08:49	CS	TAL CAN
Total/NA	Analysis	8270D		1	198295	09/21/15 09:49	TMH	TAL CAN
Total Recoverable	Prep	3005A			197737	09/16/15 10:13	WKD	TAL CAN
Total Recoverable	Analysis	6020A		1	198116	09/17/15 17:45	AS1	TAL CAN
Total/NA	Prep	7470A			197742	09/16/15 14:00	WKD	TAL CAN
Total/NA	Analysis	7470A		1	198023	09/17/15 11:39	WAL	TAL CAN

Client Sample ID: TB-11103430-091415-DT

Lab Sample ID: 240-55387-9

Date Collected: 09/14/15 00:00

Matrix: Water

Date Received: 09/15/15 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	197949	09/17/15 16:05	LEE	TAL CAN

Laboratory References:

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Certification Summary

Client: GHD Services Inc.
Project/Site: 11103430, NL Industries

TestAmerica Job ID: 240-55387-1

Laboratory: TestAmerica Canton

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
New York	NELAP	2	10975	03-31-16 *

* Certification renewal pending - certification considered valid.

TestAmerica Canton

**CHAIN OF CUSTODY
AND
RECEIVING DOCUMENTS**



240-55387 Chain of Custody



1-21-22
CONESTOGA-ROVERS
& ASSOCIATES
2-21-22

CHAIN OF CUSTODY RECORD

Address: 2055 Niagara Falls Blvd NY 14304
Phone: 716-297-6150 Fax:

COC NO: 48956

PAGE 1 OF 1

(See Reverse Side for Instructions)

Project No/Phase/Task Code: 11103430		Laboratory Name: Test America		Lab Location: North Canton		SSOW ID:	
Project Name: Cascade Paper Annual GW Sampling		Lab Contact: Denise Hecker		Lab Quote No:		Cooler No:	
Project Location: Walden Ave Cheektowaga		CONTAINER QUANTITY & PRESERVATION		ANALYSIS REQUESTED (See Back of COC for Definitions)		Carrier:	
Chemistry Contact: Paul McMahon		SAMPLE TYPE		Total Containers/Sample		Airbill No:	
Sampler(s): S. Gardner D. Tyrn		Matrix Code (see back of COC)		Other:		Date Shipped: 9/14/15	
SAMPLE IDENTIFICATION (Containers for each sample may be combined on one line)		DATE (mm/dd/yy)		TIME (hr:mm)		COMMENTS/ SPECIAL INSTRUCTIONS:	
1 WG-11103430-091415-DT-001		9-14-15		1135			
2 FB-11103430-091415-SG-002		9-14-15					
3 WG-11103430-091415-DT-003		9-14-15		1230			
4 WG-11103430-091415-SG-004		9-14-15		1155			
5 WG-11103430-091415-DT-005		9-14-15		1425			
6 WG-11103430-091415-SG-006		9-14-15		1315			
7 WG-11103430-091415-SG-007		9-14-15		1520			
8 WG-11103430-091415-SG-008		9-14-15		1315			
9 TB-11103430-091415-DT		9-14-15					
10							
11							
12							
13							
14							
15							

TAT Required in business days (use separate COCs for different TATs):		Total Number of Containers: 51		Notes/ Special Requirements:	
☐ 1 Day ☐ 2 Days ☐ 3 Days ☒ 1 Week ☐ 2 Week ☐ Other:		All Samples in Cooler must be on COC			

RELINQUISHED BY		COMPANY		DATE		RECEIVED BY		COMPANY		DATE		TIME	
Dane		GHD		9-14-15		1700		TA		9-15-15		945	

1. 9/21/2015

THE CHAIN OF CUSTODY IS A LEGAL DOCUMENT - ALL FIELDS MUST BE COMPLETED ACCURATELY

TestAmerica Canton Sample Receipt Form/Narrative

Login # : 55387

Canton Facility

Client CRA

Site Name _____

Cooler unpacked by: _____

Cooler Received on 9-15-15Opened on 9-15-15FedEx: 1st Grd Exp UPS FAS Stetson Client Drop Off TestAmerica Courier Other _____

Receipt After-hours: Drop-off Date/Time _____

Storage Location _____

TestAmerica Cooler # _____ Foam Box Client Cooler Box Other _____Packing material used: Bubble Wrap Foam Plastic Bag None Other _____COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt

IR GUN# A (CF +1.0 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

IR GUN# 4 (CF +0.5 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

IR GUN# 5 (CF +0.4 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

IR GUN# 8 (CF -1.5 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

☒ See Multiple Cooler Form

2. Were custody seals on the outside of the cooler(s)?

If Yes Quantity 2 Yes No

-Were custody seals on the outside of the cooler(s) signed & dated? Yes No NA

-Were custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No

3. Shippers' packing slip attached to the cooler(s)?

Yes No

4. Did custody papers accompany the sample(s)?

Yes No

5. Were the custody papers relinquished & signed in the appropriate place?

Yes No

6. Was/were the person(s) who collected the samples clearly identified on the COC?

Yes No

7. Did all bottles arrive in good condition (Unbroken)?

Yes No

8. Could all bottle labels be reconciled with the COC?

Yes No

9. Were correct bottle(s) used for the test(s) indicated?

Yes No

10. Sufficient quantity received to perform indicated analyses?

Yes No

11. Were sample(s) at the correct pH upon receipt?

Yes No NA pH Strip Lot# HC554612

12. Were VOAs on the COC?

Yes No

13. Were air bubbles >6 mm in any VOA vials?

Yes No NA

14. Was a trip blank present in the cooler(s)? Trip Blank Lot # _____

Yes No

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____

Concerning _____

14. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by: _____

15. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.

Sample(s) _____ were received in a broken container.

Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

16. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.

