



September 25, 2019

Reference No. 11199639

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
Former NL Industries Site No. C915200**

GHD Consulting Services, Inc. (GHD), on behalf of Cascades Containerboard Packaging, A Division of Cascades Canada ULC, 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.

Please contact me at 716/856-2142 should you have any questions or require additional information.

Sincerely,

GHD

Katherine B. Galanti

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

KBG/CMB/ck/1

Encl.

cc: L. Marineau, Cascades
R. Snyder, GHD
C. Barton, 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: 7.500

Reporting Period: August 31, 2018 to August 31, 2019

- | | 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**ParcelOwnerInstitutional Control**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**ParcelEngineering Control**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 Richard J. Snyder, P.E. at GHD Consulting Services, Inc.
print name 2055 Niagara Falls Blvd., Suite 3, Niagara Falls, NY 14304
print business address

am certifying as Owner's Representative (Owner or Remedial Party)

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


Signature of Owner, Remedial Party, or Designated Representative
Rendering Certification



September 23, 2019
Date

IC/EC CERTIFICATIONS

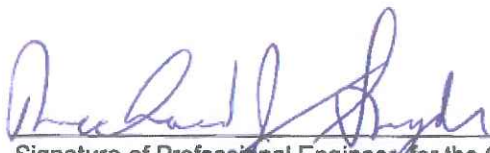
Box 7

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 Richard J. Snyder, P.E. at GHD Consulting Services, Inc.
print name 2055 Niagara Falls Blvd., Suite 3, Niagara Falls, NY 14304
print business address

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


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



September 23, 2019
Date



2019 Periodic Review Report

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

Cascades Containerboard Packaging

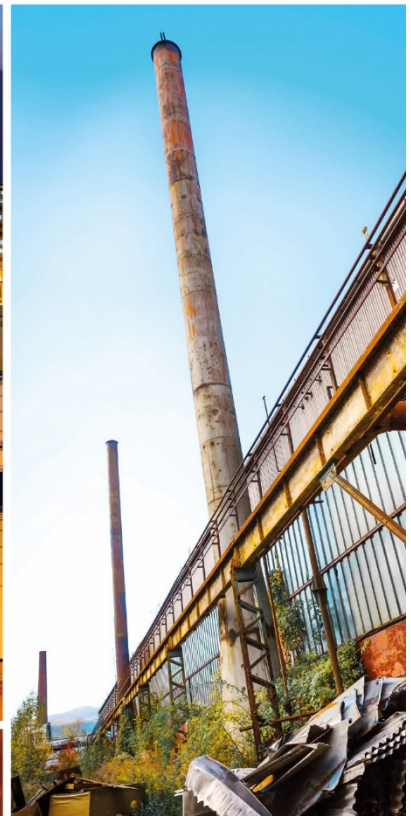
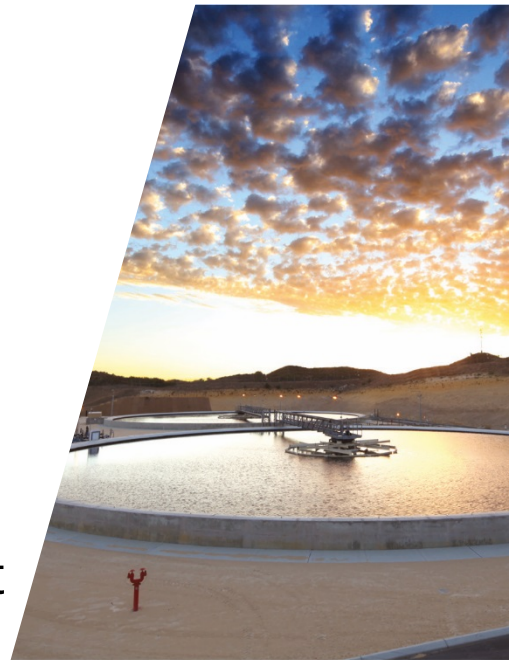




Table of Contents

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	4
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
3.3	GCL and Asphalt Cover System.....	4
3.4	GCL and Soil Cover System.....	5
3.5	Retention Pond	5
3.6	Fencing	5
3.7	Vegetative Cover	5
4.	Groundwater Monitoring.....	5
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	7

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 Groundwater Level Measurements



Table 4.3 Sample Collection and Analysis Summary

Table 4.4 Analytical Results Summary

Appendix Index

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 and operated by Cascades, 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 #C915200. 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 July 2019, and recordkeeping conducted through August 2019. 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 July 18, 2019. The following sections discuss the findings of the 2019 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 generally appeared in satisfactory condition. Some minor surficial cracking is present; however, these cracks do not impact the integrity or effectiveness of the cover. Larger cracks (greater than 0.25 inch in width) that were sealed in 2015 remain in good condition. Sealing of minor cracks identified in 2017 was completed as part of routine maintenance to prevent further deterioration and remain in good condition. 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, although the presence of staged inventory within the area inhibited full inspection. Photos of the pavement are provided in Appendix B.

3.1.4 Corrective Action

No 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. Shallow cracks are present on some areas of the apron; however, these cracks do not penetrate the full thickness of the apron slab and do not impact the effectiveness of the cover. Damaged areas identified in 2015 were patched with asphalt and tar sealant and remain in generally good condition. The building and apron cover system has not deteriorated significantly from 2018. Photos of the concrete are provided in Appendix B.

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

3.3 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.

3.4 GCL and Soil Cover System

The GCL and soil cover system was visually inspected as part of the annual comprehensive Site inspection. No areas of subsidence, erosion, or exposed GCL were observed. At the time of the inspection, the grass was approximately 2 to 3 inches in length and was regularly maintained throughout the year. 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.

3.5 Retention Pond

The retention pond was inspected as part of the annual comprehensive Site inspection. Approximately 12 inches of standing water was present in the center of the pond, as the water level was below the invert of the outflow pipe. Although vegetation was cut in 2015, significant plant growth is present within the pond, primarily invasive phragmites. No other debris was observed and the outlet pipes are open. No evidence of erosion was observed along the banks of the pond.

No corrective action is necessary with regard to vegetation growth within 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.

3.6 Fencing

The fencing was inspected as part of the annual comprehensive site inspection. Routine maintenance was conducted after the winter to reattach some fencing that detached from the poles. 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 with regard to site fencing at this time.

3.7 Vegetative Cover

The vegetative cover was inspected as part of the annual comprehensive site inspection. No areas of distressed vegetation, invasive species, or woody growth were observed. Photos of the vegetative cover are provided in Appendix B.

No corrective action is necessary with regard to the vegetative cover at this time.

4. Groundwater Monitoring

The 2016 PRR included a recommendation to reduce the frequency of groundwater monitoring from annual to triennial. The NYSDEC agreed with the recommendation in a letter to Cascades, Inc. dated October 18, 2016. Groundwater monitoring was conducted as part of the 2019 program and is discussed in this section. The next groundwater sampling event will be in 2022.



4.1 Monitoring Well Inspection

In accordance with the SMP, monitoring well inspections were conducted in conjunction with the groundwater monitoring event in July 2019. 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.

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 340 µg/L to 930 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 71,000 µg/L to 100,000 µg/L for magnesium; and from 62,000 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 2016 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.
- Areas of the building and apron concrete cover system that were patched/sealed with asphalt and/or tar in 2015 and 2017 remain in good condition. No other deterioration of the building and apron cover system was observed.
- The GCL and soil, and GCL and asphalt cover systems are generally in good condition with no deficiencies noted.
- Perimeter fencing is in good condition.
- While there is significant vegetation (phragmites) growth within the pond, the outlet pipes are not obstructed, so no action is required.
- 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.

6. Certification

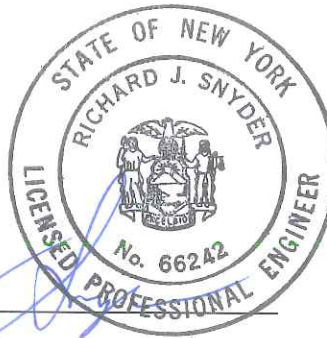
For each institutional or engineering control identified for the site, I certify that all of the following statements are true:

- 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.

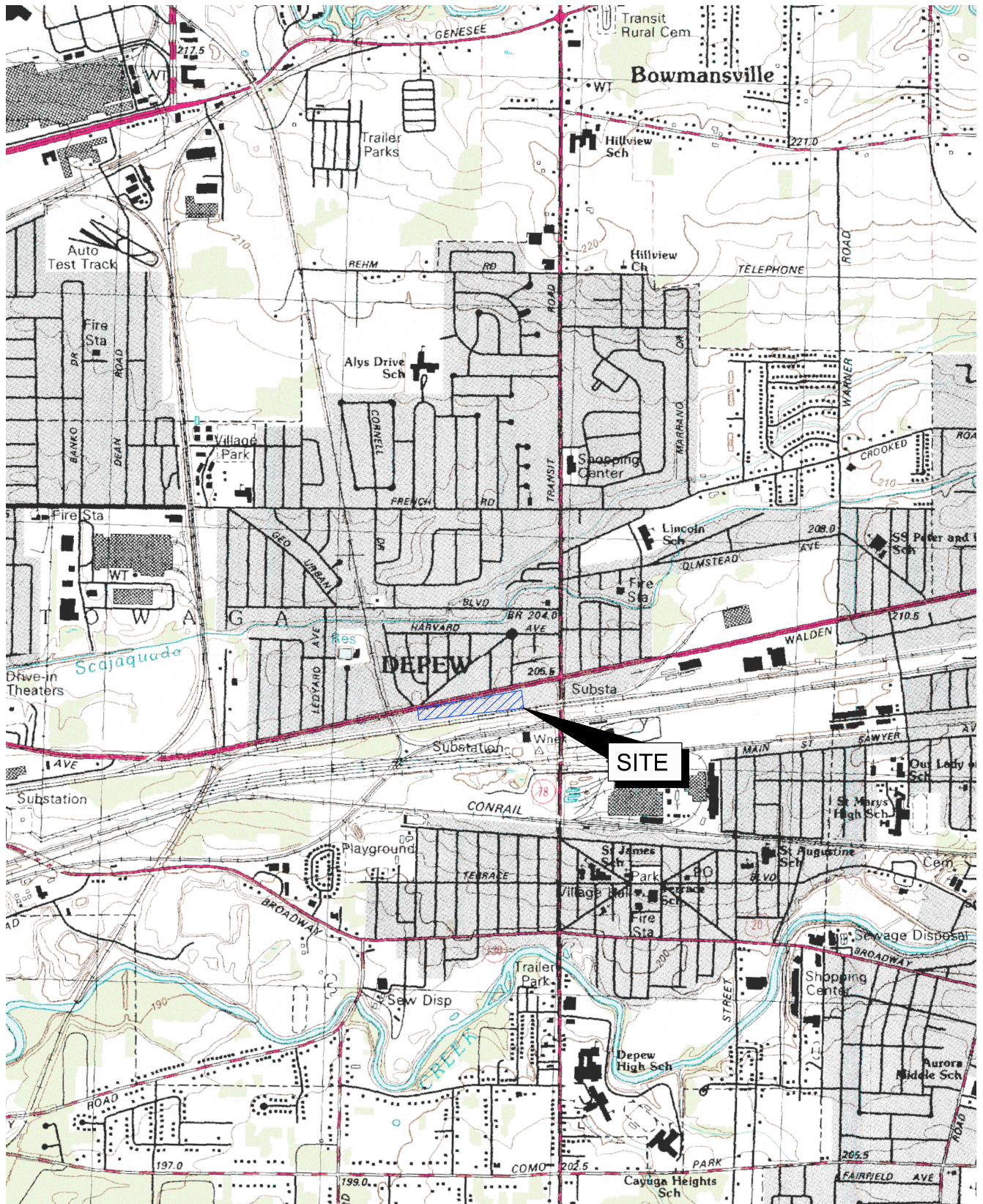
Richard J. Snyder, P.E.
GHD Consulting Services, Inc.
2055 Niagara Falls Blvd., Suite 3
Niagara Falls, New York 14304



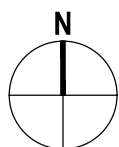
Signature: _____

Date: September 23, 2019

Figures



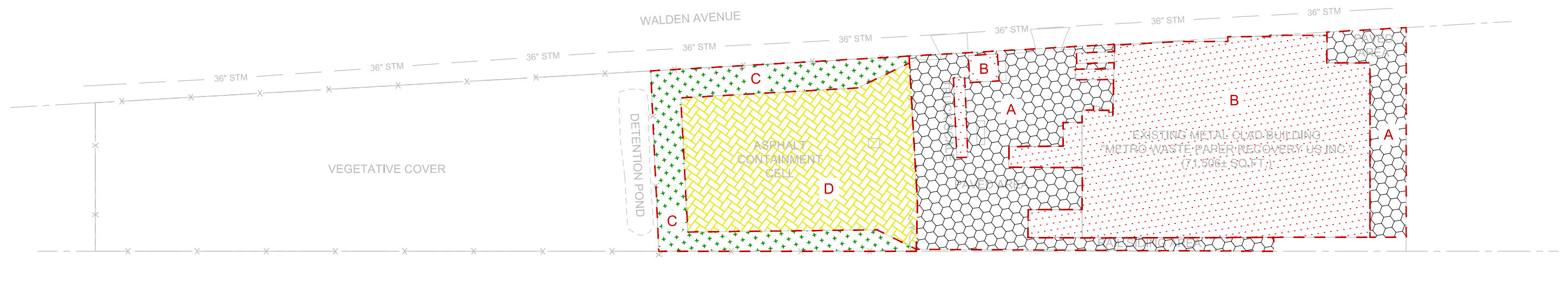
SOURCE : USGS QUADRANGLE MAP:
LANCASTER, NEW YORK



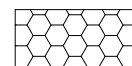
FORMER N.L. INDUSTRIES SITE REMEDIATION
3241 WALDEN AVENUE
DEPEW, NEW YORK
SITE LOCATION MAP

Project No. 11193639
Report No. 001
Date SEP 2019

FIGURE 1.1



LEGEND:



COVER SYSTEM A - ASPHALT ONLY



COVER SYSTEM B - BUILDING & APRON CONCRETE

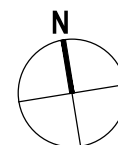


COVER SYSTEM C - GEOSYNTHETIC CLAY LINER & SOIL



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

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



FORMER N.L. INDUSTRIES SITE REMEDIATION
3241 WALDEN AVENUE
DEPEW, NEW YORK
**LOCATION OF ENGINEERING CONTROL
SYSTEMS**

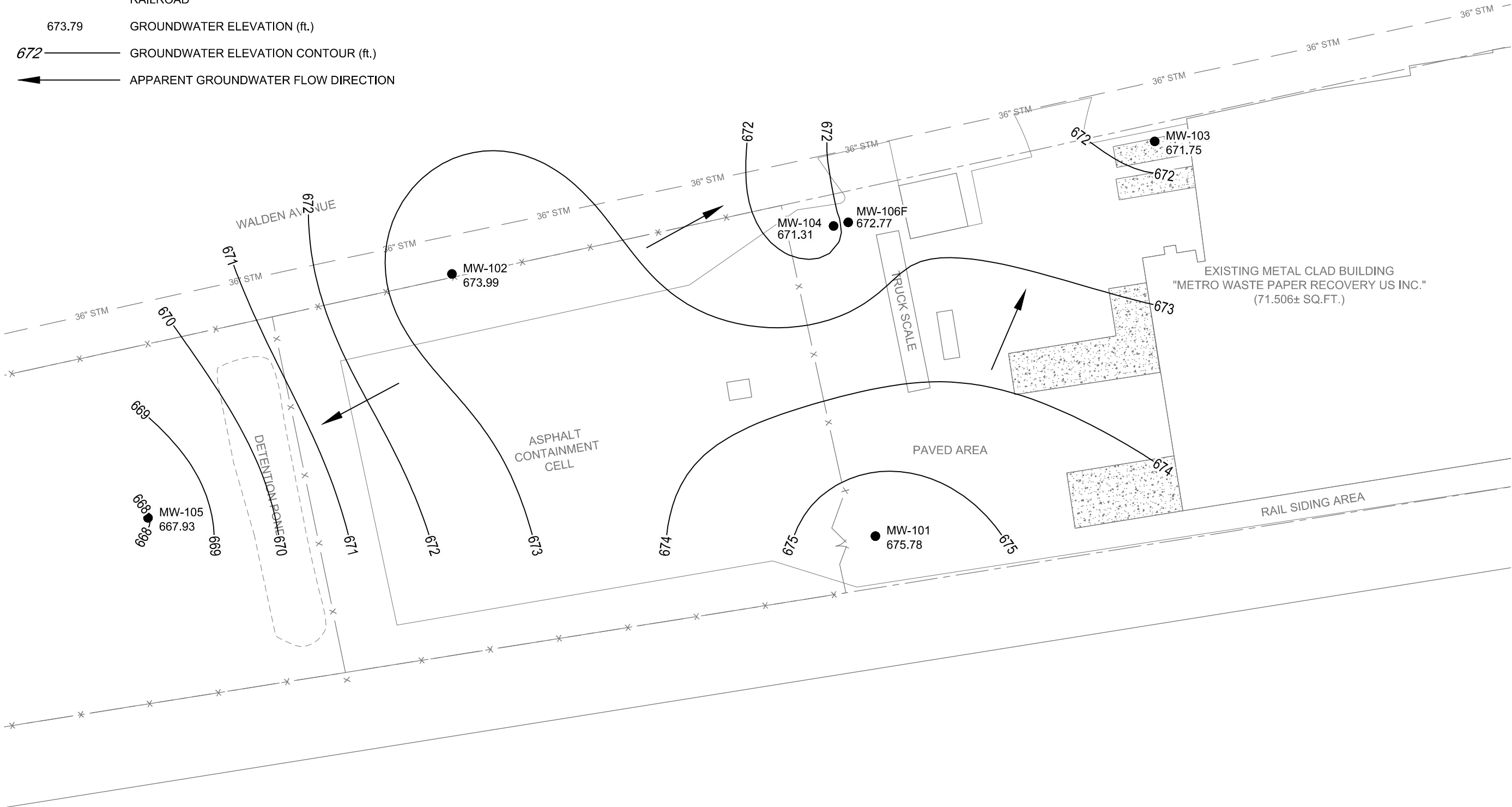
Project No. **11199639**
Report No. **001**
Date **SEP 2019**

FIGURE 2.2

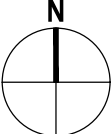
LEGEND

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

NOTE: WATER LEVEL MEASUREMENTS COLLECTED JULY 18, 2019



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





FORMER N.L. INDUSTRIES SITE REMEDIATION
3241 WALDEN AVENUE
DEPEW, NEW YORK

GROUNDWATER CONTOUR MAP

Project No. 11199639
Report No. 001
Date SEP 2019

FIGURE 4.2

Tables

Table 4.1

**Monitoring Well Measurement Summary
2019 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	26.84	17.0 to 27.0	98
MW-102	24.50	15.1 to 25.1	93
MW-103	26.67	17.0 to 27.0	97
MW-104	26.45	17.0 to 27.0	95
MW-105	24.01	16.1 to 26.1	79
MW-106F	10.25	6.05 to 11.05	84

Notes:

BTOC Below Top of Casing.

Measurements were taken in July 2019.

Table 4.2

**Summary of Groundwater Level Measurements
2019 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>	<i>8/2016</i>	<i>7/2019</i>
MW-101	678.03	678.03	675.12	676.28	674.71	675.93	676.83	670.73	674.84	675.78
MW-102	675.56	676.67	672.21	673.66	672.56	673.76	674.20	673.79	673.48	673.99
MW-103	677.57	677.56	672.68	672.81	671.56	672.56	672.44	672.34	671.33	671.75
MW-104	677.06	677.06	671.44	671.78	670.88	671.24	671.37	671.45	671.02	671.31
MW-105	675.51	675.48	668.87	668.34	663.92	667.38	667.16	667.04	664.88	667.93
MW-106F	677.38	677.43	668.9	674.10	672.05	674.93	672.61	672.41	671.86	672.77

Notes:

Elevations are referenced to the NVGD datum.
NVGD National Vertical Geodetic Datum.

Table 4.3

**Sample Collection and Analysis Summary
2019 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>TCL VOCs</i>	<i>TAL Metals</i>	<i>TCL SVOCs</i>
WG-11199639-071819-DT-001	MW-106F	7/18/2019	9:30	X	X	X
WG-11199639-071819-SG-002	MW-101	7/18/2019	9:30	X	X	X
WG-11199639-071819-DT-003	MW-104	7/18/2019	10:55	X	X	X
WG-11199639-071819-SG-004	MW-102	7/18/2019	11:15	X	X	X
WG-11199639-071819-DT-005	-	7/18/2019	10:50	X	X	X
WG-11199639-071819-SG-006	MW-102	7/18/2019	11:15	X	X	X
WG-11199639-071819-DT-007	MW-103	7/18/2019	12:30	X	X	X
WG-11199639-071819-SG-008	MW-105	7/18/2019	14:05	X	X	X
TB-11199639-071819-DT	-	7/18/2019	-	X		

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
2019 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	MW-103	MW-104	MW-105	MW-106F
Sample Name:		WG-11199639-071819-SG-002	WG-11199639-071819-SG-004	WG-11199639-071819-SG-006	WG-11199639-071819-DT-007	WG-11199639-071819-DT-003	WG-11199639-071819-SG-008	WG-11199639-071819-DT-001	
Sample Date:		07/18/2019	07/18/2019	07/18/2019	07/18/2019	07/18/2019	07/18/2019	07/18/2019	07/18/2019
New York State Water Quality									
Parameters	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	1.0 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	1.0 U	1.0 U
1,1,2-Trichloroethane	1	NC	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	5	NC	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	5	NC	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	5	NC	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 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	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	1.0 U	1.0 U
1,2-Dichlorobenzene	3	NC	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	0.6	NC	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	1	NC	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	3	NC	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	3	NC	µg/L	1.0 U	1.0 U	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	10 U	10 U
2-Hexanone	NC	50	µg/L	10 U	10 U	10 U	10 U	10 U	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	NC	NC	µg/L	10 U	10 U	10 U	10 U	10 U	10 U
Acetone	NC	50	µg/L	10 U	10 U	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	1.0 U	1.0 U
Bromodichloromethane	NC	50	µg/L	1.0 U	1.0 U	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	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	1.0 U	1.0 U
Carbon disulfide	60	60	µg/L	1.0 U	1.0 U	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	1.0 U	1.0 U
Chlorobenzene	5	NC	µg/L	1.0 U	1.0 U	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	1.0 U	1.0 U
Chloroform (Trichloromethane)	7	NC	µg/L	1.0 U	1.0 U	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	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	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	1.0 U	1.0 U
Cyclohexane	NC	NC	µg/L	1.0 U	1.0 U	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	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	1.0 U	1.0 U
Ethylbenzene	5	NC	µg/L	1.0 U	1.0 U	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	1.0 U	1.0 U
Methyl acetate	NC	NC	µg/L	10 U	10 U	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	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	NC	10	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	5	NC	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	5	NC	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	5	NC	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Volatile Organic Compounds									
Toluene	5	NC	µg/L	1.0 U	1.0 U	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	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	1.0 U	1.0 U
Trichloroethene	5	NC	µg/L	1.0 U	1.0 U	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	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	5	NC	µg/L	1.0 U	1.0 U	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	1.0 U	1.0 U
Xylenes (total)	NC	NC	µg/L	2.0 U	2.0 U	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)	5	NC	µg/L	0.95 U	0.95 U	0.95 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	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	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	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	1.9 U	1.9 U
2,4-Dinitrophenol	NC	10	µg/L	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U
2,4-Dinitrotoluene	5	NC	µg/L	4.8 U	4.8 U	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	4.8 U	4.8 U
2-Chloronaphthalene	NC	10	µg/L	0.95 U	0.95 U	0.95 U	0.95 U	0.95 U	0.95 U
2-Chlorophenol	NC	NC	µg/L	0.95 U	0.95 U	0.95 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	0.19 U	0.19 U
2-Methylphenol	NC	NC	µg/L	0.95 U	0.95 U	0.95 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	1.9 U	1.9 U
2-Nitrophenol	NC	NC	µg/L	1.9 U	1.9 U	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	1.9 U	1.9 U

Table 4.4

**Analytical Results Summary
2019 Annual Periodic Review Report
Former NL Industries Site
NYSDEC Site No. C915200
Depew, New York**

Location ID:		MW-101	MW-102	MW-103	MW-104	MW-105	MW-106F	
Sample Name:		WG-11199639-071819-SG-002	WG-11199639-071819-SG-004	WG-11199639-071819-SG-006	WG-11199639-071819-DT-007	WG-11199639-071819-DT-003	WG-11199639-071819-SG-008	WG-11199639-071819-DT-001
Sample Date:		07/18/2019	07/18/2019	07/18/2019 Duplicate	07/18/2019	07/18/2019	07/18/2019	07/18/2019
New York State Water Quality								
Parameters	Standards	Guidance Values	Unit					
	a	b						
3,3'-Dichlorobenzidine	5	NC	µg/L	4.8 U	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	1.9 U
4,6-Dinitro-2-methylphenol	NC	NC	µg/L	4.8 U	4.8 U	4.8 U	4.8 U	4.8 U
4-Bromophenyl phenyl ether	NC	NC	µg/L	1.9 U	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	1.9 U
4-Chloroaniline	NC	NC	µg/L	1.9 U	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	1.9 U
4-Nitroaniline	5	NC	µg/L	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
4-Nitrophenol	NC	NC	µg/L	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U
Acenaphthene	NC	20	µg/L	0.19 U	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	0.19 U
Acetophenone	NC	NC	µg/L	0.95 U	0.95 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	0.19 U
Atrazine	7.5	NC	µg/L	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
Benzaldehyde	NC	NC	µg/L	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
Semi-volatile Organic Compounds								
Benzo(a)anthracene	NC	0.002	µg/L	0.19 U	0.19 U	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	0.19 U	0.19 U
Benzo(b)fluoranthene	NC	0.002	µg/L	0.19 U	0.19 U	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	0.19 U	0.19 U
Benzo(k)fluoranthene	NC	0.002	µg/L	0.19 U	0.19 U	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	0.95 U	0.95 U
bis(2-Chloroethoxy)methane	5	NC	µg/L	0.95 U	0.95 U	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	0.95 U	0.95 U
bis(2-Ethylhexyl)phthalate (DEHP)	5	NC	µg/L	4.8 U	4.8 U	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	1.9 U	1.9 U
Caprolactam	NC	NC	µg/L	4.8 U	4.8 U	4.8 U	4.8 U	4.8 U
Carbazole	NC	NC	µg/L	0.95 U	0.95 U	0.95 U	0.95 U	0.95 U
Chrysene	NC	0.002	µg/L	0.19 U	0.19 U	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	4.8 U	4.8 U
Di-n-octyl phthalate (DnOP)	NC	50	µg/L	1.9 U	1.9 U	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	0.19 U	0.19 U
Dibenzofuran	NC	NC	µg/L	0.95 U	0.95 U	0.95 U	0.95 U	0.95 U
Diethyl phthalate	NC	50	µg/L	4.8 U	4.8 U	4.8 U	4.8 U	4.8 U
Dimethyl phthalate	NC	50	µg/L	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
Fluoranthene	NC	50	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Fluorene	NC	50	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Hexachlorobenzene	0.04	NC	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Hexachlorobutadiene	0.5	NC	µg/L	0.95 U	0.95 U	0.95 U	0.95 U	0.95 U
Hexachlorocyclopentadiene	5	NC	µg/L	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U
Hexachloroethane	5	NC	µg/L	0.95 U	0.95 U	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	0.19 U	0.19 U
Isophorone	NC	50	µg/L	0.95 U	0.95 U	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	0.95 U	0.95 U
N-Nitrosodiphenylamine	NC	50	µg/L	0.95 U	0.95 U	0.95 U	0.95 U	0.95 U
Naphthalene	NC	10	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Nitrobenzene	0.4	NC	µg/L	0.95 U	0.95 U	0.95 U	0.95 U	0.95 U
Pentachlorophenol	1	NC	µg/L	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U
Phenanthrene	NC	50	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Phenol	1	NC	µg/L	0.95 U	0.95 U	0.95 U	0.95 U	0.95 U
Pyrene	NC	50	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Metals								
Aluminum	NC	NC	µg/L	50 U	110	50 U	50 U	64
Antimony	3	NC	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Arsenic	25	NC	µg/L	6.8	1.2 J	3.2 J	9.4	5.0 U
Metals (continued)								
Barium	1000	NC	µg/L	140	98	87	96	180
Beryllium	NC	3	µg/L	1.0 U	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	1.0 U
Calcium	NC	NC	µg/L	68000	87000	87000	110000	79000
Chromium	50	NC	µg/L	2.0 U	1.5 J	2.0 U	2.0 U	2.0 U
Cobalt	NC	NC	µg/L	0.38 J	2.4	2.1	0.44 J	1.0 U
Copper	200	NC	µg/L	12	11	2.0 U	2.0 U	2.0 U
Iron	300	NC	µg/L	97 J	680	480	930	340
Lead	25	NC	µg/L	3.1	5.2	1.0 U	1.0 U	1.0 U
Magnesium	NC	35000	µg/L	86000	100000	100000	85000	100000
								71000
								97000

Table 4.4
Analytical Results Summary
2019 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		MW-104		MW-105		MW-106F	
Sample Name:				WG-11199639-071819-SG-002		WG-11199639-071819-SG-004		WG-11199639-071819-SG-006		WG-11199639-071819-DT-007		WG-11199639-071819-DT-003		WG-11199639-071819-SG-008		WG-11199639-071819-DT-001	
Sample Date:				07/18/2019		07/18/2019		07/18/2019		07/18/2019		07/18/2019		07/18/2019		07/18/2019	
Parameters	New York State Water Quality			Unit													
	Standards	Guidance Values															
	a	b															
	Manganese	300	NC		µg/L	98	250	240	47	11	13	42					
	Mercury	0.7	NC		µg/L	0.20 U	0.20 U	0.20 U	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	2.0 U	2.0 U	2.0 U					
	Potassium	NC	NC		µg/L	2500	2200	2100	3300	1900	3100	710 J					
	Selenium	10	NC		µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U					
	Silver	50	NC		µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U					
	Sodium	20000	NC		µg/L	74000	62000	63000	140000	65000	71000	75000					
	Thallium	NC	0.5		µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U					
	Vanadium	NC	NC		µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U					
	Zinc	NC	2000		µg/L	34	27	20 U	20 U	20 U	20 U	20 U					

Notes:

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

1100 - 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) 1.1.1.1 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: 7/18/19

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	☒	☐	☐	<u>Groundwater samples</u>
MW-102	☒	☐	☐	<u>Collected 7/18/19</u>
MW-103	☒	☐	☐	
MW-104	☒	☐	☐	
MW-105	☒	☐	☐	
MW-106	☒	☐	☐	

Asphalt Only Cover System

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

YES ☐ NO ☒ If yes, please describe NO significant changes
from 2018

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 No significant changes
from 2018

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

YES ☐ NO ☒ If yes, please describe No significant changes
from 2018

Building and Apron Concrete Cover System

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

YES ☐ NO ☒ If yes, please describe No significant changes
from 2018

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

YES ☐ NO ☒ If yes, please describe No significant changes
from 2018

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 No significant changes
from 2018

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 NO Significant Changes
from 2018

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

YES ☒ NO ☒ If yes, please describe NO Significant Changes
from 2018

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

YES ☐ NO ☒ If yes, please describe NO Significant Changes
from 2018

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 NO Significant Changes
from 2018

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

YES ☐ NO ☒ If yes, please describe NO Significant Changes
from 2018

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? Approximately 1'

Is there any debris within the retention pond?

YES ☐ NO ☒ If yes, please describe _____

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

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 _____

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

Appendix B Photographs



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



Photo 2 – Parking lot looking south.



Photo 3 – Former rail siding looking east.



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



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



Photo 6 – Trucking Yard looking south-southwest.



Photo 7 – Trucking Yard looking west.



Photo 8 – GCL and Soil Cover System looking east along north slope.



Photo 9 – GCL and Soil Cover System looking north along west slope.



Photo 10 – GCL and Soil Cover System looking east along south slope.



Photo 11 – Looking northwest across retention pond.



Photo 12 – GCL and Asphalt Cover System looking northeast across cap.

Appendix C

Groundwater Monitoring Field Forms

Water Level Measurement Equipment and Supply Checklist
(Form SP-10)

Date: 07/18/2019
(mm/dd/yyyy)

Reference No. _____

Instruments

- ☒ Water level indicator
- ☐ Steel tape
- ☐ Oil/Water interface probe
- ☐ Air monitoring equipment

Supplies

- ☐ Foil
- ☐ Tyveks (assorted sizes and types)
- ☒ Paper towels / Rags
- ☒ Decontamination fluids
 - ☐ 2 - Propanol
 - ☒ Deionized water
 - ☐ Hexane (pesticide grade)
 - ☐ Methanol (pesticide grade)
 - ☒ Other Lignox
- ☒ Trash bags
- ☒ Plastic spray bottles

Documentation

- ☐ Well logs
- ☐ Notebook/Field book
- ☐ Photolog
- ☐ Site pass/badge
- ☒ Previous well logs/previous historical well data
- ☐ Site map
- ☒ Blank well data forms

Miscellaneous

- ☒ Well cap keys
- ☐ Bolt cutters
- ☐ Camera/Film
- ☒ Knife
- ☒ Spare batteries for instruments
- ☐ Lock deicer (winter)

Personal Protective Equipment

- ☒ Latex gloves
- ☐ Hard hats/liner(s)
- ☒ Field overboots
- ☐ Work gloves (cotton and chemical resistant)
- ☒ Safety glasses/or side shields on
- ☐ OSHA-approved prescription lenses
- ☒ First aid kit
- ☐ Respirators
- ☒ Check health and safety plan

✓ Pen/Pencil/Indelible marking pen

✓ Tool box

✓ Spare locks/keys

On site transportation
(all-terrain vehicle/snowmobiles)

Completed By: _____

(please print)

Date: _____

(mm/dd/yyyy)

Field Data Record Form
Meter, Water Level
(QSF-251D)
Page 1 of 1

Control number: NF06118 NF07581 Project number: 11199639-01
Date (mm/dd/yyyy): 07/18/2019 Project name: NL-Industries
User (print name): S. Gardner, D. Tyrann Location: Walden Ave

Additional equipment control numbers and descriptions:

Field procedure before use:

	Check when completed
• Check for broken or missing parts. • Check battery • Check operation of buzzer. • Check operation of signal light. • Test probe in water to ensure unit operates, both visually and audibly. • Check cable.	☒ ☒ ☒ ☒ ☒ ☒

Filing: Field file

Signature: Dave J. Tyrann

Groundwater Sampling Equipment and Supply Checklist
(Form SP-05)

Date: 07/19/2019
(mm/dd/yyyy)

Reference No. 11189639-01

Equipment

- ☒ Required sampling equipment
(as per work plan or QAPP)

Instruments

- ☒ Water level indicator
☒ Thermometer *
☒ pH meter *
☒ Conductivity probe *
☒ Turbidity meter
☐ HNu/OVA/Microtip
☐ Air monitoring equipment

Supplies

- ☐ Gasoline can/gas
☐ Polypropylene rope
☐ Aluminum foil
☒ Paper towels / Rags
☒ pH buffer solution(s)
☒ Conductivity standard solution(s)
☐ Decontamination fluids
(as per work plan and QAPP)
☒ Sample jars (extra)
☒ Sample jar labels (GHD) materials
☒ Cooler(s)/ice packs/packing materials
☒ Trash bags
☐ Sample preservatives
☐ Plastic spray bottles
☐ Plastic basin or pan
☐ Sample filter (on line or external filter)
☐ Polyethylene sheeting
☒ First aid kit
☒ Personal protective equipment (as per HASP)

Documentation

- ☒ Chain of custody forms
☐ Well logs
☐ Notebook/Field book
☐ Photolog
☐ Site pass/badge
☐ Federal Express manifests
☒ Previous well logs/previous historical well data
☐ Site map
☒ Blank well data forms

Miscellaneous

- ☒ Well cap keys
☐ Bolt cutters
☐ Camera/film
☐ Knife
☒ Spare batteries for instruments
☐ Lock deicer (winter)
☒ Reinforced packing tape
☒ Pen/pencil/indelible marking pen
☒ Tool box
☐ Spare locks/keys
☐ On site transportation
(all-terrain vehicle/snowmobiles)

Completed By: David Tyren

(please print)

Date: 07/18/2019

(mm/dd/yyyy)

Project Planning Completion and Follow-Up Checklist
(Form SP-02)

Date: 07/19/2019
(mm/dd/yyyy)

Reference No. 11199639-01

Prior Planning and Coordination

- ☒ Confirm well numbers, location and accessibility
- ☒ Review of project documents, Health and Safety Plan (HASP), sampling Quality Assurance/Quality Control (QA/QC) and site-specific sampling requirements
- ☒ Historical well data; depth, pH, performance and disposition of purge water
- ☒ Site access notification and coordination
- ☒ Coordination with laboratory through GHD chemistry group
- ☒ Procurement, inventory and inspection of all equipment and supplies
- ☒ Prior equipment preparation, calibration or maintenance
- ☐ ~~NA~~ All utilities located and approved

Field Procedure

- ☒ Instruments calibrated daily
- ☒ Sampling equipment decontaminated in accordance with the QAPP
- ☒ Field measurements and sampling details logged in appropriate field books or an appropriate field form
- ☒ Well volume calculated and specified volumes removed
- ☒ Specified samples, and QA/QC samples taken per Quality Assurance Project Plan (QAPP)
- ☒ Samples properly labeled, preserved and packed
- ☒ Sampling locations secured or completed according to work plan
- ☒ Sample date, times, locations and sample numbers have all been recorded in applicable log(s)
- ☒ Samples have been properly stored if not shipped/delivered to lab same day
- ☒ Samples were shipped with complete and accurate chain of custody record

Follow-Up Activities

- ☒ Questionable measurements field verified
- ☒ Confirm all samples collected
- ☒ All equipment has been maintained and returned
- ☒ Sampling information reduced and required sample keys and field data distributed
- ☒ Chain of custody records filed
- ☒ Expendable stock supplies replaced
- ☒ GHD and client-controlled items returned (i.e., keys)
- ☒ Arrange disposal of investigation generated wastes with client
- ☒ Confirm all samples collected

Completed By:

David Tyran
(please print)

Date:

07/19/2019
(mm/dd/yyyy)

Field Data Record Form
Meter, Turbidity (Portable) Hach 2100P and 2100Q
(QSF-421D)

Page 1 of 1

Control number: NF05041
 Date (mm/dd/yyyy): 07/18/2019
 User (print name): S. Gardner

Project number: 11199639-01
 Project name: Nk-Industries
Cascade
 Location: Walden Ave

Additional equipment control numbers and descriptions:

10 NTU LOT# A9121 EXP 8/2020
100 NTU LOT# A9121 EXP 8/2020
800 NTU LOT# A9120 EXP 8/2020

Field procedure before use:

Do not calibrate in the field.