Time preserved: _____ Preservative(s) added/Lot number(s): _____

Temperature readings: _____

<u>Client Sample ID</u>	<u>Lab ID</u>	<u>Container Type</u>	<u>Container</u> <u>pH</u>	<u>Preservative</u> <u>Added (mls)</u>	<u>Lot #</u>
WG-11103430-091415-DT-001	240-55387-D-1	Plastic 500ml - with Nitric Acid	<2	_____	_____
EB-11103430-091415-SG-002	240-55387-D-2	Plastic 500ml - with Nitric Acid	<2	_____	_____
WG-11103430-091415-DT-003	240-55387-D-3	Plastic 500ml - with Nitric Acid	<2	_____	_____
WG-11103430-091415-SG-004	240-55387-D-4	Plastic 500ml - with Nitric Acid	<2	_____	_____
WG-11103430-091415-DT-005	240-55387-D-5	Plastic 500ml - with Nitric Acid	<2	_____	_____
WG-11103430-091415-SG-006	240-55387-D-6	Plastic 500ml - with Nitric Acid	<2	_____	_____
WG-11103430-091415-SG-007	240-55387-D-7	Plastic 500ml - with Nitric Acid	<2	_____	_____
WG-11103430-091415-SG-008	240-55387-D-8	Plastic 500ml - with Nitric Acid	<2	_____	_____

Appendix E

Data Usability Summary Report



Memorandum

To:	Kathy Galanti	Ref. No.:	11103430
From:	Paul McMahon/adh/1 <i>PM</i>	Date:	September 24, 2015
Re:	Data Usability Summary Report (DUSR) Groundwater Sampling Cascades, Inc. Depew, New York September 2015		

1. Introduction

This document details a quality assessment and validation of the analytical data resulting from the September 2015 collection of nine water samples, including a trip blank and an equipment blank, from Cascades, Inc., Depew, New York. The sample summary detailing sample identification, sample location, quality control (QC) samples, and analytical parameters is presented in Table 1. The validated analytical results are summarized in Table 2. Sample analysis was completed at TestAmerica Laboratories (TA), in North Canton, Ohio, in accordance with the methodologies presented in Table 3. A copy of the chain of custody can be found in Attachment A.

This DUSR has been prepared following the guidelines provided in New York State Department of Environmental Conservation (NYSDEC) Division of Environmental Remediation "DER-10, Technical Guidance for Site Investigation and Remediation, Appendix 2B-Guidance for the Development of Data Usability Summary Reports", May 2010.

Standard GHD report deliverables were submitted by the laboratory. The final results and supporting quality assurance/quality control (QA/QC) data were assessed. Evaluation of the data was based on information obtained from the chain of custody form, finished report forms, method blank data, recovery data from surrogate spikes/laboratory control samples (LCS)/matrix spikes (MS), and field QA/QC samples.

The QA/QC criteria by which these data have been assessed are outlined in the analytical methods referenced in Table 3 and applicable guidance from the documents entitled:

- i) "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review", United States Environmental Protection Agency (USEPA) 540 R 10 011, January 2010
- ii) "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review", USEPA 540 R 08 01, June 2008

Items i) and ii) will subsequently be referred to as the "Guidelines" in this Memorandum.

2. Sample Holding Time and Preservation

The sample holding time criteria for the analyses are summarized in Table 3. The sample chain of custody document and analytical report were used to determine sample holding times. All samples were prepared and analyzed within the required holding times.

All samples were properly preserved, delivered on ice, and stored by the laboratory at the required temperature (0-6°C).

3. Laboratory Method Blank Analyses

Method blanks are prepared from a purified matrix and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the analytical procedures.

For this study, laboratory method blanks were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

Most method blank results were non-detect, indicating that laboratory contamination was not a factor for this investigation. Acetone and metals were detected in the method blank. Table 4 presents the sample results that were qualified as non-detect due to analytes concentrations in the method blanks that were similar to the sample concentrations.

4. Surrogate Spike Recoveries - Organic Analyses

In accordance with the methods employed, all samples, blanks, and QC samples analyzed for organics are spiked with surrogate compounds prior to sample extraction and/or analysis. Surrogate recoveries provide a means to evaluate the effects of laboratory performance on individual sample matrices.

All samples submitted for volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs) analyses were spiked with the appropriate number of surrogate compounds prior to sample extraction and/or analysis.

Each individual surrogate compound is expected to meet the laboratory control limits with the exception of SVOC analyses. According to the "Guidelines" for SVOC analyses, up to one outlying surrogate in the base/neutral or acid fractions is acceptable as long as the recovery is at least 10 percent.

Surrogate recoveries were assessed against laboratory control limits. All surrogate recoveries were within the laboratory control limits.

5. Laboratory Control Sample Analyses

LCS are prepared and analyzed as samples to assess the analytical efficiencies of the methods employed, independent of sample matrix effects.

For this study, LCS were analyzed at a minimum frequency of one per analytical batch.

5.1 Organic Analyses

The LCS contained all compounds of interest. All LCS recoveries were within the laboratory control limits, demonstrating acceptable analytical accuracy.

5.2 Metals Analyses

The LCS contained all analytes of interest. LCS recoveries were assessed per the "Guidelines". All LCS recoveries were within the control limits, demonstrating acceptable analytical accuracy.

6. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analyses

To evaluate the effects of sample matrices on the distillation process, measurement procedures, and accuracy of a particular analysis, samples are spiked with a known concentration of the analyte of concern and analyzed as MS/MSD samples. The RPD between the MS and MSD is used to assess analytical precision. If the original sample concentration is significantly greater than the spike concentration, the recovery is not assessed.

MS/MSD analyses were performed by the laboratory internally for metals. The MS/MSD samples were spiked with the analytes of interest, and the results were evaluated using the "Guidelines". All percent recoveries and RPD values assessed were within the control limits, demonstrating acceptable analytical accuracy and precision.

7. Field QA/QC Samples

The field QA/QC consisted of one trip blank sample, one equipment blank sample, and one field duplicate sample set.