	Check when completed										
Check kit contents;											
• Meter	☒										
• STABLCAL standards (2100Q)	☒										
• Low 0-10, medium 0-100, high standards (2100P)	☒										
• Extra AA batteries	☒										
• Sample vials	☒										
Test and record standards:	☒										
<table> <tr> <th>Gelex (2100P)/STABLCAL (2100Q) Standard</th> <th>Meter Reading</th> </tr> <tr> <td><u>10</u></td> <td><u>10.3</u></td> </tr> <tr> <td><u>100</u></td> <td><u>104</u></td> </tr> <tr> <td><u>800</u></td> <td><u>827</u></td> </tr> <tr> <td> </td> <td> </td> </tr> </table>	Gelex (2100P)/STABLCAL (2100Q) Standard	Meter Reading	<u>10</u>	<u>10.3</u>	<u>100</u>	<u>104</u>	<u>800</u>	<u>827</u>			
Gelex (2100P)/STABLCAL (2100Q) Standard	Meter Reading										
<u>10</u>	<u>10.3</u>										
<u>100</u>	<u>104</u>										
<u>800</u>	<u>827</u>										
Note: Condensation on outside of sample bottles affects meter readings.											

Filing: Field file

Signature: Dave J. Zhan

Field Data Record Form
Meter, Turbidity (Portable) Hach 2100P and 2100Q
(QSF-421D)

Page 1 of 1

Control number: NF05040
 Date (mm/dd/yyyy): 07/18/2019
 User (print name): D. Tyran

Project number: 11199639-01
 Project name: NL-Industries Cascade
 Location: Walden Ave

Additional equipment control numbers and descriptions:

10 NTU LOT# A9121 EXP 8/2020
100 NTU LOT# A9121 EXP 8/2020
800 NTU LOT# A9120 EXP 8/2020

Field procedure before use:

Do not calibrate in the field.

Check kit contents;

- Meter
- STABLCAL standards (2100Q)
- Low 0-10, medium 0-100, high standards (2100P)
- Extra AA batteries
- Sample vials

Test and record standards:

*Gelex (2100P)/STABLCAL
 (2100Q) Standard*

10
100
800

Meter Reading

10.2
108
830

Check when
completed



Note: Condensation on outside of sample bottles affects meter readings.

Filing: Field file

Signature: Dave J Tyran

Tailgate Safety Meeting Form

Small Group Format - Multiple Days

Date:	7/18/19	Time:	0825	Project No.:	11199639-01
Presenter:	D. Tyran	Project Name:	NL - Industries (Cascadia)		

Safety topics/items discussed:

Active facility with lots of truck traffic. Wear reflective vest make eye contact with driver before moving in front of any vehicle. Not a humid stay hydrated watch for signs of heat stress frequent breaks in Air conditioned truck

Emergency preparedness:

First Aid Provider(s):	D. Tyran	Muster Point:	weigh station
		Method of Communication:	cell phone
AED Responder:	911	Fire Extinguisher Location:	GHD Trucks
First Aid Kit Location:	GHD Trucks	Eye Wash Location:	GHD Trucks

Print Name	Signature	Company
David Tyran	<i>[Signature]</i>	GHD
SHAWN GARDNER	<i>[Signature]</i>	GHD
Christine Barton	<i>[Signature]</i>	GHD

Date:		Time:		Project No.:	
Presenter:		Project Name:			

Safety topics/items discussed:

Emergency preparedness:

First Aid Provider(s):		Muster Point:	
		Emergency Communication:	
AED Responder:		Fire Extinguisher Location:	
First Aid Kit Location:		Eye Wash Location:	

Print Name	Signature	Company

NL - Industries

DAILY LOG

7/18/19 YSI PRO SERIES # NFO7610 CALABRATION USING

PH 4.00 AUTO CAL LOT# 19040042 EXP 2/15/20

PH 4.00 BEFORE 4.14 AFTER 4.00

COND 4.49 BEFORE 4.43 AFTER 4.49

DO% BAR. 742.9 101.6% READING 8.46

0816 ONSITE SG WEATHER - OVERCAST 72°F WINDS

ENE 7-10 MPH

0836 SET UP ON MW-101 PURGE AND SAMPLE

METHOD - LOW FLOW USING MASTERFLEX PERISTALTIC PUMP

BOTTLE SET - 3x 40ML VOC, 2x 1L SVOC, 1x 500ML TAL METALS

1031 SET UP ON MW-102 PURGE AND SAMPLE

1300 SET UP ON MW-105 PURGE AND SAMPLE

1447 OFFSITE

DJT

11199639-01

Dave J. Taylor

NL - Industries

DAILY LOG

7/18/19 HORIBA W-22 # NFO7597 CALABRATION USING

PH 4.00 AUTO CAL LOT# 19040042 EXP: 2/15/20

PH 4.00 BEFORE 4.13 AFTER 3.99

COND 4.49 BEFORE 4.53 AFTER 4.50

DO% BEFORE 8.00 AFTER 8.65

0825 on-site overcast 72-85°F humid

Talked to Pete. Need to have trailer moved off wells.

0835 Driver is moving trailer.

Setup on MW-106F Purge & Sample Low-flow

0855 Chris Barton on-site for annual inspection

Trip Blank = TB-11199639-071819-DT 2x 40ml w/HCL

0945 Setup on MW-104 Purge & Sample Low-flow

1000 Chris Barton off-site

Equipment Blank performed by running lab supplied DI water through new silicone and teflon tubing into labelled sample bottles

ID EB-11199639-071819-DT-005 Time 1050

1135 Setup on MW-103 Purge & Sample Low-flow

1447 off-site

(DST)

11199639-01

Dave Tyson

GHD Form SP-09 – Revision 02 – August 8, 2017

Inst. Control #'s
w/ Meter NF07581
Turbo NF05041
Khalid NF07597

Dear Sir,

1500

* Trouble with cond. readings meter malfunction. Well historically stabilizes in 30 to 60 minutes of purging. Will purge well for 1 hr. if all other parameters are stable well will be sampled.

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

Project Name: NL-Industries Date: 7/18/19 CofC # 58968

Ref. No.: 11199639-01 Personnel: D. Tyson

Monitoring Well Data: Well No.: MW-104

Vapour PID (ppm): _____

Measurement Point: _____

Constructed Well Depth (m/ft): _____

Measured Well Depth (m/ft): 26.45

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): 5.75

Time	Pumping Rate (mL/min)	Depth to Water (m/ft)	Drawdown from Initial Water Level ⁽³⁾ (m/ft)	Temperature °C ±3 %	Conductivity (mS/cm) ±0.005 or 0.01 ⁽⁶⁾	Turbidity NTU ±10 %	DO (mg/L) ±10 %	pH ±0.1 Units	ORP (mV) ±10 mV	Volume Purged, V _p (L)	No. of Well Screen Volumes Purged ⁽⁴⁾
0957		7.06	1.21	18.4	194	6.73	0.00	8.08	98		
1002				18.5	*	2.30	0.00	8.05	90		
1007	76	7.92	2.17	18.3		1.71	0.00	8.04	76		
1012		8.39	2.64	17.6		1.17	0.00	8.04	69		
1017	80	9.28	3.53	16.5		1.87	0.00	8.05	62		
1022				17.6		1.25	0.00	8.03	52		
1027		9.81	4.06	18.1		1.16	0.00	8.05	43		
1032	71			19.2		0.88	0.00	8.05	28		
1037		10.21	4.46	19.9		0.74	0.00	8.06	11		
1042	95			17.5		1.85	0.00	8.08	-18		
1047		11.07	5.32	18.6		1.08	0.00	8.06	-23		
1052				18.8		0.70	0.00	8.07	-31		

Sample ID: WG-11199639-071819-DT-003 Sample Time: 1055

- 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 (L). For metric units, $V_s = \pi r^2 L$ in mL, where r (r=D/2) and L are in cm.
 - 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 500 mL/min.
 - Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing). No. of Well Screen Volumes Purged= V_p/V_s .
 - 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.

Inst. Control #5
Turb NFO5041
Turb NFO7597
W/L Meter NFO7581

David Tyson

St. John River 0950

Project Name: NL INDUSTRIES
Ref. No.: 1199039.01

718119

71819

589688
CofC #

Monitoring Well Data:

Well No.:	MW-102
Vapour PID (ppm):	
Measurement Point:	
Constructed Well Depth (m/ft):	24.50
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]

Sample ID: WG-1199639-071819-SG-004
WG-1199639-071819-SG-006
 Notes:

Sample Time:

W
E
E
E

WG-1199631-011819-26

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

The well screen volume will be based on a 102 mm diameter screen. The well screen volume will be based on a 102 mm diameter screen.

For Imperial units, $V_s = \pi^*(r^2)*L*(2.54)^3$, where r and L are in inches. The pumping rate should not exceed 500 mL/min.

The drawdown from the initial water level should not exceed 0.1 m (0.3 ft). The pumping rate should not exceed 300 m³/min.

and appears to be clearing, of useless stabilization parameters (stabilizing) No of Well Screen Volumes Purged= V_p/V_s .

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

1000

151 NFO7610

$$\frac{1}{2} = \frac{1}{2}$$

05072

START PURGE @ 1036

Daddy

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

6/18/12

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)⁽¹⁾:
 Well Diameter, D (cm/in):
 Well Screen Volume, V_s (L)⁽²⁾:
 Initial Depth to Water (m/ft):

[illegible]

WG-1199639-071819.DT-007

Sample Time:

032

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.

- (1) The pump intake will be placed at the well screen mid-point or at a minimum of 0.3 m (12 in) above the water level.
- (2) The well screen volume will be based on a 1.52 metres (5-foot) screen length (L). For metric units, $V_s = \pi(r^2)L$ in mL, where r ($=D/2$) and L are in cm.
- (3) For Imperial units, $V_s = \pi(r^2)L * (2.54)^3$, where r and L are in inches
- (4) The drawdown from the initial water level should not exceed 0.1 m (0.3 ft). The pumping rate should not exceed 500 mL/min.
- (5) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing), No. of Well Screen Volumes Purged = V_p/V_s .
- 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.

Dear Sister

Start Page 1141

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

Project Data:

Project Name: NL INDUSTRIES
Ref. No.: 11199639-01

Date: 7/18/19
Personnel: SG

CofC # 58968

Monitoring Well Data:

Well No.: MW-105
Vapour PID (ppm):
Measurement Point:
Constructed Well Depth (m/ft): 24.01
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): 1.55

Time	Pumping Rate (mL/min)	Depth to Water (m/ft)	Drawdown from Initial Water Level ⁽³⁾ (m/ft)	Temperature °C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	ORP (mV)	Volume Purged, V _p (L)	No. of Well Screen Volumes Purged ⁽⁴⁾
			Precision Required ⁽⁵⁾ :	±3 %	±0.005 or 0.01 ⁽⁶⁾	±10 %	±0.1 Units	±10 mV			
1315	100	8.34	0.79	16.3	1.01	63.3	0.69	4.68	230.8		
1320		8.58	1.03	15.1	1.00	19.5	0.48	7.68	66.8		
1325	100	8.78	1.23	15.5	1.00	24.2	6.15	7.25	80.9		
1330		8.88	1.33	14.4	0.98	53.5	0.11	6.12	85.9		
1335		8.95	1.40	15.0	0.99	23.8	0.06	7.86	27.2		
1340	98	9.00	1.45	14.7	0.98	16.7	0.03	7.86	13.2		
1345		9.05	1.50	14.8	0.97	7.53	0.01	7.83	-9.5		
1350	98	9.08	1.53	14.9	0.98	4.73	0.00	7.87	-30.5		
1355		9.10	1.55	14.9	0.97	4.34	0.00	7.90	-33.7		
1400		9.11	1.56	15.0	0.96	3.96	0.00	7.90	-36.3		

Sample ID: WG 11199639-071819-SG-008

Sample Time: 1405

Notes:

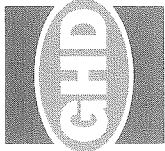
- (1) The pump intake will be placed at the well screen mid-point or at a minimum of 0.6 m (2 ft) above any sediment accumulated at the well bottom.
- (2) The well screen volume will be based on a 1.52 metres (5-foot) screen length (L). For metric units, $V_s = \pi r^2 L$ in mL, where r (r=D/2) and L are in cm.
For Imperial units, $V_s = \pi r^2 L (2.54)^3$, where r 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 500 mL/min.
- (4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid W/L METER - NFO0118 and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing). No. of Well Screen Volumes Purged = V_p/V_s .
- (5) 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.

INST CONTROL #8

YSI-NFO7610

TURB-NFO5040

START PURGE @ 1307



CHAIN OF CUSTODY RECORD

COC NO.: SPS 3
Address: NF Office PAGE 1 OF 1
Phone: Fax:

Project No/Phase/Task Code: <u>1199639-01</u>		Laboratory Name: <u>Test America</u>		Lab Location: <u>North Carolina</u>		SSOW ID: <u> </u>	
Project Name: <u>AF-Industries</u>		Lab Contact: <u>Dan S. Graham</u>		Carrier: <u>Fed Ex</u>		Cooler No: <u> </u>	
Project Location: <u>Wilson Ave</u>		SAMPLE TYPE		ANALYSIS REQUESTED (See Back of COC for Definitions)		Airbill No: <u> </u>	
GHD Chemistry Contact: <u>Kathy Wilk</u>		(see back of COC)		Grab (g) or Comp (c)		Total Containers/sample	
Sampler(s): <u>D. S. Graham</u>		Matrix Code		Filtered (Y/N)		MS/MSD Request	
DATE (mm/dd/yy)		TIME (hh:mm)		Total # of Containers:		COMMENTS/ SPECIAL INSTRUCTIONS:	
PRESERVATION - (SEE BACK OF COC FOR ABBREVIATIONS)							
Item	SAMPLE IDENTIFICATION (Containers for each sample may be combined on one line)		DATE	TIME			
1	TG 1199639-071819-DT		7-18-19	11:15	2		
2	WG 1199639-071819-DT-001		7-18-19	11:15	6		
3	WG 1199639-071819-SG-002		7-18-19	11:15	6		
4	WG 1199639-071819-DT-003		7-18-19	11:15	6		
5	WG 1199639-071819-SG-004		7-18-19	11:15	6		
6	WG 1199639-071819-DT-007		7-18-19	11:15	6		
7	EB 1199639-071819-DT-005		7-18-19	11:15	6		
8	WG 1199639-071819-SG-006		7-18-19	11:15	6		
9	WG 1199639-071819-SG-008		7-18-19	11:15	6		
10							
11							
12							

Notes/ Special Requirements:

TAT Required in business days (use separate COCs for different TATs):
☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 1 Week ☒ 2 Week ☐ Other:

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME
1. <u>Dan S. Graham</u>	<u>GHD</u>	<u>7/18/19</u>	<u>1600</u>				
2.							
3.							

Distribution: WHITE - Fully Executed Copy (CRA) YELLOW - Receiving Laboratory Copy PINK - Shipper GOLDENROD - Sampling Crew

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

GHD Form: COC-10B (20110804)

Appendix D

Analytical Data Report

ANALYTICAL REPORT

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-116099-1
Client Project/Site: 11199639, NL Industries

For:
GHD Services Inc.
2055 Niagara Falls Blvd., Suite 3
Niagara Falls, New York 14304

Attn: Kathleen Willy



Authorized for release by:
7/31/2019 7:06:27 AM

Denise Heckler, Project Manager II
(330)966-9477
denise.heckler@testamericainc.com

LINKS

Review your project
results through

TotalAccess

Have a Question?



Visit us at:

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	5
Sample Summary	6
Detection Summary	7
Client Sample Results	10
Surrogate Summary	39
QC Sample Results	40
QC Association Summary	48
Lab Chronicle	50
Certification Summary	53
Chain of Custody	54



Definitions/Glossary

Client: GHD Services Inc.
Project/Site: 11199639, NL Industries

Job ID: 240-116099-1

Qualifiers

GC/MS VOA

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

GC/MS Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Metals

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

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	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
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 (Radiochemistry)
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: 11199639, NL Industries

Job ID: 240-116099-1

Job ID: 240-116099-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

Job Narrative 240-116099-1

Comments

No additional comments.

Receipt

The samples were received on 7/19/2019 9:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.7° C and 3.7° C.

GC/MS VOA

Method(s) 8260C: The continuing calibration verification (CCV) analyzed in batch 240-393412 was outside the method criteria for chloromethane. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

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

GC/MS Semi VOA

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 240-393037 recovered above the upper control limit for Di-n-octyl phthalate and 4-Nitrophenol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: WG-11199639-071819-DT-001 (240-116099-2), WG-11199639-071819-SG-002 (240-116099-3), WG-11199639-071819-DT-003 (240-116099-4), WG-11199639-071819-SG-004 (240-116099-5), WG-11199639-071819-DT-007 (240-116099-6) and (240-116196-AB-3-A).

Method(s) 8270D: The method blank for preparation batch 240-392792 contained Acetophenone above the reporting limit (RL). None of the samples associated with this method blank contained the target compound; therefore, re-extraction and/or re-analysis of samples were not performed.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 240-393280 recovered above the upper control limit for Bis(2-ethylhexyl) phthalate, Butyl benzyl phthalate, Di-n-octyl phthalate and 4-Nitrophenol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: EB-11199639-071819-DT-005 (240-116099-7), WG-11199639-071819-SG-006 (240-116099-8) and WG-11199639-071819-SG-008 (240-116099-9).

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

Metals

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

Method Summary

Client: GHD Services Inc.
Project/Site: 11199639, NL Industries

Job ID: 240-116099-1

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
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CAN
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	TAL CAN
5030C	Purge and Trap	SW846	TAL CAN
7470A	Preparation, Mercury	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 = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Sample Summary

Client: GHD Services Inc.
Project/Site: 11199639, NL Industries

Job ID: 240-116099-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-116099-1	TB-11199639-071819-DT	Water	07/18/19 00:00	07/19/19 09:30	
240-116099-2	WG-11199639-071819-DT-001	Water	07/18/19 09:30	07/19/19 09:30	
240-116099-3	WG-11199639-071819-SG-002	Water	07/18/19 09:30	07/19/19 09:30	
240-116099-4	WG-11199639-071819-DT-003	Water	07/18/19 10:55	07/19/19 09:30	
240-116099-5	WG-11199639-071819-SG-004	Water	07/18/19 11:15	07/19/19 09:30	
240-116099-6	WG-11199639-071819-DT-007	Water	07/18/19 12:30	07/19/19 09:30	
240-116099-7	EB-11199639-071819-DT-005	Water	07/18/19 10:50	07/19/19 09:30	
240-116099-8	WG-11199639-071819-SG-006	Water	07/18/19 11:15	07/19/19 09:30	
240-116099-9	WG-11199639-071819-SG-008	Water	07/18/19 14:05	07/19/19 09:30	

Detection Summary

Client: GHD Services Inc.
Project/Site: 11199639, NL Industries

Job ID: 240-116099-1

Client Sample ID: TB-11199639-071819-DT

Lab Sample ID: 240-116099-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	7.0	J	10	5.4	ug/L	1		8260C	Total/NA

Client Sample ID: WG-11199639-071819-DT-001

Lab Sample ID: 240-116099-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	64		50	34	ug/L	1		6020A	Total Recoverable
Barium	160		5.0	2.2	ug/L	1		6020A	Total Recoverable
Copper	5.5		2.0	1.7	ug/L	1		6020A	Total Recoverable
Iron	110		100	47	ug/L	1		6020A	Total Recoverable
Manganese	42		5.0	2.1	ug/L	1		6020A	Total Recoverable
Lead	4.4		1.0	0.45	ug/L	1		6020A	Total Recoverable
Calcium	89000		1000	580	ug/L	1		6020A	Total Recoverable
Potassium	710	J	1000	220	ug/L	1		6020A	Total Recoverable
Magnesium	97000		1000	200	ug/L	1		6020A	Total Recoverable
Sodium	75000		1000	330	ug/L	1		6020A	Total Recoverable

Client Sample ID: WG-11199639-071819-SG-002

Lab Sample ID: 240-116099-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	6.8		5.0	0.75	ug/L	1		6020A	Total Recoverable
Barium	140		5.0	2.2	ug/L	1		6020A	Total Recoverable
Cobalt	0.38	J	1.0	0.19	ug/L	1		6020A	Total Recoverable
Copper	12		2.0	1.7	ug/L	1		6020A	Total Recoverable
Iron	97	J	100	47	ug/L	1		6020A	Total Recoverable
Manganese	98		5.0	2.1	ug/L	1		6020A	Total Recoverable
Lead	3.1		1.0	0.45	ug/L	1		6020A	Total Recoverable
Zinc	34		20	15	ug/L	1		6020A	Total Recoverable
Calcium	68000		1000	580	ug/L	1		6020A	Total Recoverable
Potassium	2500		1000	220	ug/L	1		6020A	Total Recoverable
Magnesium	86000		1000	200	ug/L	1		6020A	Total Recoverable
Sodium	74000		1000	330	ug/L	1		6020A	Total Recoverable

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Detection Summary

Client: GHD Services Inc.
Project/Site: 11199639, NL Industries

Job ID: 240-116099-1

Client Sample ID: WG-11199639-071819-DT-003

Lab Sample ID: 240-116099-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	9.4		5.0	0.75	ug/L	1		6020A	Total Recoverable
Barium	39		5.0	2.2	ug/L	1		6020A	Total Recoverable
Iron	340		100	47	ug/L	1		6020A	Total Recoverable
Manganese	11		5.0	2.1	ug/L	1		6020A	Total Recoverable
Calcium	79000		1000	580	ug/L	1		6020A	Total Recoverable
Potassium	1900		1000	220	ug/L	1		6020A	Total Recoverable
Magnesium	100000		1000	200	ug/L	1		6020A	Total Recoverable
Sodium	65000		1000	330	ug/L	1		6020A	Total Recoverable

Client Sample ID: WG-11199639-071819-SG-004

Lab Sample ID: 240-116099-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	110		50	34	ug/L	1		6020A	Total Recoverable
Arsenic	1.2	J	5.0	0.75	ug/L	1		6020A	Total Recoverable
Barium	98		5.0	2.2	ug/L	1		6020A	Total Recoverable
Cobalt	2.4		1.0	0.19	ug/L	1		6020A	Total Recoverable
Chromium	1.5	J	2.0	0.98	ug/L	1		6020A	Total Recoverable
Copper	11		2.0	1.7	ug/L	1		6020A	Total Recoverable
Iron	680		100	47	ug/L	1		6020A	Total Recoverable
Manganese	250		5.0	2.1	ug/L	1		6020A	Total Recoverable
Lead	5.2		1.0	0.45	ug/L	1		6020A	Total Recoverable
Zinc	27		20	15	ug/L	1		6020A	Total Recoverable
Calcium	87000		1000	580	ug/L	1		6020A	Total Recoverable
Potassium	2200		1000	220	ug/L	1		6020A	Total Recoverable
Magnesium	100000		1000	200	ug/L	1		6020A	Total Recoverable
Sodium	62000		1000	330	ug/L	1		6020A	Total Recoverable

Client Sample ID: WG-11199639-071819-DT-007

Lab Sample ID: 240-116099-6

No Detections.

Client Sample ID: EB-11199639-071819-DT-005

Lab Sample ID: 240-116099-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	1.1	J	5.0	0.75	ug/L	1		6020A	Total Recoverable

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Detection Summary

Client: GHD Services Inc.
Project/Site: 11199639, NL Industries

Job ID: 240-116099-1

Client Sample ID: EB-11199639-071819-DT-005 (Continued)

Lab Sample ID: 240-116099-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	87		5.0	2.2	ug/L	1		6020A	Total Recoverable
Cobalt	2.1		1.0	0.19	ug/L	1		6020A	Total Recoverable
Iron	480		100	47	ug/L	1		6020A	Total Recoverable
Manganese	240		5.0	2.1	ug/L	1		6020A	Total Recoverable
Calcium	87000		1000	580	ug/L	1		6020A	Total Recoverable
Potassium	2100		1000	220	ug/L	1		6020A	Total Recoverable
Magnesium	100000		1000	200	ug/L	1		6020A	Total Recoverable
Sodium	63000		1000	330	ug/L	1		6020A	Total Recoverable

Client Sample ID: WG-11199639-071819-SG-006

Lab Sample ID: 240-116099-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	3.2	J	5.0	0.75	ug/L	1		6020A	Total Recoverable
Barium	96		5.0	2.2	ug/L	1		6020A	Total Recoverable
Cobalt	0.44	J	1.0	0.19	ug/L	1		6020A	Total Recoverable
Iron	930		100	47	ug/L	1		6020A	Total Recoverable
Manganese	47		5.0	2.1	ug/L	1		6020A	Total Recoverable
Calcium	110000		1000	580	ug/L	1		6020A	Total Recoverable
Potassium	3300		1000	220	ug/L	1		6020A	Total Recoverable
Magnesium	85000		1000	200	ug/L	1		6020A	Total Recoverable
Sodium	140000		1000	330	ug/L	1		6020A	Total Recoverable

Client Sample ID: WG-11199639-071819-SG-008

Lab Sample ID: 240-116099-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	180		5.0	2.2	ug/L	1		6020A	Total Recoverable
Iron	350		100	47	ug/L	1		6020A	Total Recoverable
Manganese	13		5.0	2.1	ug/L	1		6020A	Total Recoverable
Calcium	47000		1000	580	ug/L	1		6020A	Total Recoverable
Potassium	3100		1000	220	ug/L	1		6020A	Total Recoverable
Magnesium	71000		1000	200	ug/L	1		6020A	Total Recoverable
Sodium	71000		1000	330	ug/L	1		6020A	Total Recoverable

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11199639, NL Industries

Job ID: 240-116099-1

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

Client Sample ID: TB-11199639-071819-DT

Date Collected: 07/18/19 00:00

Date Received: 07/19/19 09:30

Lab Sample ID: 240-116099-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.24	ug/L			07/29/19 23:14	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.13	ug/L			07/29/19 23:14	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			07/29/19 23:14	1
1,1,2-Trichloroethane	1.0	U	1.0	0.090	ug/L			07/29/19 23:14	1
1,1-Dichloroethane	1.0	U	1.0	0.17	ug/L			07/29/19 23:14	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			07/29/19 23:14	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.26	ug/L			07/29/19 23:14	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			07/29/19 23:14	1
Ethylene Dibromide	1.0	U	1.0	0.12	ug/L			07/29/19 23:14	1
1,2-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			07/29/19 23:14	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			07/29/19 23:14	1
1,2-Dichloropropane	1.0	U	1.0	0.15	ug/L			07/29/19 23:14	1
1,3-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			07/29/19 23:14	1
1,4-Dichlorobenzene	1.0	U	1.0	0.16	ug/L			07/29/19 23:14	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			07/29/19 23:14	1
2-Hexanone	10	U	10	0.54	ug/L			07/29/19 23:14	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.42	ug/L			07/29/19 23:14	1
Acetone	7.0	J	10	5.4	ug/L			07/29/19 23:14	1
Benzene	1.0	U	1.0	0.13	ug/L			07/29/19 23:14	1
Dichlorobromomethane	1.0	U	1.0	0.17	ug/L			07/29/19 23:14	1
Bromoform	1.0	U	1.0	0.76	ug/L			07/29/19 23:14	1
Bromomethane	1.0	U	1.0	0.42	ug/L			07/29/19 23:14	1
Carbon disulfide	1.0	U	1.0	0.28	ug/L			07/29/19 23:14	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			07/29/19 23:14	1
Chlorobenzene	1.0	U	1.0	0.14	ug/L			07/29/19 23:14	1
Chloroethane	1.0	U	1.0	0.83	ug/L			07/29/19 23:14	1
Chloroform	1.0	U	1.0	0.13	ug/L			07/29/19 23:14	1
Chloromethane	1.0	U	1.0	0.20	ug/L			07/29/19 23:14	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			07/29/19 23:14	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			07/29/19 23:14	1
Cyclohexane	1.0	U	1.0	0.24	ug/L			07/29/19 23:14	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			07/29/19 23:14	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			07/29/19 23:14	1
Ethylbenzene	1.0	U	1.0	0.11	ug/L			07/29/19 23:14	1
Isopropylbenzene	1.0	U	1.0	0.090	ug/L			07/29/19 23:14	1
Methyl acetate	10	U	10	1.7	ug/L			07/29/19 23:14	1
Methyl tert-butyl ether	1.0	U	1.0	0.070	ug/L			07/29/19 23:14	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			07/29/19 23:14	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			07/29/19 23:14	1
Styrene	1.0	U	1.0	0.10	ug/L			07/29/19 23:14	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			07/29/19 23:14	1
Toluene	1.0	U	1.0	0.14	ug/L			07/29/19 23:14	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			07/29/19 23:14	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			07/29/19 23:14	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			07/29/19 23:14	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			07/29/19 23:14	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			07/29/19 23:14	1
Xylenes, Total	2.0	U	2.0	0.15	ug/L			07/29/19 23:14	1

Eurofins TestAmerica, Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11199639, NL Industries

Job ID: 240-116099-1

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	93		70 - 123		07/29/19 23:14	1
Dibromofluoromethane (Surr)	95		75 - 128		07/29/19 23:14	1
4-Bromofluorobenzene (Surr)	95		59 - 120		07/29/19 23:14	1
1,2-Dichloroethane-d4 (Surr)	107		70 - 121		07/29/19 23:14	1

Client Sample ID: WG-11199639-071819-DT-001

Date Collected: 07/18/19 09:30

Date Received: 07/19/19 09:30

Lab Sample ID: 240-116099-2

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.24	ug/L			07/29/19 23:36	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.13	ug/L			07/29/19 23:36	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			07/29/19 23:36	1
1,1,2-Trichloroethane	1.0	U	1.0	0.090	ug/L			07/29/19 23:36	1
1,1-Dichloroethane	1.0	U	1.0	0.17	ug/L			07/29/19 23:36	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			07/29/19 23:36	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.26	ug/L			07/29/19 23:36	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			07/29/19 23:36	1
Ethylene Dibromide	1.0	U	1.0	0.12	ug/L			07/29/19 23:36	1
1,2-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			07/29/19 23:36	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			07/29/19 23:36	1
1,2-Dichloropropane	1.0	U	1.0	0.15	ug/L			07/29/19 23:36	1
1,3-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			07/29/19 23:36	1
1,4-Dichlorobenzene	1.0	U	1.0	0.16	ug/L			07/29/19 23:36	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			07/29/19 23:36	1
2-Hexanone	10	U	10	0.54	ug/L			07/29/19 23:36	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.42	ug/L			07/29/19 23:36	1
Acetone	10	U	10	5.4	ug/L			07/29/19 23:36	1
Benzene	1.0	U	1.0	0.13	ug/L			07/29/19 23:36	1
Dichlorobromomethane	1.0	U	1.0	0.17	ug/L			07/29/19 23:36	1
Bromoform	1.0	U	1.0	0.76	ug/L			07/29/19 23:36	1
Bromomethane	1.0	U	1.0	0.42	ug/L			07/29/19 23:36	1
Carbon disulfide	1.0	U	1.0	0.28	ug/L			07/29/19 23:36	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			07/29/19 23:36	1
Chlorobenzene	1.0	U	1.0	0.14	ug/L			07/29/19 23:36	1
Chloroethane	1.0	U	1.0	0.83	ug/L			07/29/19 23:36	1
Chloroform	1.0	U	1.0	0.13	ug/L			07/29/19 23:36	1
Chloromethane	1.0	U	1.0	0.20	ug/L			07/29/19 23:36	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			07/29/19 23:36	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			07/29/19 23:36	1
Cyclohexane	1.0	U	1.0	0.24	ug/L			07/29/19 23:36	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			07/29/19 23:36	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			07/29/19 23:36	1
Ethylbenzene	1.0	U	1.0	0.11	ug/L			07/29/19 23:36	1
Isopropylbenzene	1.0	U	1.0	0.090	ug/L			07/29/19 23:36	1
Methyl acetate	10	U	10	1.7	ug/L			07/29/19 23:36	1
Methyl tert-butyl ether	1.0	U	1.0	0.070	ug/L			07/29/19 23:36	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			07/29/19 23:36	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			07/29/19 23:36	1
Styrene	1.0	U	1.0	0.10	ug/L			07/29/19 23:36	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			07/29/19 23:36	1
Toluene	1.0	U	1.0	0.14	ug/L			07/29/19 23:36	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			07/29/19 23:36	1

Eurofins TestAmerica, Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11199639, NL Industries

Job ID: 240-116099-1

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

Client Sample ID: WG-11199639-071819-DT-001

Date Collected: 07/18/19 09:30

Date Received: 07/19/19 09:30

Lab Sample ID: 240-116099-2

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			07/29/19 23:36	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			07/29/19 23:36	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			07/29/19 23:36	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			07/29/19 23:36	1
Xylenes, Total	2.0	U	2.0	0.15	ug/L			07/29/19 23:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	96		70 - 123		07/29/19 23:36	1
Dibromofluoromethane (Surr)	95		75 - 128		07/29/19 23:36	1
4-Bromofluorobenzene (Surr)	98		59 - 120		07/29/19 23:36	1
1,2-Dichloroethane-d4 (Surr)	106		70 - 121		07/29/19 23:36	1

Client Sample ID: WG-11199639-071819-SG-002

Date Collected: 07/18/19 09:30

Date Received: 07/19/19 09:30

Lab Sample ID: 240-116099-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.24	ug/L			07/29/19 23:59	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.13	ug/L			07/29/19 23:59	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			07/29/19 23:59	1
1,1,2-Trichloroethane	1.0	U	1.0	0.090	ug/L			07/29/19 23:59	1
1,1-Dichloroethane	1.0	U	1.0	0.17	ug/L			07/29/19 23:59	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			07/29/19 23:59	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.26	ug/L			07/29/19 23:59	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			07/29/19 23:59	1
Ethylene Dibromide	1.0	U	1.0	0.12	ug/L			07/29/19 23:59	1
1,2-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			07/29/19 23:59	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			07/29/19 23:59	1
1,2-Dichloropropane	1.0	U	1.0	0.15	ug/L			07/29/19 23:59	1
1,3-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			07/29/19 23:59	1
1,4-Dichlorobenzene	1.0	U	1.0	0.16	ug/L			07/29/19 23:59	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			07/29/19 23:59	1
2-Hexanone	10	U	10	0.54	ug/L			07/29/19 23:59	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.42	ug/L			07/29/19 23:59	1
Acetone	10	U	10	5.4	ug/L			07/29/19 23:59	1
Benzene	1.0	U	1.0	0.13	ug/L			07/29/19 23:59	1
Dichlorobromomethane	1.0	U	1.0	0.17	ug/L			07/29/19 23:59	1
Bromoform	1.0	U	1.0	0.76	ug/L			07/29/19 23:59	1
Bromomethane	1.0	U	1.0	0.42	ug/L			07/29/19 23:59	1
Carbon disulfide	1.0	U	1.0	0.28	ug/L			07/29/19 23:59	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			07/29/19 23:59	1
Chlorobenzene	1.0	U	1.0	0.14	ug/L			07/29/19 23:59	1
Chloroethane	1.0	U	1.0	0.83	ug/L			07/29/19 23:59	1
Chloroform	1.0	U	1.0	0.13	ug/L			07/29/19 23:59	1
Chloromethane	1.0	U	1.0	0.20	ug/L			07/29/19 23:59	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			07/29/19 23:59	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			07/29/19 23:59	1
Cyclohexane	1.0	U	1.0	0.24	ug/L			07/29/19 23:59	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			07/29/19 23:59	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			07/29/19 23:59	1
Ethylbenzene	1.0	U	1.0	0.11	ug/L			07/29/19 23:59	1