7.1 Trip Blank Sample Analysis

To evaluate contamination from sample collection, transportation, storage, and analytical activities, one trip blank was submitted to the laboratory for VOC analysis as identified in Table 1. All results were non-detect for the compounds of interest.

7.2 Equipment Blank Sample Analysis

To assess field decontamination procedures, ambient conditions at the site, and cleanliness of sample containers, one equipment blank was submitted for analysis, as identified in Table 1. All VOC and SVOC results were non-detect for the analytes of interest. Several metals were detected in the equipment blank; all associated detected sample results with similar concentration were qualified as non-detect (see Table 5).

7.3 Field Duplicate Sample Analysis

To assess the analytical and sampling protocol precision, one field duplicate sample was collected and submitted "blind" to the laboratory, as specified in Table 1. The RPDs associated with these duplicate samples must be less than 50 percent for water samples. If the reported concentration in either the

investigative sample or its duplicate is less than five times the reporting limit (RL), the evaluation criterion is one times the RL value.

All field duplicate results were within acceptable agreement, demonstrating acceptable sampling and analytical precision.

8. Analyte Reporting

The laboratory reported detected results down to the laboratory's method detection limit (MDL) for each analyte. Positive analyte detections less than the report limit (RL) but greater than the MDL were qualified as estimated (J) in Table 2 unless qualified otherwise in this memorandum. Non-detect results were presented as non-detect at the RL in Table 2.

9. Conclusion

All deliverables required by the project were present and the data package was complete. Based on the preceding evaluation, the data were acceptable for use with the qualifications noted. Qualifications applied to the analytical results based on the data validation consisted of "U" (not detected at the associated reporting limit).

Table 1

**Sampling and Analysis Summary
Groundwater Sampling
Cascades, Inc.
Depew, New York
September 2015**

Sample ID	Location I.D.	Collection Date	Collection Time	Parameters			Comment
				TCL VOCs	TAL Metals	TCL SVOCs	
WG-11103430-091415-DT-001	MW-106F	09/14/2015	11:35	X	X	X	Equipment Blank
EB-11103430-091415-SG-002	-	09/14/2015	11:00	X	X	X	
WG-11103430-091415-DT-003	MW-104	09/14/2015	12:30	X	X	X	
WG-11103430-091415-SG-004	MW-101	09/14/2015	11:55	X	X	X	
WG-11103430-091415-DT-005	MW-103	09/14/2015	14:25	X	X	X	
WG-11103430-091415-SG-006	MW-102	09/14/2015	13:15	X	X	X	
WG-11103430-091415-SG-007	MW-105	09/14/2015	15:20	X	X	X	
WG-11103430-091415-SG-008	MW-102	09/14/2015	13:15	X	X	X	Duplicate of WG-11103430-091415-SG-006
TB-11103430-091415-DT	-	09/14/2015	-	X			Trip Blank

Notes:

- - Not applicable
- TCL - Target Compound List
- VOCs - Volatile Organic Compounds
- TAL - Target Analyte List
- SVOCs - Semi-Volatile Organic Compounds

Table 2

Analytical Results Summary
Groundwater Sampling
Cascades, Inc.
Depew, New York
September 2015

Location ID:		MW-101	MW-102	MW-102	MW-103
Sample Name:		WG-11103430-091415-SG-004	WG-11103430-091415-SG-006	WG-11103430-091415-SG-008	WG-11103430-091415-DT-005
Sample Date:		09/14/2015	09/14/2015	09/14/2015 Duplicate	09/14/2015
Parameters	Unit				
Volatile Organic Compounds					
1,1,1-Trichloroethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromo-3-chloropropane (DBCP)	µg/L	2.0 U	2.0 U	2.0 U	2.0 U
1,2-Dibromoethane (Ethylene dibromide)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	10 U	10 U	10 U	10 U
2-Hexanone	µg/L	10 U	10 U	10 U	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	10 U	10 U	10 U	10 U
Acetone	µg/L	10 U	10 U	10 U	10 U
Benzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Methyl acetate	µg/L	10 U	10 U	10 U	10 U
Methyl cyclohexane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U

Table 2

Analytical Results Summary
Groundwater Sampling
Cascades, Inc.
Depew, New York
September 2015

Location ID:		MW-101	MW-102	MW-102	MW-103
Sample Name:		WG-11103430-091415-SG-004	WG-11103430-091415-SG-006	WG-11103430-091415-SG-008	WG-11103430-091415-DT-005
Sample Date:		09/14/2015	09/14/2015	09/14/2015 Duplicate	09/14/2015
Parameters	Unit				
Volatile Organic Compounds-continued					
Methyl tert butyl ether (MTBE)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Styrene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	µg/L	2.0 U	2.0 U	2.0 U	2.0 U
Semi-Volatile Organic Compounds					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	0.96 U	0.95 U	0.95 U	0.95 U
2,4,5-Trichlorophenol	µg/L	4.8 U	4.8 U	4.8 U	4.8 U
2,4,6-Trichlorophenol	µg/L	4.8 U	4.8 U	4.8 U	4.8 U
2,4-Dichlorophenol	µg/L	1.9 U	1.9 U	1.9 U	1.9 U
2,4-Dimethylphenol	µg/L	1.9 U	1.9 U	1.9 U	1.9 U
2,4-Dinitrophenol	µg/L	4.8 U	4.8 U	4.8 U	4.8 U
2,4-Dinitrotoluene	µg/L	4.8 U	4.8 U	4.8 U	4.8 U
2,6-Dinitrotoluene	µg/L	4.8 U	4.8 U	4.8 U	4.8 U
2-Chloronaphthalene	µg/L	0.96 U	0.95 U	0.95 U	0.95 U
2-Chlorophenol	µg/L	0.96 U	0.95 U	0.95 U	0.95 U
2-Methylnaphthalene	µg/L	0.19 U	0.19 U	0.19 U	0.19 U
2-Methylphenol	µg/L	0.96 U	0.95 U	0.95 U	0.95 U
2-Nitroaniline	µg/L	1.9 U	1.9 U	1.9 U	1.9 U
2-Nitrophenol	µg/L	1.9 U	1.9 U	1.9 U	1.9 U
3&4-Methylphenol	µg/L	1.9 U	1.9 U	1.9 U	1.9 U
3,3'-Dichlorobenzidine	µg/L	4.8 U	4.8 U	4.8 U	4.8 U
3-Nitroaniline	µg/L	1.9 U	1.9 U	1.9 U	1.9 U
4,6-Dinitro-2-methylphenol	µg/L	4.8 U	4.8 U	4.8 U	4.8 U
4-Bromophenyl phenyl ether	µg/L	1.9 U	1.9 U	1.9 U	1.9 U
4-Chloro-3-methylphenol	µg/L	1.9 U	1.9 U	1.9 U	1.9 U
4-Chloroaniline	µg/L	1.9 U	1.9 U	1.9 U	1.9 U
4-Chlorophenyl phenyl ether	µg/L	1.9 U	1.9 U	1.9 U	1.9 U