Eurofins TestAmerica, Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11199639, NL Industries

Job ID: 240-116099-1

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

Client Sample ID: WG-11199639-071819-SG-002

Date Collected: 07/18/19 09:30

Date Received: 07/19/19 09:30

Lab Sample ID: 240-116099-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropylbenzene	1.0	U	1.0	0.090	ug/L			07/29/19 23:59	1
Methyl acetate	10	U	10	1.7	ug/L			07/29/19 23:59	1
Methyl tert-butyl ether	1.0	U	1.0	0.070	ug/L			07/29/19 23:59	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			07/29/19 23:59	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			07/29/19 23:59	1
Styrene	1.0	U	1.0	0.10	ug/L			07/29/19 23:59	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			07/29/19 23:59	1
Toluene	1.0	U	1.0	0.14	ug/L			07/29/19 23:59	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			07/29/19 23:59	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			07/29/19 23:59	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			07/29/19 23:59	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			07/29/19 23:59	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			07/29/19 23:59	1
Xylenes, Total	2.0	U	2.0	0.15	ug/L			07/29/19 23:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	92		70 - 123		07/29/19 23:59	1
Dibromofluoromethane (Surr)	97		75 - 128		07/29/19 23:59	1
4-Bromofluorobenzene (Surr)	94		59 - 120		07/29/19 23:59	1
1,2-Dichloroethane-d4 (Surr)	106		70 - 121		07/29/19 23:59	1

Client Sample ID: WG-11199639-071819-DT-003

Date Collected: 07/18/19 10:55

Date Received: 07/19/19 09:30

Lab Sample ID: 240-116099-4

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.24	ug/L			07/30/19 00:21	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.13	ug/L			07/30/19 00:21	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			07/30/19 00:21	1
1,1,2-Trichloroethane	1.0	U	1.0	0.090	ug/L			07/30/19 00:21	1
1,1-Dichloroethane	1.0	U	1.0	0.17	ug/L			07/30/19 00:21	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			07/30/19 00:21	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.26	ug/L			07/30/19 00:21	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			07/30/19 00:21	1
Ethylene Dibromide	1.0	U	1.0	0.12	ug/L			07/30/19 00:21	1
1,2-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			07/30/19 00:21	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			07/30/19 00:21	1
1,2-Dichloropropane	1.0	U	1.0	0.15	ug/L			07/30/19 00:21	1
1,3-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			07/30/19 00:21	1
1,4-Dichlorobenzene	1.0	U	1.0	0.16	ug/L			07/30/19 00:21	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			07/30/19 00:21	1
2-Hexanone	10	U	10	0.54	ug/L			07/30/19 00:21	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.42	ug/L			07/30/19 00:21	1
Acetone	10	U	10	5.4	ug/L			07/30/19 00:21	1
Benzene	1.0	U	1.0	0.13	ug/L			07/30/19 00:21	1
Dichlorobromomethane	1.0	U	1.0	0.17	ug/L			07/30/19 00:21	1
Bromoform	1.0	U	1.0	0.76	ug/L			07/30/19 00:21	1
Bromomethane	1.0	U	1.0	0.42	ug/L			07/30/19 00:21	1
Carbon disulfide	1.0	U	1.0	0.28	ug/L			07/30/19 00:21	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			07/30/19 00:21	1
Chlorobenzene	1.0	U	1.0	0.14	ug/L			07/30/19 00:21	1

Eurofins TestAmerica, Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11199639, NL Industries

Job ID: 240-116099-1

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

Client Sample ID: WG-11199639-071819-DT-003

Date Collected: 07/18/19 10:55

Date Received: 07/19/19 09:30

Lab Sample ID: 240-116099-4

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroethane	1.0	U	1.0	0.83	ug/L			07/30/19 00:21	1
Chloroform	1.0	U	1.0	0.13	ug/L			07/30/19 00:21	1
Chloromethane	1.0	U	1.0	0.20	ug/L			07/30/19 00:21	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			07/30/19 00:21	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			07/30/19 00:21	1
Cyclohexane	1.0	U	1.0	0.24	ug/L			07/30/19 00:21	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			07/30/19 00:21	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			07/30/19 00:21	1
Ethylbenzene	1.0	U	1.0	0.11	ug/L			07/30/19 00:21	1
Isopropylbenzene	1.0	U	1.0	0.090	ug/L			07/30/19 00:21	1
Methyl acetate	10	U	10	1.7	ug/L			07/30/19 00:21	1
Methyl tert-butyl ether	1.0	U	1.0	0.070	ug/L			07/30/19 00:21	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			07/30/19 00:21	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			07/30/19 00:21	1
Styrene	1.0	U	1.0	0.10	ug/L			07/30/19 00:21	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			07/30/19 00:21	1
Toluene	1.0	U	1.0	0.14	ug/L			07/30/19 00:21	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			07/30/19 00:21	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			07/30/19 00:21	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			07/30/19 00:21	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			07/30/19 00:21	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			07/30/19 00:21	1
Xylenes, Total	2.0	U	2.0	0.15	ug/L			07/30/19 00:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	96		70 - 123		07/30/19 00:21	1
Dibromofluoromethane (Surr)	98		75 - 128		07/30/19 00:21	1
4-Bromofluorobenzene (Surr)	96		59 - 120		07/30/19 00:21	1
1,2-Dichloroethane-d4 (Surr)	110		70 - 121		07/30/19 00:21	1

Client Sample ID: WG-11199639-071819-SG-004

Date Collected: 07/18/19 11:15

Date Received: 07/19/19 09:30

Lab Sample ID: 240-116099-5

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.24	ug/L			07/30/19 00:44	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.13	ug/L			07/30/19 00:44	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			07/30/19 00:44	1
1,1,2-Trichloroethane	1.0	U	1.0	0.090	ug/L			07/30/19 00:44	1
1,1-Dichloroethane	1.0	U	1.0	0.17	ug/L			07/30/19 00:44	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			07/30/19 00:44	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.26	ug/L			07/30/19 00:44	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			07/30/19 00:44	1
Ethylene Dibromide	1.0	U	1.0	0.12	ug/L			07/30/19 00:44	1
1,2-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			07/30/19 00:44	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			07/30/19 00:44	1
1,2-Dichloropropane	1.0	U	1.0	0.15	ug/L			07/30/19 00:44	1
1,3-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			07/30/19 00:44	1
1,4-Dichlorobenzene	1.0	U	1.0	0.16	ug/L			07/30/19 00:44	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			07/30/19 00:44	1
2-Hexanone	10	U	10	0.54	ug/L			07/30/19 00:44	1

Eurofins TestAmerica, Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11199639, NL Industries

Job ID: 240-116099-1

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

Client Sample ID: WG-11199639-071819-SG-004

Date Collected: 07/18/19 11:15

Date Received: 07/19/19 09:30

Lab Sample ID: 240-116099-5

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Methyl-2-pentanone (MIBK)	10	U	10	0.42	ug/L			07/30/19 00:44	1
Acetone	10	U	10	5.4	ug/L			07/30/19 00:44	1
Benzene	1.0	U	1.0	0.13	ug/L			07/30/19 00:44	1
Dichlorobromomethane	1.0	U	1.0	0.17	ug/L			07/30/19 00:44	1
Bromoform	1.0	U	1.0	0.76	ug/L			07/30/19 00:44	1
Bromomethane	1.0	U	1.0	0.42	ug/L			07/30/19 00:44	1
Carbon disulfide	1.0	U	1.0	0.28	ug/L			07/30/19 00:44	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			07/30/19 00:44	1
Chlorobenzene	1.0	U	1.0	0.14	ug/L			07/30/19 00:44	1
Chloroethane	1.0	U	1.0	0.83	ug/L			07/30/19 00:44	1
Chloroform	1.0	U	1.0	0.13	ug/L			07/30/19 00:44	1
Chloromethane	1.0	U	1.0	0.20	ug/L			07/30/19 00:44	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			07/30/19 00:44	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			07/30/19 00:44	1
Cyclohexane	1.0	U	1.0	0.24	ug/L			07/30/19 00:44	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			07/30/19 00:44	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			07/30/19 00:44	1
Ethylbenzene	1.0	U	1.0	0.11	ug/L			07/30/19 00:44	1
Isopropylbenzene	1.0	U	1.0	0.090	ug/L			07/30/19 00:44	1
Methyl acetate	10	U	10	1.7	ug/L			07/30/19 00:44	1
Methyl tert-butyl ether	1.0	U	1.0	0.070	ug/L			07/30/19 00:44	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			07/30/19 00:44	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			07/30/19 00:44	1
Styrene	1.0	U	1.0	0.10	ug/L			07/30/19 00:44	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			07/30/19 00:44	1
Toluene	1.0	U	1.0	0.14	ug/L			07/30/19 00:44	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			07/30/19 00:44	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			07/30/19 00:44	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			07/30/19 00:44	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			07/30/19 00:44	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			07/30/19 00:44	1
Xylenes, Total	2.0	U	2.0	0.15	ug/L			07/30/19 00:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	94		70 - 123		07/30/19 00:44	1
Dibromofluoromethane (Surr)	99		75 - 128		07/30/19 00:44	1
4-Bromofluorobenzene (Surr)	96		59 - 120		07/30/19 00:44	1
1,2-Dichloroethane-d4 (Surr)	111		70 - 121		07/30/19 00:44	1

Client Sample ID: WG-11199639-071819-DT-007

Date Collected: 07/18/19 12:30

Date Received: 07/19/19 09:30

Lab Sample ID: 240-116099-6

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.24	ug/L			07/30/19 01:07	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.13	ug/L			07/30/19 01:07	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			07/30/19 01:07	1
1,1,2-Trichloroethane	1.0	U	1.0	0.090	ug/L			07/30/19 01:07	1
1,1-Dichloroethane	1.0	U	1.0	0.17	ug/L			07/30/19 01:07	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			07/30/19 01:07	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.26	ug/L			07/30/19 01:07	1

Eurofins TestAmerica, Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11199639, NL Industries

Job ID: 240-116099-1

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

Client Sample ID: WG-11199639-071819-DT-007

Date Collected: 07/18/19 12:30

Date Received: 07/19/19 09:30

Lab Sample ID: 240-116099-6

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			07/30/19 01:07	1
Ethylene Dibromide	1.0	U	1.0	0.12	ug/L			07/30/19 01:07	1
1,2-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			07/30/19 01:07	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			07/30/19 01:07	1
1,2-Dichloropropane	1.0	U	1.0	0.15	ug/L			07/30/19 01:07	1
1,3-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			07/30/19 01:07	1
1,4-Dichlorobenzene	1.0	U	1.0	0.16	ug/L			07/30/19 01:07	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			07/30/19 01:07	1
2-Hexanone	10	U	10	0.54	ug/L			07/30/19 01:07	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.42	ug/L			07/30/19 01:07	1
Acetone	10	U	10	5.4	ug/L			07/30/19 01:07	1
Benzene	1.0	U	1.0	0.13	ug/L			07/30/19 01:07	1
Dichlorobromomethane	1.0	U	1.0	0.17	ug/L			07/30/19 01:07	1
Bromoform	1.0	U	1.0	0.76	ug/L			07/30/19 01:07	1
Bromomethane	1.0	U	1.0	0.42	ug/L			07/30/19 01:07	1
Carbon disulfide	1.0	U	1.0	0.28	ug/L			07/30/19 01:07	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			07/30/19 01:07	1
Chlorobenzene	1.0	U	1.0	0.14	ug/L			07/30/19 01:07	1
Chloroethane	1.0	U	1.0	0.83	ug/L			07/30/19 01:07	1
Chloroform	1.0	U	1.0	0.13	ug/L			07/30/19 01:07	1
Chloromethane	1.0	U	1.0	0.20	ug/L			07/30/19 01:07	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			07/30/19 01:07	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			07/30/19 01:07	1
Cyclohexane	1.0	U	1.0	0.24	ug/L			07/30/19 01:07	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			07/30/19 01:07	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			07/30/19 01:07	1
Ethylbenzene	1.0	U	1.0	0.11	ug/L			07/30/19 01:07	1
Isopropylbenzene	1.0	U	1.0	0.090	ug/L			07/30/19 01:07	1
Methyl acetate	10	U	10	1.7	ug/L			07/30/19 01:07	1
Methyl tert-butyl ether	1.0	U	1.0	0.070	ug/L			07/30/19 01:07	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			07/30/19 01:07	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			07/30/19 01:07	1
Styrene	1.0	U	1.0	0.10	ug/L			07/30/19 01:07	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			07/30/19 01:07	1
Toluene	1.0	U	1.0	0.14	ug/L			07/30/19 01:07	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			07/30/19 01:07	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			07/30/19 01:07	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			07/30/19 01:07	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			07/30/19 01:07	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			07/30/19 01:07	1
Xylenes, Total	2.0	U	2.0	0.15	ug/L			07/30/19 01:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	93		70 - 123		07/30/19 01:07	1
Dibromofluoromethane (Surr)	96		75 - 128		07/30/19 01:07	1
4-Bromofluorobenzene (Surr)	93		59 - 120		07/30/19 01:07	1
1,2-Dichloroethane-d4 (Surr)	105		70 - 121		07/30/19 01:07	1

Eurofins TestAmerica, Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11199639, NL Industries

Job ID: 240-116099-1

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

Client Sample ID: EB-11199639-071819-DT-005

Date Collected: 07/18/19 10:50

Date Received: 07/19/19 09:30

Lab Sample ID: 240-116099-7

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.24	ug/L			07/30/19 01:29	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.13	ug/L			07/30/19 01:29	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			07/30/19 01:29	1
1,1,2-Trichloroethane	1.0	U	1.0	0.090	ug/L			07/30/19 01:29	1
1,1-Dichloroethane	1.0	U	1.0	0.17	ug/L			07/30/19 01:29	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			07/30/19 01:29	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.26	ug/L			07/30/19 01:29	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			07/30/19 01:29	1
Ethylene Dibromide	1.0	U	1.0	0.12	ug/L			07/30/19 01:29	1
1,2-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			07/30/19 01:29	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			07/30/19 01:29	1
1,2-Dichloropropane	1.0	U	1.0	0.15	ug/L			07/30/19 01:29	1
1,3-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			07/30/19 01:29	1
1,4-Dichlorobenzene	1.0	U	1.0	0.16	ug/L			07/30/19 01:29	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			07/30/19 01:29	1
2-Hexanone	10	U	10	0.54	ug/L			07/30/19 01:29	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.42	ug/L			07/30/19 01:29	1
Acetone	10	U	10	5.4	ug/L			07/30/19 01:29	1
Benzene	1.0	U	1.0	0.13	ug/L			07/30/19 01:29	1
Dichlorobromomethane	1.0	U	1.0	0.17	ug/L			07/30/19 01:29	1
Bromoform	1.0	U	1.0	0.76	ug/L			07/30/19 01:29	1
Bromomethane	1.0	U	1.0	0.42	ug/L			07/30/19 01:29	1
Carbon disulfide	1.0	U	1.0	0.28	ug/L			07/30/19 01:29	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			07/30/19 01:29	1
Chlorobenzene	1.0	U	1.0	0.14	ug/L			07/30/19 01:29	1
Chloroethane	1.0	U	1.0	0.83	ug/L			07/30/19 01:29	1
Chloroform	1.0	U	1.0	0.13	ug/L			07/30/19 01:29	1
Chloromethane	1.0	U	1.0	0.20	ug/L			07/30/19 01:29	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			07/30/19 01:29	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			07/30/19 01:29	1
Cyclohexane	1.0	U	1.0	0.24	ug/L			07/30/19 01:29	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			07/30/19 01:29	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			07/30/19 01:29	1
Ethylbenzene	1.0	U	1.0	0.11	ug/L			07/30/19 01:29	1
Isopropylbenzene	1.0	U	1.0	0.090	ug/L			07/30/19 01:29	1
Methyl acetate	10	U	10	1.7	ug/L			07/30/19 01:29	1
Methyl tert-butyl ether	1.0	U	1.0	0.070	ug/L			07/30/19 01:29	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			07/30/19 01:29	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			07/30/19 01:29	1
Styrene	1.0	U	1.0	0.10	ug/L			07/30/19 01:29	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			07/30/19 01:29	1
Toluene	1.0	U	1.0	0.14	ug/L			07/30/19 01:29	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			07/30/19 01:29	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			07/30/19 01:29	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			07/30/19 01:29	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			07/30/19 01:29	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			07/30/19 01:29	1
Xylenes, Total	2.0	U	2.0	0.15	ug/L			07/30/19 01:29	1

Eurofins TestAmerica, Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11199639, NL Industries

Job ID: 240-116099-1

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	92		70 - 123		07/30/19 01:29	1
Dibromofluoromethane (Surr)	94		75 - 128		07/30/19 01:29	1
4-Bromofluorobenzene (Surr)	93		59 - 120		07/30/19 01:29	1
1,2-Dichloroethane-d4 (Surr)	104		70 - 121		07/30/19 01:29	1