Table 2

Analytical Results Summary
Groundwater Sampling
Cascades, Inc.
Depew, New York
September 2015

Location ID:		MW-101	MW-102	MW-102	MW-103
Sample Name:		WG-11103430-091415-SG-004	WG-11103430-091415-SG-006	WG-11103430-091415-SG-008	WG-11103430-091415-DT-005
Sample Date:		09/14/2015	09/14/2015	09/14/2015 Duplicate	09/14/2015
Parameters	Unit				
Semi-Volatile Organic Compounds-continued					
4-Nitroaniline	µg/L	1.9 U	1.9 U	1.9 U	1.9 U
4-Nitrophenol	µg/L	4.8 U	4.8 U	4.8 U	4.8 U
Acenaphthene	µg/L	0.19 U	0.19 U	0.19 U	0.19 U
Acenaphthylene	µg/L	0.19 U	0.19 U	0.19 U	0.19 U
Acetophenone	µg/L	0.96 U	0.95 U	0.95 U	0.95 U
Anthracene	µg/L	0.19 U	0.19 U	0.19 U	0.19 U
Atrazine	µg/L	0.96 U	0.95 U	0.95 U	0.95 U
Benzaldehyde	µg/L	0.96 U	0.95 U	0.95 U	0.95 U
Benzo(a)anthracene	µg/L	0.19 U	0.19 U	0.19 U	0.19 U
Benzo(a)pyrene	µg/L	0.19 U	0.19 U	0.19 U	0.19 U
Benzo(b)fluoranthene	µg/L	0.19 U	0.19 U	0.19 U	0.19 U
Benzo(g,h,i)perylene	µg/L	0.19 U	0.19 U	0.19 U	0.19 U
Benzo(k)fluoranthene	µg/L	0.19 U	0.19 U	0.19 U	0.19 U
Biphenyl (1,1-Biphenyl)	µg/L	0.96 U	0.95 U	0.95 U	0.95 U
bis(2-Chloroethoxy)methane	µg/L	0.96 U	0.95 U	0.95 U	0.95 U
bis(2-Chloroethyl)ether	µg/L	0.96 U	0.95 U	0.95 U	0.95 U
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	4.8 U	4.8 U	4.8 U	4.8 U
Butyl benzylphthalate (BBP)	µg/L	1.9 U	1.9 U	1.9 U	1.9 U
Caprolactam	µg/L	4.8 U	4.8 U	4.8 U	4.8 U
Carbazole	µg/L	0.96 U	0.95 U	0.95 U	0.95 U
Chrysene	µg/L	0.19 U	0.19 U	0.19 U	0.19 U
Di-n-butylphthalate (DBP)	µg/L	4.8 U	4.8 U	4.8 U	4.8 U
Di-n-octyl phthalate (DnOP)	µg/L	1.9 U	1.9 U	1.9 U	1.9 U
Dibenz(a,h)anthracene	µg/L	0.19 U	0.19 U	0.19 U	0.19 U
Dibenzofuran	µg/L	0.96 U	0.95 U	0.95 U	0.95 U
Diethyl phthalate	µg/L	1.9 U	1.9 U	1.9 U	1.9 U
Dimethyl phthalate	µg/L	1.9 U	1.9 U	1.9 U	1.9 U
Fluoranthene	µg/L	0.19 U	0.19 U	0.19 U	0.19 U
Fluorene	µg/L	0.19 U	0.19 U	0.19 U	0.19 U
Hexachlorobenzene	µg/L	0.19 U	0.19 U	0.19 U	0.19 U
Hexachlorobutadiene	µg/L	0.96 U	0.95 U	0.95 U	0.95 U
Hexachlorocyclopentadiene	µg/L	9.6 U	9.5 U	9.5 U	9.5 U
Hexachloroethane	µg/L	0.96 U	0.95 U	0.95 U	0.95 U
Indeno(1,2,3-cd)pyrene	µg/L	0.19 U	0.19 U	0.19 U	0.19 U
Isophorone	µg/L	0.96 U	0.95 U	0.95 U	0.95 U
N-Nitrosodi-n-propylamine	µg/L	0.96 U	0.95 U	0.95 U	0.95 U

Table 2

Analytical Results Summary
Groundwater Sampling
Cascades, Inc.
Depew, New York
September 2015