Client Sample ID: WG-11199639-071819-SG-006

Date Collected: 07/18/19 11:15

Date Received: 07/19/19 09:30

Lab Sample ID: 240-116099-8

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.24	ug/L			07/30/19 01:52	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.13	ug/L			07/30/19 01:52	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			07/30/19 01:52	1
1,1,2-Trichloroethane	1.0	U	1.0	0.090	ug/L			07/30/19 01:52	1
1,1-Dichloroethane	1.0	U	1.0	0.17	ug/L			07/30/19 01:52	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			07/30/19 01:52	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.26	ug/L			07/30/19 01:52	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			07/30/19 01:52	1
Ethylene Dibromide	1.0	U	1.0	0.12	ug/L			07/30/19 01:52	1
1,2-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			07/30/19 01:52	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			07/30/19 01:52	1
1,2-Dichloropropane	1.0	U	1.0	0.15	ug/L			07/30/19 01:52	1
1,3-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			07/30/19 01:52	1
1,4-Dichlorobenzene	1.0	U	1.0	0.16	ug/L			07/30/19 01:52	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			07/30/19 01:52	1
2-Hexanone	10	U	10	0.54	ug/L			07/30/19 01:52	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.42	ug/L			07/30/19 01:52	1
Acetone	10	U	10	5.4	ug/L			07/30/19 01:52	1
Benzene	1.0	U	1.0	0.13	ug/L			07/30/19 01:52	1
Dichlorobromomethane	1.0	U	1.0	0.17	ug/L			07/30/19 01:52	1
Bromoform	1.0	U	1.0	0.76	ug/L			07/30/19 01:52	1
Bromomethane	1.0	U	1.0	0.42	ug/L			07/30/19 01:52	1
Carbon disulfide	1.0	U	1.0	0.28	ug/L			07/30/19 01:52	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			07/30/19 01:52	1
Chlorobenzene	1.0	U	1.0	0.14	ug/L			07/30/19 01:52	1
Chloroethane	1.0	U	1.0	0.83	ug/L			07/30/19 01:52	1
Chloroform	1.0	U	1.0	0.13	ug/L			07/30/19 01:52	1
Chloromethane	1.0	U	1.0	0.20	ug/L			07/30/19 01:52	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			07/30/19 01:52	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			07/30/19 01:52	1
Cyclohexane	1.0	U	1.0	0.24	ug/L			07/30/19 01:52	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			07/30/19 01:52	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			07/30/19 01:52	1
Ethylbenzene	1.0	U	1.0	0.11	ug/L			07/30/19 01:52	1
Isopropylbenzene	1.0	U	1.0	0.090	ug/L			07/30/19 01:52	1
Methyl acetate	10	U	10	1.7	ug/L			07/30/19 01:52	1
Methyl tert-butyl ether	1.0	U	1.0	0.070	ug/L			07/30/19 01:52	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			07/30/19 01:52	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			07/30/19 01:52	1
Styrene	1.0	U	1.0	0.10	ug/L			07/30/19 01:52	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			07/30/19 01:52	1
Toluene	1.0	U	1.0	0.14	ug/L			07/30/19 01:52	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			07/30/19 01:52	1

Eurofins TestAmerica, Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11199639, NL Industries

Job ID: 240-116099-1

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

Client Sample ID: WG-11199639-071819-SG-006

Date Collected: 07/18/19 11:15

Date Received: 07/19/19 09:30

Lab Sample ID: 240-116099-8

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			07/30/19 01:52	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			07/30/19 01:52	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			07/30/19 01:52	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			07/30/19 01:52	1
Xylenes, Total	2.0	U	2.0	0.15	ug/L			07/30/19 01:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	93		70 - 123		07/30/19 01:52	1
Dibromofluoromethane (Surr)	94		75 - 128		07/30/19 01:52	1
4-Bromofluorobenzene (Surr)	95		59 - 120		07/30/19 01:52	1
1,2-Dichloroethane-d4 (Surr)	107		70 - 121		07/30/19 01:52	1

Client Sample ID: WG-11199639-071819-SG-008

Date Collected: 07/18/19 14:05

Date Received: 07/19/19 09:30

Lab Sample ID: 240-116099-9

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.24	ug/L			07/30/19 02:15	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.13	ug/L			07/30/19 02:15	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			07/30/19 02:15	1
1,1,2-Trichloroethane	1.0	U	1.0	0.090	ug/L			07/30/19 02:15	1
1,1-Dichloroethane	1.0	U	1.0	0.17	ug/L			07/30/19 02:15	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			07/30/19 02:15	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.26	ug/L			07/30/19 02:15	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			07/30/19 02:15	1
Ethylene Dibromide	1.0	U	1.0	0.12	ug/L			07/30/19 02:15	1
1,2-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			07/30/19 02:15	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			07/30/19 02:15	1
1,2-Dichloropropane	1.0	U	1.0	0.15	ug/L			07/30/19 02:15	1
1,3-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			07/30/19 02:15	1
1,4-Dichlorobenzene	1.0	U	1.0	0.16	ug/L			07/30/19 02:15	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			07/30/19 02:15	1
2-Hexanone	10	U	10	0.54	ug/L			07/30/19 02:15	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.42	ug/L			07/30/19 02:15	1
Acetone	10	U	10	5.4	ug/L			07/30/19 02:15	1
Benzene	1.0	U	1.0	0.13	ug/L			07/30/19 02:15	1
Dichlorobromomethane	1.0	U	1.0	0.17	ug/L			07/30/19 02:15	1
Bromoform	1.0	U	1.0	0.76	ug/L			07/30/19 02:15	1
Bromomethane	1.0	U	1.0	0.42	ug/L			07/30/19 02:15	1
Carbon disulfide	1.0	U	1.0	0.28	ug/L			07/30/19 02:15	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			07/30/19 02:15	1
Chlorobenzene	1.0	U	1.0	0.14	ug/L			07/30/19 02:15	1
Chloroethane	1.0	U	1.0	0.83	ug/L			07/30/19 02:15	1
Chloroform	1.0	U	1.0	0.13	ug/L			07/30/19 02:15	1
Chloromethane	1.0	U	1.0	0.20	ug/L			07/30/19 02:15	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			07/30/19 02:15	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			07/30/19 02:15	1
Cyclohexane	1.0	U	1.0	0.24	ug/L			07/30/19 02:15	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			07/30/19 02:15	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			07/30/19 02:15	1
Ethylbenzene	1.0	U	1.0	0.11	ug/L			07/30/19 02:15	1

Eurofins TestAmerica, Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11199639, NL Industries

Job ID: 240-116099-1

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

Client Sample ID: WG-11199639-071819-SG-008

Date Collected: 07/18/19 14:05

Date Received: 07/19/19 09:30

Lab Sample ID: 240-116099-9

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropylbenzene	1.0	U	1.0	0.090	ug/L			07/30/19 02:15	1
Methyl acetate	10	U	10	1.7	ug/L			07/30/19 02:15	1
Methyl tert-butyl ether	1.0	U	1.0	0.070	ug/L			07/30/19 02:15	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			07/30/19 02:15	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			07/30/19 02:15	1
Styrene	1.0	U	1.0	0.10	ug/L			07/30/19 02:15	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			07/30/19 02:15	1
Toluene	1.0	U	1.0	0.14	ug/L			07/30/19 02:15	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			07/30/19 02:15	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			07/30/19 02:15	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			07/30/19 02:15	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			07/30/19 02:15	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			07/30/19 02:15	1
Xylenes, Total	2.0	U	2.0	0.15	ug/L			07/30/19 02:15	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	94		70 - 123					07/30/19 02:15	1
Dibromofluoromethane (Surr)	96		75 - 128					07/30/19 02:15	1
4-Bromofluorobenzene (Surr)	96		59 - 120					07/30/19 02:15	1
1,2-Dichloroethane-d4 (Surr)	107		70 - 121					07/30/19 02:15	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11199639, NL Industries

Job ID: 240-116099-1

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

Client Sample ID: WG-11199639-071819-DT-001

Date Collected: 07/18/19 09:30

Date Received: 07/19/19 09:30

Lab Sample ID: 240-116099-2

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	0.95	U	0.95	0.47	ug/L		07/24/19 18:03	07/26/19 17:33	1
2,4,6-Trichlorophenol	4.8	U	4.8	1.7	ug/L		07/24/19 18:03	07/26/19 17:33	1
2,4,5-Trichlorophenol	4.8	U	4.8	1.9	ug/L		07/24/19 18:03	07/26/19 17:33	1
2,4-Dichlorophenol	1.9	U	1.9	0.25	ug/L		07/24/19 18:03	07/26/19 17:33	1
2,4-Dimethylphenol	1.9	U	1.9	0.49	ug/L		07/24/19 18:03	07/26/19 17:33	1
2,4-Dinitrophenol	9.5	U	9.5	5.9	ug/L		07/24/19 18:03	07/26/19 17:33	1
2,4-Dinitrotoluene	4.8	U	4.8	2.0	ug/L		07/24/19 18:03	07/26/19 17:33	1
2-Chloronaphthalene	0.95	U	0.95	0.46	ug/L		07/24/19 18:03	07/26/19 17:33	1
2-Chlorophenol	0.95	U	0.95	0.26	ug/L		07/24/19 18:03	07/26/19 17:33	1
2-Methylnaphthalene	0.19	U	0.19	0.11	ug/L		07/24/19 18:03	07/26/19 17:33	1
2-Methylphenol	0.95	U	0.95	0.20	ug/L		07/24/19 18:03	07/26/19 17:33	1
2-Nitroaniline	1.9	U	1.9	0.49	ug/L		07/24/19 18:03	07/26/19 17:33	1
2-Nitrophenol	1.9	U	1.9	0.54	ug/L		07/24/19 18:03	07/26/19 17:33	1
3 & 4 Methylphenol	1.9	U	1.9	0.18	ug/L		07/24/19 18:03	07/26/19 17:33	1
3,3'-Dichlorobenzidine	4.8	U	4.8	1.1	ug/L		07/24/19 18:03	07/26/19 17:33	1
3-Nitroaniline	1.9	U	1.9	0.54	ug/L		07/24/19 18:03	07/26/19 17:33	1
4,6-Dinitro-2-methylphenol	4.8	U	4.8	2.7	ug/L		07/24/19 18:03	07/26/19 17:33	1
4-Bromophenyl phenyl ether	1.9	U	1.9	0.48	ug/L		07/24/19 18:03	07/26/19 17:33	1
4-Chloro-3-methylphenol	1.9	U	1.9	0.28	ug/L		07/24/19 18:03	07/26/19 17:33	1
4-Chloroaniline	1.9	U	1.9	0.30	ug/L		07/24/19 18:03	07/26/19 17:33	1
4-Chlorophenyl phenyl ether	1.9	U	1.9	0.52	ug/L		07/24/19 18:03	07/26/19 17:33	1
4-Nitroaniline	1.9	U	1.9	0.87	ug/L		07/24/19 18:03	07/26/19 17:33	1
Acenaphthene	0.19	U	0.19	0.16	ug/L		07/24/19 18:03	07/26/19 17:33	1
Acenaphthylene	0.19	U	0.19	0.12	ug/L		07/24/19 18:03	07/26/19 17:33	1
Acetophenone	0.95	U	0.95	0.35	ug/L		07/24/19 18:03	07/26/19 17:33	1
Anthracene	0.19	U	0.19	0.13	ug/L		07/24/19 18:03	07/26/19 17:33	1
Atrazine	1.9	U	1.9	0.91	ug/L		07/24/19 18:03	07/26/19 17:33	1
Benzaldehyde	1.9	U	1.9	0.72	ug/L		07/24/19 18:03	07/26/19 17:33	1
Benzo[a]anthracene	0.19	U	0.19	0.16	ug/L		07/24/19 18:03	07/26/19 17:33	1
Benzo[a]pyrene	0.19	U	0.19	0.16	ug/L		07/24/19 18:03	07/26/19 17:33	1
Benzo[b]fluoranthene	0.19	U	0.19	0.15	ug/L		07/24/19 18:03	07/26/19 17:33	1
Benzo[g,h,i]perylene	0.19	U	0.19	0.17	ug/L		07/24/19 18:03	07/26/19 17:33	1
Benzo[k]fluoranthene	0.19	U	0.19	0.13	ug/L		07/24/19 18:03	07/26/19 17:33	1
Bis(2-chloroethoxy)methane	0.95	U	0.95	0.43	ug/L		07/24/19 18:03	07/26/19 17:33	1
Bis(2-chloroethyl)ether	0.95	U	0.95	0.38	ug/L		07/24/19 18:03	07/26/19 17:33	1
Bis(2-ethylhexyl) phthalate	4.8	U	4.8	2.1	ug/L		07/24/19 18:03	07/26/19 17:33	1
Butyl benzyl phthalate	1.9	U	1.9	0.63	ug/L		07/24/19 18:03	07/26/19 17:33	1
Caprolactam	4.8	U	4.8	0.89	ug/L		07/24/19 18:03	07/26/19 17:33	1
Carbazole	0.95	U	0.95	0.47	ug/L		07/24/19 18:03	07/26/19 17:33	1
Chrysene	0.19	U	0.19	0.18	ug/L		07/24/19 18:03	07/26/19 17:33	1
Di-n-butyl phthalate	4.8	U	4.8	1.7	ug/L		07/24/19 18:03	07/26/19 17:33	1
Di-n-octyl phthalate	1.9	U	1.9	0.78	ug/L		07/24/19 18:03	07/26/19 17:33	1
Dibenz(a,h)anthracene	0.19	U	0.19	0.14	ug/L		07/24/19 18:03	07/26/19 17:33	1
Dibenzofuran	0.95	U	0.95	0.53	ug/L		07/24/19 18:03	07/26/19 17:33	1
Diethyl phthalate	4.8	U	4.8	3.6	ug/L		07/24/19 18:03	07/26/19 17:33	1
Dimethyl phthalate	1.9	U	1.9	0.49	ug/L		07/24/19 18:03	07/26/19 17:33	1
Fluoranthene	0.19	U	0.19	0.15	ug/L		07/24/19 18:03	07/26/19 17:33	1
Fluorene	0.19	U	0.19	0.16	ug/L		07/24/19 18:03	07/26/19 17:33	1
Hexachlorobenzene	0.19	U	0.19	0.15	ug/L		07/24/19 18:03	07/26/19 17:33	1

Eurofins TestAmerica, Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11199639, NL Industries

Job ID: 240-116099-1

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

Client Sample ID: WG-11199639-071819-DT-001

Date Collected: 07/18/19 09:30

Date Received: 07/19/19 09:30

Lab Sample ID: 240-116099-2

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobutadiene	0.95	U	0.95	0.52	ug/L		07/24/19 18:03	07/26/19 17:33	1
Hexachlorocyclopentadiene	9.5	U	9.5	1.7	ug/L		07/24/19 18:03	07/26/19 17:33	1
Hexachloroethane	0.95	U	0.95	0.38	ug/L		07/24/19 18:03	07/26/19 17:33	1
Indeno[1,2,3-cd]pyrene	0.19	U	0.19	0.13	ug/L		07/24/19 18:03	07/26/19 17:33	1
Isophorone	0.95	U	0.95	0.31	ug/L		07/24/19 18:03	07/26/19 17:33	1
N-Nitrosodi-n-propylamine	0.95	U	0.95	0.24	ug/L		07/24/19 18:03	07/26/19 17:33	1
N-Nitrosodiphenylamine	0.95	U	0.95	0.42	ug/L		07/24/19 18:03	07/26/19 17:33	1
Naphthalene	0.19	U	0.19	0.10	ug/L		07/24/19 18:03	07/26/19 17:33	1
Nitrobenzene	0.95	U	0.95	0.49	ug/L		07/24/19 18:03	07/26/19 17:33	1
Pentachlorophenol	9.5	U	9.5	3.0	ug/L		07/24/19 18:03	07/26/19 17:33	1
Phenanthrene	0.19	U	0.19	0.16	ug/L		07/24/19 18:03	07/26/19 17:33	1
Phenol	0.95	U	0.95	0.12	ug/L		07/24/19 18:03	07/26/19 17:33	1
Pyrene	0.19	U	0.19	0.17	ug/L		07/24/19 18:03	07/26/19 17:33	1
bis (2-chloroisopropyl) ether	0.95	U	0.95	0.52	ug/L		07/24/19 18:03	07/26/19 17:33	1
2,6-Dinitrotoluene	4.8	U	4.8	2.0	ug/L		07/24/19 18:03	07/26/19 17:33	1
4-Nitrophenol	9.5	U	9.5	2.1	ug/L		07/24/19 18:03	07/26/19 17:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14 (Surr)	81		23 - 127	07/24/19 18:03	07/26/19 17:33	1
Phenol-d5 (Surr)	22		10 - 120	07/24/19 18:03	07/26/19 17:33	1
Nitrobenzene-d5 (Surr)	65		32 - 120	07/24/19 18:03	07/26/19 17:33	1
2-Fluorophenol (Surr)	35		10 - 120	07/24/19 18:03	07/26/19 17:33	1
2-Fluorobiphenyl (Surr)	66		38 - 120	07/24/19 18:03	07/26/19 17:33	1
2,4,6-Tribromophenol (Surr)	75		28 - 120	07/24/19 18:03	07/26/19 17:33	1

Client Sample ID: WG-11199639-071819-SG-002

Date Collected: 07/18/19 09:30

Date Received: 07/19/19 09:30

Lab Sample ID: 240-116099-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	0.95	U	0.95	0.47	ug/L		07/24/19 18:03	07/26/19 17:56	1
2,4,6-Trichlorophenol	4.8	U	4.8	1.7	ug/L		07/24/19 18:03	07/26/19 17:56	1
2,4,5-Trichlorophenol	4.8	U	4.8	1.9	ug/L		07/24/19 18:03	07/26/19 17:56	1
2,4-Dichlorophenol	1.9	U	1.9	0.25	ug/L		07/24/19 18:03	07/26/19 17:56	1
2,4-Dimethylphenol	1.9	U	1.9	0.49	ug/L		07/24/19 18:03	07/26/19 17:56	1
2,4-Dinitrophenol	9.5	U	9.5	5.9	ug/L		07/24/19 18:03	07/26/19 17:56	1
2,4-Dinitrotoluene	4.8	U	4.8	2.0	ug/L		07/24/19 18:03	07/26/19 17:56	1
2-Chloronaphthalene	0.95	U	0.95	0.46	ug/L		07/24/19 18:03	07/26/19 17:56	1
2-Chlorophenol	0.95	U	0.95	0.26	ug/L		07/24/19 18:03	07/26/19 17:56	1
2-Methylnaphthalene	0.19	U	0.19	0.11	ug/L		07/24/19 18:03	07/26/19 17:56	1
2-Methylphenol	0.95	U	0.95	0.20	ug/L		07/24/19 18:03	07/26/19 17:56	1
2-Nitroaniline	1.9	U	1.9	0.49	ug/L		07/24/19 18:03	07/26/19 17:56	1
2-Nitrophenol	1.9	U	1.9	0.54	ug/L		07/24/19 18:03	07/26/19 17:56	1
3 & 4 Methylphenol	1.9	U	1.9	0.18	ug/L		07/24/19 18:03	07/26/19 17:56	1
3,3'-Dichlorobenzidine	4.8	U	4.8	1.1	ug/L		07/24/19 18:03	07/26/19 17:56	1
3-Nitroaniline	1.9	U	1.9	0.54	ug/L		07/24/19 18:03	07/26/19 17:56	1
4,6-Dinitro-2-methylphenol	4.8	U	4.8	2.7	ug/L		07/24/19 18:03	07/26/19 17:56	1
4-Bromophenyl phenyl ether	1.9	U	1.9	0.48	ug/L		07/24/19 18:03	07/26/19 17:56	1
4-Chloro-3-methylphenol	1.9	U	1.9	0.28	ug/L		07/24/19 18:03	07/26/19 17:56	1
4-Chloroaniline	1.9	U	1.9	0.30	ug/L		07/24/19 18:03	07/26/19 17:56	1
4-Chlorophenyl phenyl ether	1.9	U	1.9	0.52	ug/L		07/24/19 18:03	07/26/19 17:56	1

Eurofins TestAmerica, Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11199639, NL Industries

Job ID: 240-116099-1

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

Client Sample ID: WG-11199639-071819-SG-002

Date Collected: 07/18/19 09:30

Date Received: 07/19/19 09:30

Lab Sample ID: 240-116099-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitroaniline	1.9	U	1.9	0.87	ug/L		07/24/19 18:03	07/26/19 17:56	1
Acenaphthene	0.19	U	0.19	0.16	ug/L		07/24/19 18:03	07/26/19 17:56	1
Acenaphthylene	0.19	U	0.19	0.12	ug/L		07/24/19 18:03	07/26/19 17:56	1
Acetophenone	0.95	U	0.95	0.35	ug/L		07/24/19 18:03	07/26/19 17:56	1
Anthracene	0.19	U	0.19	0.13	ug/L		07/24/19 18:03	07/26/19 17:56	1
Atrazine	1.9	U	1.9	0.91	ug/L		07/24/19 18:03	07/26/19 17:56	1
Benzaldehyde	1.9	U	1.9	0.72	ug/L		07/24/19 18:03	07/26/19 17:56	1
Benzo[a]anthracene	0.19	U	0.19	0.16	ug/L		07/24/19 18:03	07/26/19 17:56	1
Benzo[a]pyrene	0.19	U	0.19	0.16	ug/L		07/24/19 18:03	07/26/19 17:56	1
Benzo[b]fluoranthene	0.19	U	0.19	0.15	ug/L		07/24/19 18:03	07/26/19 17:56	1
Benzo[g,h,i]perylene	0.19	U	0.19	0.17	ug/L		07/24/19 18:03	07/26/19 17:56	1
Benzo[k]fluoranthene	0.19	U	0.19	0.13	ug/L		07/24/19 18:03	07/26/19 17:56	1
Bis(2-chloroethoxy)methane	0.95	U	0.95	0.43	ug/L		07/24/19 18:03	07/26/19 17:56	1
Bis(2-chloroethyl)ether	0.95	U	0.95	0.38	ug/L		07/24/19 18:03	07/26/19 17:56	1
Bis(2-ethylhexyl) phthalate	4.8	U	4.8	2.1	ug/L		07/24/19 18:03	07/26/19 17:56	1
Butyl benzyl phthalate	1.9	U	1.9	0.63	ug/L		07/24/19 18:03	07/26/19 17:56	1
Caprolactam	4.8	U	4.8	0.89	ug/L		07/24/19 18:03	07/26/19 17:56	1
Carbazole	0.95	U	0.95	0.47	ug/L		07/24/19 18:03	07/26/19 17:56	1
Chrysene	0.19	U	0.19	0.18	ug/L		07/24/19 18:03	07/26/19 17:56	1
Di-n-butyl phthalate	4.8	U	4.8	1.7	ug/L		07/24/19 18:03	07/26/19 17:56	1
Di-n-octyl phthalate	1.9	U	1.9	0.78	ug/L		07/24/19 18:03	07/26/19 17:56	1
Dibenz(a,h)anthracene	0.19	U	0.19	0.14	ug/L		07/24/19 18:03	07/26/19 17:56	1
Dibenzofuran	0.95	U	0.95	0.53	ug/L		07/24/19 18:03	07/26/19 17:56	1
Diethyl phthalate	4.8	U	4.8	3.6	ug/L		07/24/19 18:03	07/26/19 17:56	1
Dimethyl phthalate	1.9	U	1.9	0.49	ug/L		07/24/19 18:03	07/26/19 17:56	1
Fluoranthene	0.19	U	0.19	0.15	ug/L		07/24/19 18:03	07/26/19 17:56	1
Fluorene	0.19	U	0.19	0.16	ug/L		07/24/19 18:03	07/26/19 17:56	1
Hexachlorobenzene	0.19	U	0.19	0.15	ug/L		07/24/19 18:03	07/26/19 17:56	1
Hexachlorobutadiene	0.95	U	0.95	0.52	ug/L		07/24/19 18:03	07/26/19 17:56	1
Hexachlorocyclopentadiene	9.5	U	9.5	1.7	ug/L		07/24/19 18:03	07/26/19 17:56	1
Hexachloroethane	0.95	U	0.95	0.38	ug/L		07/24/19 18:03	07/26/19 17:56	1
Indeno[1,2,3-cd]pyrene	0.19	U	0.19	0.13	ug/L		07/24/19 18:03	07/26/19 17:56	1
Isophorone	0.95	U	0.95	0.31	ug/L		07/24/19 18:03	07/26/19 17:56	1
N-Nitrosodi-n-propylamine	0.95	U	0.95	0.24	ug/L		07/24/19 18:03	07/26/19 17:56	1
N-Nitrosodiphenylamine	0.95	U	0.95	0.42	ug/L		07/24/19 18:03	07/26/19 17:56	1
Naphthalene	0.19	U	0.19	0.10	ug/L		07/24/19 18:03	07/26/19 17:56	1
Nitrobenzene	0.95	U	0.95	0.49	ug/L		07/24/19 18:03	07/26/19 17:56	1
Pentachlorophenol	9.5	U	9.5	3.0	ug/L		07/24/19 18:03	07/26/19 17:56	1
Phenanthrene	0.19	U	0.19	0.16	ug/L		07/24/19 18:03	07/26/19 17:56	1
Phenol	0.95	U	0.95	0.12	ug/L		07/24/19 18:03	07/26/19 17:56	1
Pyrene	0.19	U	0.19	0.17	ug/L		07/24/19 18:03	07/26/19 17:56	1
bis (2-chloroisopropyl) ether	0.95	U	0.95	0.52	ug/L		07/24/19 18:03	07/26/19 17:56	1
2,6-Dinitrotoluene	4.8	U	4.8	2.0	ug/L		07/24/19 18:03	07/26/19 17:56	1
4-Nitrophenol	9.5	U	9.5	2.1	ug/L		07/24/19 18:03	07/26/19 17:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14 (Surr)	83		23 - 127	07/24/19 18:03	07/26/19 17:56	1
Phenol-d5 (Surr)	28		10 - 120	07/24/19 18:03	07/26/19 17:56	1
Nitrobenzene-d5 (Surr)	71		32 - 120	07/24/19 18:03	07/26/19 17:56	1
2-Fluorophenol (Surr)	44		10 - 120	07/24/19 18:03	07/26/19 17:56	1

Eurofins TestAmerica, Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11199639, NL Industries

Job ID: 240-116099-1

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

Client Sample ID: WG-11199639-071819-SG-002

Date Collected: 07/18/19 09:30

Date Received: 07/19/19 09:30

Lab Sample ID: 240-116099-3

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	68		38 - 120	07/24/19 18:03	07/26/19 17:56	1
2,4,6-Tribromophenol (Surr)	75		28 - 120	07/24/19 18:03	07/26/19 17:56	1

Client Sample ID: WG-11199639-071819-DT-003

Date Collected: 07/18/19 10:55

Date Received: 07/19/19 09:30

Lab Sample ID: 240-116099-4

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	0.95	U	0.95	0.47	ug/L		07/24/19 18:03	07/26/19 18:18	1
2,4,6-Trichlorophenol	4.8	U	4.8	1.7	ug/L		07/24/19 18:03	07/26/19 18:18	1
2,4,5-Trichlorophenol	4.8	U	4.8	1.9	ug/L		07/24/19 18:03	07/26/19 18:18	1
2,4-Dichlorophenol	1.9	U	1.9	0.25	ug/L		07/24/19 18:03	07/26/19 18:18	1
2,4-Dimethylphenol	1.9	U	1.9	0.49	ug/L		07/24/19 18:03	07/26/19 18:18	1
2,4-Dinitrophenol	9.5	U	9.5	5.9	ug/L		07/24/19 18:03	07/26/19 18:18	1
2,4-Dinitrotoluene	4.8	U	4.8	2.0	ug/L		07/24/19 18:03	07/26/19 18:18	1
2-Chloronaphthalene	0.95	U	0.95	0.46	ug/L		07/24/19 18:03	07/26/19 18:18	1
2-Chlorophenol	0.95	U	0.95	0.26	ug/L		07/24/19 18:03	07/26/19 18:18	1
2-Methylnaphthalene	0.19	U	0.19	0.11	ug/L		07/24/19 18:03	07/26/19 18:18	1
2-Methylphenol	0.95	U	0.95	0.20	ug/L		07/24/19 18:03	07/26/19 18:18	1
2-Nitroaniline	1.9	U	1.9	0.49	ug/L		07/24/19 18:03	07/26/19 18:18	1
2-Nitrophenol	1.9	U	1.9	0.54	ug/L		07/24/19 18:03	07/26/19 18:18	1
3 & 4 Methylphenol	1.9	U	1.9	0.18	ug/L		07/24/19 18:03	07/26/19 18:18	1
3,3'-Dichlorobenzidine	4.8	U	4.8	1.1	ug/L		07/24/19 18:03	07/26/19 18:18	1
3-Nitroaniline	1.9	U	1.9	0.54	ug/L		07/24/19 18:03	07/26/19 18:18	1
4,6-Dinitro-2-methylphenol	4.8	U	4.8	2.7	ug/L		07/24/19 18:03	07/26/19 18:18	1
4-Bromophenyl phenyl ether	1.9	U	1.9	0.48	ug/L		07/24/19 18:03	07/26/19 18:18	1
4-Chloro-3-methylphenol	1.9	U	1.9	0.28	ug/L		07/24/19 18:03	07/26/19 18:18	1
4-Chloroaniline	1.9	U	1.9	0.30	ug/L		07/24/19 18:03	07/26/19 18:18	1
4-Chlorophenyl phenyl ether	1.9	U	1.9	0.52	ug/L		07/24/19 18:03	07/26/19 18:18	1
4-Nitroaniline	1.9	U	1.9	0.87	ug/L		07/24/19 18:03	07/26/19 18:18	1
Acenaphthene	0.19	U	0.19	0.16	ug/L		07/24/19 18:03	07/26/19 18:18	1
Acenaphthylene	0.19	U	0.19	0.12	ug/L		07/24/19 18:03	07/26/19 18:18	1
Acetophenone	0.95	U	0.95	0.35	ug/L		07/24/19 18:03	07/26/19 18:18	1
Anthracene	0.19	U	0.19	0.13	ug/L		07/24/19 18:03	07/26/19 18:18	1
Atrazine	1.9	U	1.9	0.91	ug/L		07/24/19 18:03	07/26/19 18:18	1
Benzaldehyde	1.9	U	1.9	0.72	ug/L		07/24/19 18:03	07/26/19 18:18	1
Benzo[a]anthracene	0.19	U	0.19	0.16	ug/L		07/24/19 18:03	07/26/19 18:18	1
Benzo[a]pyrene	0.19	U	0.19	0.16	ug/L		07/24/19 18:03	07/26/19 18:18	1
Benzo[b]fluoranthene	0.19	U	0.19	0.15	ug/L		07/24/19 18:03	07/26/19 18:18	1
Benzo[g,h,i]perylene	0.19	U	0.19	0.17	ug/L		07/24/19 18:03	07/26/19 18:18	1
Benzo[k]fluoranthene	0.19	U	0.19	0.13	ug/L		07/24/19 18:03	07/26/19 18:18	1
Bis(2-chloroethoxy)methane	0.95	U	0.95	0.43	ug/L		07/24/19 18:03	07/26/19 18:18	1
Bis(2-chloroethyl)ether	0.95	U	0.95	0.38	ug/L		07/24/19 18:03	07/26/19 18:18	1
Bis(2-ethylhexyl) phthalate	4.8	U	4.8	2.1	ug/L		07/24/19 18:03	07/26/19 18:18	1
Butyl benzyl phthalate	1.9	U	1.9	0.63	ug/L		07/24/19 18:03	07/26/19 18:18	1
Caprolactam	4.8	U	4.8	0.89	ug/L		07/24/19 18:03	07/26/19 18:18	1
Carbazole	0.95	U	0.95	0.47	ug/L		07/24/19 18:03	07/26/19 18:18	1
Chrysene	0.19	U	0.19	0.18	ug/L		07/24/19 18:03	07/26/19 18:18	1
Di-n-butyl phthalate	4.8	U	4.8	1.7	ug/L		07/24/19 18:03	07/26/19 18:18	1
Di-n-octyl phthalate	1.9	U	1.9	0.78	ug/L		07/24/19 18:03	07/26/19 18:18	1

Eurofins TestAmerica, Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11199639, NL Industries

Job ID: 240-116099-1

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

Client Sample ID: WG-11199639-071819-DT-003

Date Collected: 07/18/19 10:55

Date Received: 07/19/19 09:30

Lab Sample ID: 240-116099-4

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenz(a,h)anthracene	0.19	U	0.19	0.14	ug/L		07/24/19 18:03	07/26/19 18:18	1
Dibenzofuran	0.95	U	0.95	0.53	ug/L		07/24/19 18:03	07/26/19 18:18	1
Diethyl phthalate	4.8	U	4.8	3.6	ug/L		07/24/19 18:03	07/26/19 18:18	1
Dimethyl phthalate	1.9	U	1.9	0.49	ug/L		07/24/19 18:03	07/26/19 18:18	1
Fluoranthene	0.19	U	0.19	0.15	ug/L		07/24/19 18:03	07/26/19 18:18	1
Fluorene	0.19	U	0.19	0.16	ug/L		07/24/19 18:03	07/26/19 18:18	1
Hexachlorobenzene	0.19	U	0.19	0.15	ug/L		07/24/19 18:03	07/26/19 18:18	1
Hexachlorobutadiene	0.95	U	0.95	0.52	ug/L		07/24/19 18:03	07/26/19 18:18	1
Hexachlorocyclopentadiene	9.5	U	9.5	1.7	ug/L		07/24/19 18:03	07/26/19 18:18	1
Hexachloroethane	0.95	U	0.95	0.38	ug/L		07/24/19 18:03	07/26/19 18:18	1
Indeno[1,2,3-cd]pyrene	0.19	U	0.19	0.13	ug/L		07/24/19 18:03	07/26/19 18:18	1
Isophorone	0.95	U	0.95	0.31	ug/L		07/24/19 18:03	07/26/19 18:18	1
N-Nitrosodi-n-propylamine	0.95	U	0.95	0.24	ug/L		07/24/19 18:03	07/26/19 18:18	1
N-Nitrosodiphenylamine	0.95	U	0.95	0.42	ug/L		07/24/19 18:03	07/26/19 18:18	1
Naphthalene	0.19	U	0.19	0.10	ug/L		07/24/19 18:03	07/26/19 18:18	1
Nitrobenzene	0.95	U	0.95	0.49	ug/L		07/24/19 18:03	07/26/19 18:18	1
Pentachlorophenol	9.5	U	9.5	3.0	ug/L		07/24/19 18:03	07/26/19 18:18	1
Phenanthrene	0.19	U	0.19	0.16	ug/L		07/24/19 18:03	07/26/19 18:18	1
Phenol	0.95	U	0.95	0.12	ug/L		07/24/19 18:03	07/26/19 18:18	1
Pyrene	0.19	U	0.19	0.17	ug/L		07/24/19 18:03	07/26/19 18:18	1
bis (2-chloroisopropyl) ether	0.95	U	0.95	0.52	ug/L		07/24/19 18:03	07/26/19 18:18	1
2,6-Dinitrotoluene	4.8	U	4.8	2.0	ug/L		07/24/19 18:03	07/26/19 18:18	1
4-Nitrophenol	9.5	U	9.5	2.1	ug/L		07/24/19 18:03	07/26/19 18:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14 (Surr)	82		23 - 127	07/24/19 18:03	07/26/19 18:18	1
Phenol-d5 (Surr)	22		10 - 120	07/24/19 18:03	07/26/19 18:18	1
Nitrobenzene-d5 (Surr)	64		32 - 120	07/24/19 18:03	07/26/19 18:18	1
2-Fluorophenol (Surr)	36		10 - 120	07/24/19 18:03	07/26/19 18:18	1
2-Fluorobiphenyl (Surr)	62		38 - 120	07/24/19 18:03	07/26/19 18:18	1
2,4,6-Tribromophenol (Surr)	66		28 - 120	07/24/19 18:03	07/26/19 18:18	1

Client Sample ID: WG-11199639-071819-SG-004

Date Collected: 07/18/19 11:15

Date Received: 07/19/19 09:30

Lab Sample ID: 240-116099-5

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	0.95	U	0.95	0.47	ug/L		07/24/19 18:03	07/26/19 18:41	1
2,4,6-Trichlorophenol	4.8	U	4.8	1.7	ug/L		07/24/19 18:03	07/26/19 18:41	1
2,4,5-Trichlorophenol	4.8	U	4.8	1.9	ug/L		07/24/19 18:03	07/26/19 18:41	1
2,4-Dichlorophenol	1.9	U	1.9	0.25	ug/L		07/24/19 18:03	07/26/19 18:41	1
2,4-Dimethylphenol	1.9	U	1.9	0.49	ug/L		07/24/19 18:03	07/26/19 18:41	1
2,4-Dinitrophenol	9.5	U	9.5	5.9	ug/L		07/24/19 18:03	07/26/19 18:41	1
2,4-Dinitrotoluene	4.8	U	4.8	2.0	ug/L		07/24/19 18:03	07/26/19 18:41	1
2-Chloronaphthalene	0.95	U	0.95	0.46	ug/L		07/24/19 18:03	07/26/19 18:41	1
2-Chlorophenol	0.95	U	0.95	0.26	ug/L		07/24/19 18:03	07/26/19 18:41	1
2-Methylnaphthalene	0.19	U	0.19	0.11	ug/L		07/24/19 18:03	07/26/19 18:41	1
2-Methylphenol	0.95	U	0.95	0.20	ug/L		07/24/19 18:03	07/26/19 18:41	1
2-Nitroaniline	1.9	U	1.9	0.49	ug/L		07/24/19 18:03	07/26/19 18:41	1
2-Nitrophenol	1.9	U	1.9	0.54	ug/L		07/24/19 18:03	07/26/19 18:41	1
3 & 4 Methylphenol	1.9	U	1.9	0.18	ug/L		07/24/19 18:03	07/26/19 18:41	1

Eurofins TestAmerica, Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11199639, NL Industries