Location ID:		MW-101	MW-102	MW-102	MW-103
Sample Name:		WG-11103430-091415-SG-004	WG-11103430-091415-SG-006	WG-11103430-091415-SG-008	WG-11103430-091415-DT-005
Sample Date:		09/14/2015	09/14/2015	09/14/2015 Duplicate	09/14/2015
Parameters	Unit				
Semi-Volatile Organic Compounds-continued					
N-Nitrosodiphenylamine	µg/L	0.96 U	0.95 U	0.95 U	0.95 U
Naphthalene	µg/L	0.19 U	0.19 U	0.19 U	0.19 U
Nitrobenzene	µg/L	0.96 U	0.95 U	0.95 U	0.95 U
Pentachlorophenol	µg/L	4.8 U	4.8 U	4.8 U	4.8 U
Phenanthrene	µg/L	0.19 U	0.19 U	0.19 U	0.19 U
Phenol	µg/L	0.96 U	0.95 U	0.95 U	0.95 U
Pyrene	µg/L	0.19 U	0.19 U	0.19 U	0.19 U
Metals					
Aluminum	µg/L	230	110	120	13 J
Antimony	µg/L	2.0 U	2.0 U	2.0 U	2.0 U
Arsenic	µg/L	3.1 J	2.3 J	2.3 J	2.1 J
Barium	µg/L	170	88	86	110
Beryllium	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Cadmium	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Calcium	µg/L	66000	90000	86000	110000
Chromium	µg/L	2.0 U	2.0 U	2.0 U	2.0 U
Cobalt	µg/L	1.0 U	1.0	1.0	1.0 U
Copper	µg/L	62	2.0 U	2.0 U	0.94 J
Iron	µg/L	230	1100	1100	650
Lead	µg/L	17	1.0 U	1.0 U	1.1 U
Magnesium	µg/L	83000	110000	100000	89000
Manganese	µg/L	99	150	140	48
Mercury	µg/L	0.20 U	0.20 U	0.20 U	0.20 U
Nickel	µg/L	2.0 U	2.0 U	2.0 U	2.0 U
Potassium	µg/L	2500	2200	2200	3300
Selenium	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Silver	µg/L	0.068 J	0.032 J	0.030 J	0.035 J
Sodium	µg/L	78000	62000	60000	140000
Thallium	µg/L	2.0 U	2.0 U	2.0 U	2.0 U
Vanadium	µg/L	0.85 J	0.23 J	0.23 J	5.0 U
Zinc	µg/L	62	20 U	20 U	20 U

Table 2

**Analytical Results Summary
Groundwater Sampling
Cascades, Inc.
Depew, New York
September 2015**

Location ID:		MW-104	MW-105	MW-106F
Sample Name:		WG-11103430-091415-DT-003	WG-11103430-091415-SG-007	WG-11103430-091415-DT-001
Sample Date:		09/14/2015	09/14/2015	09/14/2015
Parameters	Unit			
Volatile Organic Compounds				
1,1,1-Trichloroethane	µg/L	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	µg/L	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	µg/L	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	µg/L	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U
1,2-Dibromo-3-chloropropane (DBCP)	µg/L	2.0 U	2.0 U	2.0 U
1,2-Dibromoethane (Ethylene dibromide)	µg/L	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	µg/L	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	µg/L	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	10 U	10 U	10 U
2-Hexanone	µg/L	10 U	10 U	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	10 U	10 U	10 U
Acetone	µg/L	10 U	10 U	10 U
Benzene	µg/L	1.0 U	1.0 U	1.0 U
Bromodichloromethane	µg/L	1.0 U	1.0 U	1.0 U
Bromoform	µg/L	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	µg/L	1.0 U	1.0 U	1.0 U
Carbon disulfide	µg/L	1.0 U	1.0 U	1.0 U
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U
Chlorobenzene	µg/L	1.0 U	1.0 U	1.0 U
Chloroethane	µg/L	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	µg/L	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	µg/L	1.0 U	1.0 U	1.0 U
Cyclohexane	µg/L	1.0 U	1.0 U	1.0 U
Dibromochloromethane	µg/L	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	µg/L	1.0 U	1.0 U	1.0 U
Ethylbenzene	µg/L	1.0 U	1.0 U	1.0 U
Isopropyl benzene	µg/L	1.0 U	1.0 U	1.0 U
Methyl acetate	µg/L	10 U	10 U	10 U
Methyl cyclohexane	µg/L	1.0 U	1.0 U	1.0 U

Table 2

**Analytical Results Summary
Groundwater Sampling
Cascades, Inc.
Depew, New York
September 2015**

Location ID:		MW-104	MW-105	MW-106F
Sample Name:		WG-11103430-091415-DT-003	WG-11103430-091415-SG-007	WG-11103430-091415-DT-001
Sample Date:		09/14/2015	09/14/2015	09/14/2015
Parameters	Unit			
Volatile Organic Compounds-continued				
Methyl tert butyl ether (MTBE)	µg/L	1.0 U	1.0 U	1.0 U
Methylene chloride	µg/L	1.0 U	1.0 U	1.0 U
Styrene	µg/L	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	1.0 U	1.0 U	1.0 U
Toluene	µg/L	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	µg/L	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	µg/L	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	µg/L	1.0 U	1.0 U	1.0 U
Vinyl chloride	µg/L	1.0 U	1.0 U	1.0 U
Xylenes (total)	µg/L	2.0 U	2.0 U	2.0 U
Semi-Volatile Organic Compounds				
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	0.95 U	0.95 U	0.95 U
2,4,5-Trichlorophenol	µg/L	4.8 U	4.8 U	4.8 U
2,4,6-Trichlorophenol	µg/L	4.8 U	4.8 U	4.8 U
2,4-Dichlorophenol	µg/L	1.9 U	1.9 U	1.9 U
2,4-Dimethylphenol	µg/L	1.9 U	1.9 U	1.9 U
2,4-Dinitrophenol	µg/L	4.8 U	4.8 U	4.8 U
2,4-Dinitrotoluene	µg/L	4.8 U	4.8 U	4.8 U
2,6-Dinitrotoluene	µg/L	4.8 U	4.8 U	4.8 U
2-Chloronaphthalene	µg/L	0.95 U	0.95 U	0.95 U
2-Chlorophenol	µg/L	0.95 U	0.95 U	0.95 U
2-Methylnaphthalene	µg/L	0.19 U	0.19 U	0.19 U
2-Methylphenol	µg/L	0.95 U	0.95 U	0.95 U
2-Nitroaniline	µg/L	1.9 U	1.9 U	1.9 U
2-Nitrophenol	µg/L	1.9 U	1.9 U	1.9 U
3&4-Methylphenol	µg/L	1.9 U	1.9 U	1.9 U
3,3'-Dichlorobenzidine	µg/L	4.8 U	4.8 U	4.8 U
3-Nitroaniline	µg/L	1.9 U	1.9 U	1.9 U
4,6-Dinitro-2-methylphenol	µg/L	4.8 U	4.8 U	4.8 U
4-Bromophenyl phenyl ether	µg/L	1.9 U	1.9 U	1.9 U
4-Chloro-3-methylphenol	µg/L	1.9 U	1.9 U	1.9 U
4-Chloroaniline	µg/L	1.9 U	1.9 U	1.9 U
4-Chlorophenyl phenyl ether	µg/L	1.9 U	1.9 U	1.9 U

Table 2

**Analytical Results Summary
Groundwater Sampling
Cascades, Inc.
Depew, New York
September 2015**

Location ID:		MW-104	MW-105	MW-106F
Sample Name:		WG-11103430-091415-DT-003	WG-11103430-091415-SG-007	WG-11103430-091415-DT-001
Sample Date:		09/14/2015	09/14/2015	09/14/2015
Parameters	Unit			
Semi-Volatile Organic Compounds-continued				
4-Nitroaniline	µg/L	1.9 U	1.9 U	1.9 U
4-Nitrophenol	µg/L	4.8 U	4.8 U	4.8 U
Acenaphthene	µg/L	0.19 U	0.19 U	0.19 U
Acenaphthylene	µg/L	0.19 U	0.19 U	0.19 U
Acetophenone	µg/L	0.95 U	0.95 U	0.95 U
Anthracene	µg/L	0.19 U	0.19 U	0.19 U
Atrazine	µg/L	0.95 U	0.95 U	0.95 U
Benzaldehyde	µg/L	0.95 U	0.95 U	0.95 U
Benzo(a)anthracene	µg/L	0.19 U	0.19 U	0.19 U
Benzo(a)pyrene	µg/L	0.19 U	0.19 U	0.19 U
Benzo(b)fluoranthene	µg/L	0.19 U	0.19 U	0.19 U
Benzo(g,h,i)perylene	µg/L	0.19 U	0.19 U	0.19 U
Benzo(k)fluoranthene	µg/L	0.19 U	0.19 U	0.19 U
Biphenyl (1,1'-Biphenyl)	µg/L	0.95 U	0.95 U	0.95 U
bis(2-Chloroethoxy)methane	µg/L	0.95 U	0.95 U	0.95 U
bis(2-Chloroethyl)ether	µg/L	0.95 U	0.95 U	0.95 U
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	4.8 U	4.8 U	4.8 U
Butyl benzylphthalate (BBP)	µg/L	1.9 U	1.9 U	1.9 U
Caprolactam	µg/L	4.8 U	4.8 U	4.8 U
Carbazole	µg/L	0.95 U	0.95 U	0.95 U
Chrysene	µg/L	0.19 U	0.19 U	0.19 U
Di-n-butylphthalate (DBP)	µg/L	4.8 U	4.8 U	4.8 U
Di-n-octyl phthalate (DnOP)	µg/L	1.9 U	1.9 U	1.9 U
Dibenz(a,h)anthracene	µg/L	0.19 U	0.19 U	0.19 U
Dibenzofuran	µg/L	0.95 U	0.95 U	0.95 U
Diethyl phthalate	µg/L	1.9 U	1.9 U	1.9 U
Dimethyl phthalate	µg/L	1.9 U	1.9 U	1.9 U
Fluoranthene	µg/L	0.19 U	0.19 U	0.19 U
Fluorene	µg/L	0.19 U	0.19 U	0.19 U
Hexachlorobenzene	µg/L	0.19 U	0.19 U	0.19 U
Hexachlorobutadiene	µg/L	0.95 U	0.95 U	0.95 U
Hexachlorocyclopentadiene	µg/L	9.5 U	9.5 U	9.5 U
Hexachloroethane	µg/L	0.95 U	0.95 U	0.95 U
Indeno(1,2,3-cd)pyrene	µg/L	0.19 U	0.19 U	0.19 U
Isophorone	µg/L	0.95 U	0.95 U	0.95 U
N-Nitrosodi-n-propylamine	µg/L	0.95 U	0.95 U	0.95 U

Table 2

**Analytical Results Summary
Groundwater Sampling
Cascades, Inc.
Depew, New York
September 2015**

Location ID:		MW-104	MW-105	MW-106F
Sample Name:		WG-11103430-091415-DT-003	WG-11103430-091415-SG-007	WG-11103430-091415-DT-001
Sample Date:		09/14/2015	09/14/2015	09/14/2015
Parameters	Unit			
Semi-Volatile Organic Compounds-continued				
N-Nitrosodiphenylamine	µg/L	0.95 U	0.95 U	0.95 U
Naphthalene	µg/L	0.19 U	0.19 U	0.19 U
Nitrobenzene	µg/L	0.95 U	0.95 U	0.95 U
Pentachlorophenol	µg/L	4.8 U	4.8 U	4.8 U
Phenanthrene	µg/L	0.19 U	0.19 U	0.19 U
Phenol	µg/L	0.95 U	0.95 U	0.95 U
Pyrene	µg/L	0.19 U	0.19 U	0.19 U
Metals				
Aluminum	µg/L	50 U	49 J	340
Antimony	µg/L	2.0 U	2.0 U	2.0 U
Arsenic	µg/L	9.9	0.81 J	0.88 J
Barium	µg/L	39	170	190
Beryllium	µg/L	1.0 U	1.0 U	1.0 U
Cadmium	µg/L	1.0 U	1.0 U	1.0 U
Calcium	µg/L	76000	44000	89000
Chromium	µg/L	2.0 U	2.0 U	2.0 U
Cobalt	µg/L	1.0 U	1.0 U	1.0 U
Copper	µg/L	2.0 U	2.0 U	10
Iron	µg/L	480	640	290
Lead	µg/L	1.0 U	1.0 U	8.0
Magnesium	µg/L	95000	68000	94000
Manganese	µg/L	14	22	4.3 J
Mercury	µg/L	0.20 U	0.20 U	0.20 U
Nickel	µg/L	2.0 U	2.0 U	2.0 U
Potassium	µg/L	1800	3200	1000
Selenium	µg/L	5.0 U	5.0 U	5.0 U
Silver	µg/L	0.075 J	0.034 J	0.032 J
Sodium	µg/L	60000	55000	86000
Thallium	µg/L	2.0 U	2.0 U	2.0 U
Vanadium	µg/L	5.0 U	5.0 U	1.3 J
Zinc	µg/L	20 U	20 U	17 J

Notes:

J - Estimated concentration

U - Not detected at the associated reporting limit

Table 3

Sample Holding Time Criteria and Analytical Methods Summary
Groundwater Sampling
Cascades, Inc.
Depew, New York
September 2015

Analyses	Methodology ⁽¹⁾	Holding Time to Extraction (Days)	Holding Time to Analyses (Days)
TCL VOCs	SW-846 8260C	-	14
TCL SVOCs	SW-846 8270D	7	40
TAL Metals (except Mercury)	SW-846 6020A	-	180
Mercury	SW-846 7470A	-	28

Notes:

- ⁽¹⁾ - Referenced from "Test Methods for Evaluating Solid Waste", USEPA OSW, 3rd Edition, 1986 and subsequent revisions
- - Not applicable
- TCL - Target Compound List
- VOCs - Volatile Organic Compounds
- TAL - Target Analyte List
- SVOCs - Semi-Volatile Organic Compounds

Table 4

Qualified Sample Results Due to Analyte Concentrations in the Method Blank
Groundwater Sampling
Cascades, Inc.
Depew, New York
September 2015

Parameter	Analysis Date	Analyte	Blank Result	Sample ID	Original Sample Result	Qualified Sample Result	Units
Metals	09/16/2015	Chromium	0.73 J	WG-11103430-091415-DT-001	1.2 J	2.0 U	µg/L
				WG-11103430-091415-SG-004	0.81 J	2.0 U	µg/L
				WG-11103430-091415-SG-006	0.80 J	2.0 U	µg/L
				WG-11103430-091415-SG-007	0.62 J	2.0 U	µg/L
				WG-11103430-091415-SG-008	0.74 J	2.0 U	µg/L
Metals	09/16/2015	Lead	0.34 J	WG-11103430-091415-DT-003	0.12 J	1.0 U	µg/L
				WG-11103430-091415-DT-005	1.1	1.1 U	µg/L
				WG-11103430-091415-SG-006	0.84 J	1.0 U	µg/L

Notes:

- J - Estimated concentration
U - Not detected at the associated reporting limit

Table 5

Qualified Sample Results Due to Analyte Concentrations in the Equipment Blank
Groundwater Sampling
Cascades, Inc.
Depew, New York
September 2015

Parameter	Blank Sample ID	Analyte	Blank Result	Associated Sample ID	Original Sample Result	Qualified Sample Result	Units
Metals	EB-11103430-091415-SG-002	Beryllium	0.11 J	WG-11103430-091415-DT-001	0.097 J	1.0 U	µg/L
Metals	EB-11103430-091415-SG-002	Cadmium	0.29 J	WG-11103430-091415-DT-001	0.27 J	1.0 U	µg/L
				WG-11103430-091415-DT-003	0.076 J	1.0 U	µg/L
				WG-11103430-091415-SG-004	0.11 J	1.0 U	µg/L
Metals	EB-11103430-091415-SG-002	Cobalt	0.19 J	WG-11103430-091415-DT-001	0.29 J	1.0 U	µg/L
				WG-11103430-091415-DT-003	0.22 J	1.0 U	µg/L
				WG-11103430-091415-SG-004	0.53 J	1.0 U	µg/L
				WG-11103430-091415-DT-005	0.46 J	1.0 U	µg/L
				WG-11103430-091415-SG-007	0.30 J	1.0 U	µg/L
Metals	EB-11103430-091415-SG-002	Nickel	7.7	WG-11103430-091415-DT-001	1.2 J	2.0 U	µg/L
				WG-11103430-091415-DT-003	0.29 J	2.0 U	µg/L
				WG-11103430-091415-SG-004	1.0 J	2.0 U	µg/L
				WG-11103430-091415-DT-005	0.89 J	2.0 U	µg/L
				WG-11103430-091415-SG-006	0.76 J	2.0 U	µg/L
				WG-11103430-091415-SG-007	0.67 J	2.0 U	µg/L
				WG-11103430-091415-SG-008	0.75 J	2.0 U	µg/L
Metals	EB-11103430-091415-SG-002	Antimony	0.27 J	WG-11103430-091415-DT-001	1.3 J	2.0 U	µg/L
				WG-11103430-091415-DT-003	0.30 J	2.0 U	µg/L
				WG-11103430-091415-SG-004	1.3 J	2.0 U	µg/L
				WG-11103430-091415-DT-005	0.16 J	2.0 U	µg/L
				WG-11103430-091415-SG-006	0.18 J	2.0 U	µg/L
Metals	EB-11103430-091415-SG-002	Selenium	0.32 J	WG-11103430-091415-DT-001	0.58 J	5.0 U	µg/L
Metals	EB-11103430-091415-SG-002	Thallium	0.18 J	WG-11103430-091415-DT-001	0.11 J	2.0 U	µg/L

Notes:

J - Estimated concentration

U - Not detected at the associated reporting limit

Attachment A

Chain of Custody Record



**CONESTOGA-ROVERS
& ASSOCIATES**

CHAIN OF CUSTODY RECORD

Address: 2055 Niagara Falls Blvd NF NY 14304

Phone: 716-297-6180

Fax: _____

COC NO.: 48956

PAGE 1 OF 1

(See Reverse Side for Instructions)

Project No/Phase/Task Code: <u>11103430</u>				Laboratory Name: <u>Test America</u>				Lab Location: <u>North Canton</u>				SSOW ID:																																																																																									
Project Name: <u>Cascade Paper Annual GW Sampling</u>				Lab Contact: <u>Denise Hecker</u>				Lab Quote No:				Cooler No:																																																																																									
Project Location: <u>Walden Ave Cheektowaga</u>				CONTAINER QUANTITY & PRESERVATION				ANALYSIS REQUESTED (See Back of COC for Definitions)				Carrier:																																																																																									
Chemistry Contact: <u>Paul McMahon</u>				<table border="1"> <tr> <th>SAMPLE TYPE</th> <th>Unpreserved</th> <th>Hydrochloric Acid (HCl)</th> <th>Nitric Acid (HNO₃)</th> <th>Sulfuric Acid (H₂SO₄)</th> <th>Sodium Hydroxide (NaOH)</th> <th>Methanol/Water (Sol VOC)</th> <th>EnCores 3x5-g, 1x25-g</th> <th>Other:</th> <th>Total Containers/Sample</th> </tr> <tr> <td>WG</td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>6</td> </tr> <tr> <td>EB</td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>6</td> </tr> <tr> <td>WG</td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>6</td> </tr> <tr> <td>WG</td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>6</td> </tr> <tr> <td>WG</td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>6</td> </tr> <tr> <td>WG</td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>6</td> </tr> <tr> <td>WG</td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>6</td> </tr> <tr> <td>TB</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>3</td> </tr> </table>				SAMPLE TYPE	Unpreserved	Hydrochloric Acid (HCl)	Nitric Acid (HNO ₃)	Sulfuric Acid (H ₂ SO ₄)	Sodium Hydroxide (NaOH)	Methanol/Water (Sol VOC)	EnCores 3x5-g, 1x25-g	Other:	Total Containers/Sample	WG	X	X	X						6	EB	X	X	X						6	WG	X	X	X						6	WG	X	X	X						6	WG	X	X	X						6	WG	X	X	X						6	WG	X	X	X						6	TB	X								3	Airbill No:			
SAMPLE TYPE	Unpreserved	Hydrochloric Acid (HCl)	Nitric Acid (HNO ₃)					Sulfuric Acid (H ₂ SO ₄)	Sodium Hydroxide (NaOH)	Methanol/Water (Sol VOC)	EnCores 3x5-g, 1x25-g	Other:	Total Containers/Sample																																																																																								
WG	X	X	X						6																																																																																												
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WG	X	X	X						6																																																																																												
TB	X								3																																																																																												
Sampler(s): <u>S-Gardner D-Tyran</u>				Date Shipped: <u>9/14/15</u>				COMMENTS/ SPECIAL INSTRUCTIONS:																																																																																													
Item	SAMPLE IDENTIFICATION (Containers for each sample may be combined on one line)	DATE (mm/dd/yy)	TIME (hh:mm)	Matrix Code (see back of COC)	Grab (G) or Comp (C)	Unpreserved	Hydrochloric Acid (HCl)	Nitric Acid (HNO ₃)	Sulfuric Acid (H ₂ SO ₄)	Sodium Hydroxide (NaOH)	Methanol/Water (Sol VOC)	EnCores 3x5-g, 1x25-g	Other:	Total Containers/Sample	VOCs	SVOCs	Metals	MS/MSD Request																																																																																			
1	WG-11103430-091415-DT-001	9-14-15	1135	WG	G	X	X	X						6	X	X	X																																																																																				
2	EB-11103430-091415-SG-002	9-14-15		EB	G	X	X	X						6	X	X	X																																																																																				
3	WG-11103430-091415-DT-003	9-14-15	1230	WG	G	X	X	X						6	X	X	X																																																																																				
4	WG-11103430-091415-SG-004	9-14-15	1155	WG	G	X	X	X						6	X	X	X																																																																																				
5	WG-11103430-091415-DT-005	9-14-15	1425	WG	G	X	X	X						6	X	X	X																																																																																				
6	WG-11103430-091415-SG-006	9-14-15	1315	WG	G	X	X	X						6	X	X	X																																																																																				
7	WG-11103430-091415-SG-007	9-14-15	1520	WG	G	X	X	X						6	X	X	X																																																																																				
8	WG-11103430-091415-SG-008	9-14-15	1315	WG	G	X	X	X						6	X	X	X																																																																																				
9	TB-11103430-091415-DT	9-14-15		TB	G	X								3	X																																																																																						
10																																																																																																					
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15																																																																																																					
TAT Required in business days (use separate COCs for different TATs): ☐ 1 Day ☐ 2 Days ☐ 3 Days ☒ 1 Week ☐ 2 Week ☐ Other:				Total Number of Containers: <u>51</u>				Notes/ Special Requirements:																																																																																													
				All Samples in Cooler must be on COC																																																																																																	
RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME																																																																																														
<u>Denise Hecker</u>	<u>GHD</u>	<u>9-14-15</u>	<u>1700</u>	<u>[Signature]</u>	<u>TA</u>	<u>9-15-15</u>	<u>945</u>																																																																																														

THE CHAIN OF CUSTODY IS A LEGAL DOCUMENT - ALL FIELDS MUST BE COMPLETED ACCURATELY

Distribution:

WHITE - Fully Executed Copy (CRA)

YELLOW - Receiving Laboratory Copy

PINK - Shipper

GOLDENROD - Sampling Crew

CRA Form: COC-10B (20110804)