Job ID: 240-116099-1

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

Client Sample ID: WG-11199639-071819-SG-004

Date Collected: 07/18/19 11:15

Date Received: 07/19/19 09:30

Lab Sample ID: 240-116099-5

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3,3'-Dichlorobenzidine	4.8	U	4.8	1.1	ug/L		07/24/19 18:03	07/26/19 18:41	1
3-Nitroaniline	1.9	U	1.9	0.54	ug/L		07/24/19 18:03	07/26/19 18:41	1
4,6-Dinitro-2-methylphenol	4.8	U	4.8	2.7	ug/L		07/24/19 18:03	07/26/19 18:41	1
4-Bromophenyl phenyl ether	1.9	U	1.9	0.48	ug/L		07/24/19 18:03	07/26/19 18:41	1
4-Chloro-3-methylphenol	1.9	U	1.9	0.28	ug/L		07/24/19 18:03	07/26/19 18:41	1
4-Chloroaniline	1.9	U	1.9	0.30	ug/L		07/24/19 18:03	07/26/19 18:41	1
4-Chlorophenyl phenyl ether	1.9	U	1.9	0.52	ug/L		07/24/19 18:03	07/26/19 18:41	1
4-Nitroaniline	1.9	U	1.9	0.87	ug/L		07/24/19 18:03	07/26/19 18:41	1
Acenaphthene	0.19	U	0.19	0.16	ug/L		07/24/19 18:03	07/26/19 18:41	1
Acenaphthylene	0.19	U	0.19	0.12	ug/L		07/24/19 18:03	07/26/19 18:41	1
Acetophenone	0.95	U	0.95	0.35	ug/L		07/24/19 18:03	07/26/19 18:41	1
Anthracene	0.19	U	0.19	0.13	ug/L		07/24/19 18:03	07/26/19 18:41	1
Atrazine	1.9	U	1.9	0.91	ug/L		07/24/19 18:03	07/26/19 18:41	1
Benzaldehyde	1.9	U	1.9	0.72	ug/L		07/24/19 18:03	07/26/19 18:41	1
Benzo[a]anthracene	0.19	U	0.19	0.16	ug/L		07/24/19 18:03	07/26/19 18:41	1
Benzo[a]pyrene	0.19	U	0.19	0.16	ug/L		07/24/19 18:03	07/26/19 18:41	1
Benzo[b]fluoranthene	0.19	U	0.19	0.15	ug/L		07/24/19 18:03	07/26/19 18:41	1
Benzo[g,h,i]perylene	0.19	U	0.19	0.17	ug/L		07/24/19 18:03	07/26/19 18:41	1
Benzo[k]fluoranthene	0.19	U	0.19	0.13	ug/L		07/24/19 18:03	07/26/19 18:41	1
Bis(2-chloroethoxy)methane	0.95	U	0.95	0.43	ug/L		07/24/19 18:03	07/26/19 18:41	1
Bis(2-chloroethyl)ether	0.95	U	0.95	0.38	ug/L		07/24/19 18:03	07/26/19 18:41	1
Bis(2-ethylhexyl) phthalate	4.8	U	4.8	2.1	ug/L		07/24/19 18:03	07/26/19 18:41	1
Butyl benzyl phthalate	1.9	U	1.9	0.63	ug/L		07/24/19 18:03	07/26/19 18:41	1
Caprolactam	4.8	U	4.8	0.89	ug/L		07/24/19 18:03	07/26/19 18:41	1
Carbazole	0.95	U	0.95	0.47	ug/L		07/24/19 18:03	07/26/19 18:41	1
Chrysene	0.19	U	0.19	0.18	ug/L		07/24/19 18:03	07/26/19 18:41	1
Di-n-butyl phthalate	4.8	U	4.8	1.7	ug/L		07/24/19 18:03	07/26/19 18:41	1
Di-n-octyl phthalate	1.9	U	1.9	0.78	ug/L		07/24/19 18:03	07/26/19 18:41	1
Dibenz(a,h)anthracene	0.19	U	0.19	0.14	ug/L		07/24/19 18:03	07/26/19 18:41	1
Dibenzofuran	0.95	U	0.95	0.53	ug/L		07/24/19 18:03	07/26/19 18:41	1
Diethyl phthalate	4.8	U	4.8	3.6	ug/L		07/24/19 18:03	07/26/19 18:41	1
Dimethyl phthalate	1.9	U	1.9	0.49	ug/L		07/24/19 18:03	07/26/19 18:41	1
Fluoranthene	0.19	U	0.19	0.15	ug/L		07/24/19 18:03	07/26/19 18:41	1
Fluorene	0.19	U	0.19	0.16	ug/L		07/24/19 18:03	07/26/19 18:41	1
Hexachlorobenzene	0.19	U	0.19	0.15	ug/L		07/24/19 18:03	07/26/19 18:41	1
Hexachlorobutadiene	0.95	U	0.95	0.52	ug/L		07/24/19 18:03	07/26/19 18:41	1
Hexachlorocyclopentadiene	9.5	U	9.5	1.7	ug/L		07/24/19 18:03	07/26/19 18:41	1
Hexachloroethane	0.95	U	0.95	0.38	ug/L		07/24/19 18:03	07/26/19 18:41	1
Indeno[1,2,3-cd]pyrene	0.19	U	0.19	0.13	ug/L		07/24/19 18:03	07/26/19 18:41	1
Isophorone	0.95	U	0.95	0.31	ug/L		07/24/19 18:03	07/26/19 18:41	1
N-Nitrosodi-n-propylamine	0.95	U	0.95	0.24	ug/L		07/24/19 18:03	07/26/19 18:41	1
N-Nitrosodiphenylamine	0.95	U	0.95	0.42	ug/L		07/24/19 18:03	07/26/19 18:41	1
Naphthalene	0.19	U	0.19	0.10	ug/L		07/24/19 18:03	07/26/19 18:41	1
Nitrobenzene	0.95	U	0.95	0.49	ug/L		07/24/19 18:03	07/26/19 18:41	1
Pentachlorophenol	9.5	U	9.5	3.0	ug/L		07/24/19 18:03	07/26/19 18:41	1
Phenanthrene	0.19	U	0.19	0.16	ug/L		07/24/19 18:03	07/26/19 18:41	1
Phenol	0.95	U	0.95	0.12	ug/L		07/24/19 18:03	07/26/19 18:41	1
Pyrene	0.19	U	0.19	0.17	ug/L		07/24/19 18:03	07/26/19 18:41	1
bis (2-chloroisopropyl) ether	0.95	U	0.95	0.52	ug/L		07/24/19 18:03	07/26/19 18:41	1

Eurofins TestAmerica, Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11199639, NL Industries

Job ID: 240-116099-1

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

Client Sample ID: WG-11199639-071819-SG-004

Date Collected: 07/18/19 11:15

Date Received: 07/19/19 09:30

Lab Sample ID: 240-116099-5

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,6-Dinitrotoluene	4.8	U	4.8	2.0	ug/L		07/24/19 18:03	07/26/19 18:41	1
4-Nitrophenol	9.5	U	9.5	2.1	ug/L		07/24/19 18:03	07/26/19 18:41	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14 (Surr)	79		23 - 127				07/24/19 18:03	07/26/19 18:41	1
Phenol-d5 (Surr)	24		10 - 120				07/24/19 18:03	07/26/19 18:41	1
Nitrobenzene-d5 (Surr)	69		32 - 120				07/24/19 18:03	07/26/19 18:41	1
2-Fluorophenol (Surr)	39		10 - 120				07/24/19 18:03	07/26/19 18:41	1
2-Fluorobiphenyl (Surr)	66		38 - 120				07/24/19 18:03	07/26/19 18:41	1
2,4,6-Tribromophenol (Surr)	67		28 - 120				07/24/19 18:03	07/26/19 18:41	1

Client Sample ID: WG-11199639-071819-DT-007

Date Collected: 07/18/19 12:30

Date Received: 07/19/19 09:30

Lab Sample ID: 240-116099-6

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	0.95	U	0.95	0.47	ug/L		07/24/19 18:03	07/26/19 19:04	1
2,4,6-Trichlorophenol	4.8	U	4.8	1.7	ug/L		07/24/19 18:03	07/26/19 19:04	1
2,4,5-Trichlorophenol	4.8	U	4.8	1.9	ug/L		07/24/19 18:03	07/26/19 19:04	1
2,4-Dichlorophenol	1.9	U	1.9	0.25	ug/L		07/24/19 18:03	07/26/19 19:04	1
2,4-Dimethylphenol	1.9	U	1.9	0.49	ug/L		07/24/19 18:03	07/26/19 19:04	1
2,4-Dinitrophenol	9.5	U	9.5	5.9	ug/L		07/24/19 18:03	07/26/19 19:04	1
2,4-Dinitrotoluene	4.8	U	4.8	2.0	ug/L		07/24/19 18:03	07/26/19 19:04	1
2-Chloronaphthalene	0.95	U	0.95	0.46	ug/L		07/24/19 18:03	07/26/19 19:04	1
2-Chlorophenol	0.95	U	0.95	0.26	ug/L		07/24/19 18:03	07/26/19 19:04	1
2-Methylnaphthalene	0.19	U	0.19	0.11	ug/L		07/24/19 18:03	07/26/19 19:04	1
2-Methylphenol	0.95	U	0.95	0.20	ug/L		07/24/19 18:03	07/26/19 19:04	1
2-Nitroaniline	1.9	U	1.9	0.49	ug/L		07/24/19 18:03	07/26/19 19:04	1
2-Nitrophenol	1.9	U	1.9	0.54	ug/L		07/24/19 18:03	07/26/19 19:04	1
3 & 4 Methylphenol	1.9	U	1.9	0.18	ug/L		07/24/19 18:03	07/26/19 19:04	1
3,3'-Dichlorobenzidine	4.8	U	4.8	1.1	ug/L		07/24/19 18:03	07/26/19 19:04	1
3-Nitroaniline	1.9	U	1.9	0.54	ug/L		07/24/19 18:03	07/26/19 19:04	1
4,6-Dinitro-2-methylphenol	4.8	U	4.8	2.7	ug/L		07/24/19 18:03	07/26/19 19:04	1
4-Bromophenyl phenyl ether	1.9	U	1.9	0.48	ug/L		07/24/19 18:03	07/26/19 19:04	1
4-Chloro-3-methylphenol	1.9	U	1.9	0.28	ug/L		07/24/19 18:03	07/26/19 19:04	1
4-Chloroaniline	1.9	U	1.9	0.30	ug/L		07/24/19 18:03	07/26/19 19:04	1
4-Chlorophenyl phenyl ether	1.9	U	1.9	0.52	ug/L		07/24/19 18:03	07/26/19 19:04	1
4-Nitroaniline	1.9	U	1.9	0.87	ug/L		07/24/19 18:03	07/26/19 19:04	1
Acenaphthene	0.19	U	0.19	0.16	ug/L		07/24/19 18:03	07/26/19 19:04	1
Acenaphthylene	0.19	U	0.19	0.12	ug/L		07/24/19 18:03	07/26/19 19:04	1
Acetophenone	0.95	U	0.95	0.35	ug/L		07/24/19 18:03	07/26/19 19:04	1
Anthracene	0.19	U	0.19	0.13	ug/L		07/24/19 18:03	07/26/19 19:04	1
Atrazine	1.9	U	1.9	0.91	ug/L		07/24/19 18:03	07/26/19 19:04	1
Benzaldehyde	1.9	U	1.9	0.72	ug/L		07/24/19 18:03	07/26/19 19:04	1
Benzo[a]anthracene	0.19	U	0.19	0.16	ug/L		07/24/19 18:03	07/26/19 19:04	1
Benzo[a]pyrene	0.19	U	0.19	0.16	ug/L		07/24/19 18:03	07/26/19 19:04	1
Benzo[b]fluoranthene	0.19	U	0.19	0.15	ug/L		07/24/19 18:03	07/26/19 19:04	1
Benzo[g,h,i]perylene	0.19	U	0.19	0.17	ug/L		07/24/19 18:03	07/26/19 19:04	1
Benzo[k]fluoranthene	0.19	U	0.19	0.13	ug/L		07/24/19 18:03	07/26/19 19:04	1
Bis(2-chloroethoxy)methane	0.95	U	0.95	0.43	ug/L		07/24/19 18:03	07/26/19 19:04	1
Bis(2-chloroethyl)ether	0.95	U	0.95	0.38	ug/L		07/24/19 18:03	07/26/19 19:04	1

Eurofins TestAmerica, Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11199639, NL Industries

Job ID: 240-116099-1

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

Client Sample ID: WG-11199639-071819-DT-007

Date Collected: 07/18/19 12:30

Date Received: 07/19/19 09:30

Lab Sample ID: 240-116099-6

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	4.8	U	4.8	2.1	ug/L		07/24/19 18:03	07/26/19 19:04	1
Butyl benzyl phthalate	1.9	U	1.9	0.63	ug/L		07/24/19 18:03	07/26/19 19:04	1
Caprolactam	4.8	U	4.8	0.89	ug/L		07/24/19 18:03	07/26/19 19:04	1
Carbazole	0.95	U	0.95	0.47	ug/L		07/24/19 18:03	07/26/19 19:04	1
Chrysene	0.19	U	0.19	0.18	ug/L		07/24/19 18:03	07/26/19 19:04	1
Di-n-butyl phthalate	4.8	U	4.8	1.7	ug/L		07/24/19 18:03	07/26/19 19:04	1
Di-n-octyl phthalate	1.9	U	1.9	0.78	ug/L		07/24/19 18:03	07/26/19 19:04	1
Dibenz(a,h)anthracene	0.19	U	0.19	0.14	ug/L		07/24/19 18:03	07/26/19 19:04	1
Dibenzofuran	0.95	U	0.95	0.53	ug/L		07/24/19 18:03	07/26/19 19:04	1
Diethyl phthalate	4.8	U	4.8	3.6	ug/L		07/24/19 18:03	07/26/19 19:04	1
Dimethyl phthalate	1.9	U	1.9	0.49	ug/L		07/24/19 18:03	07/26/19 19:04	1
Fluoranthene	0.19	U	0.19	0.15	ug/L		07/24/19 18:03	07/26/19 19:04	1
Fluorene	0.19	U	0.19	0.16	ug/L		07/24/19 18:03	07/26/19 19:04	1
Hexachlorobenzene	0.19	U	0.19	0.15	ug/L		07/24/19 18:03	07/26/19 19:04	1
Hexachlorobutadiene	0.95	U	0.95	0.52	ug/L		07/24/19 18:03	07/26/19 19:04	1
Hexachlorocyclopentadiene	9.5	U	9.5	1.7	ug/L		07/24/19 18:03	07/26/19 19:04	1
Hexachloroethane	0.95	U	0.95	0.38	ug/L		07/24/19 18:03	07/26/19 19:04	1
Indeno[1,2,3-cd]pyrene	0.19	U	0.19	0.13	ug/L		07/24/19 18:03	07/26/19 19:04	1
Isophorone	0.95	U	0.95	0.31	ug/L		07/24/19 18:03	07/26/19 19:04	1
N-Nitrosodi-n-propylamine	0.95	U	0.95	0.24	ug/L		07/24/19 18:03	07/26/19 19:04	1
N-Nitrosodiphenylamine	0.95	U	0.95	0.42	ug/L		07/24/19 18:03	07/26/19 19:04	1
Naphthalene	0.19	U	0.19	0.10	ug/L		07/24/19 18:03	07/26/19 19:04	1
Nitrobenzene	0.95	U	0.95	0.49	ug/L		07/24/19 18:03	07/26/19 19:04	1
Pentachlorophenol	9.5	U	9.5	3.0	ug/L		07/24/19 18:03	07/26/19 19:04	1
Phenanthrene	0.19	U	0.19	0.16	ug/L		07/24/19 18:03	07/26/19 19:04	1
Phenol	0.95	U	0.95	0.12	ug/L		07/24/19 18:03	07/26/19 19:04	1
Pyrene	0.19	U	0.19	0.17	ug/L		07/24/19 18:03	07/26/19 19:04	1
bis (2-chloroisopropyl) ether	0.95	U	0.95	0.52	ug/L		07/24/19 18:03	07/26/19 19:04	1
2,6-Dinitrotoluene	4.8	U	4.8	2.0	ug/L		07/24/19 18:03	07/26/19 19:04	1
4-Nitrophenol	9.5	U	9.5	2.1	ug/L		07/24/19 18:03	07/26/19 19:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14 (Surr)	86		23 - 127	07/24/19 18:03	07/26/19 19:04	1
Phenol-d5 (Surr)	23		10 - 120	07/24/19 18:03	07/26/19 19:04	1
Nitrobenzene-d5 (Surr)	66		32 - 120	07/24/19 18:03	07/26/19 19:04	1
2-Fluorophenol (Surr)	37		10 - 120	07/24/19 18:03	07/26/19 19:04	1
2-Fluorobiphenyl (Surr)	67		38 - 120	07/24/19 18:03	07/26/19 19:04	1
2,4,6-Tribromophenol (Surr)	65		28 - 120	07/24/19 18:03	07/26/19 19:04	1

Client Sample ID: EB-11199639-071819-DT-005

Date Collected: 07/18/19 10:50

Date Received: 07/19/19 09:30

Lab Sample ID: 240-116099-7

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	0.95	U	0.95	0.47	ug/L		07/24/19 18:03	07/29/19 15:28	1
2,4,6-Trichlorophenol	4.8	U	4.8	1.7	ug/L		07/24/19 18:03	07/29/19 15:28	1
2,4,5-Trichlorophenol	4.8	U	4.8	1.9	ug/L		07/24/19 18:03	07/29/19 15:28	1
2,4-Dichlorophenol	1.9	U	1.9	0.25	ug/L		07/24/19 18:03	07/29/19 15:28	1
2,4-Dimethylphenol	1.9	U	1.9	0.49	ug/L		07/24/19 18:03	07/29/19 15:28	1
2,4-Dinitrophenol	9.5	U	9.5	5.9	ug/L		07/24/19 18:03	07/29/19 15:28	1
2,4-Dinitrotoluene	4.8	U	4.8	2.0	ug/L		07/24/19 18:03	07/29/19 15:28	1

Eurofins TestAmerica, Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11199639, NL Industries

Job ID: 240-116099-1

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

Client Sample ID: EB-11199639-071819-DT-005

Date Collected: 07/18/19 10:50

Date Received: 07/19/19 09:30

Lab Sample ID: 240-116099-7

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chloronaphthalene	0.95	U	0.95	0.46	ug/L		07/24/19 18:03	07/29/19 15:28	1
2-Chlorophenol	0.95	U	0.95	0.26	ug/L		07/24/19 18:03	07/29/19 15:28	1
2-Methylnaphthalene	0.19	U	0.19	0.11	ug/L		07/24/19 18:03	07/29/19 15:28	1
2-Methylphenol	0.95	U	0.95	0.20	ug/L		07/24/19 18:03	07/29/19 15:28	1
2-Nitroaniline	1.9	U	1.9	0.49	ug/L		07/24/19 18:03	07/29/19 15:28	1
2-Nitrophenol	1.9	U	1.9	0.54	ug/L		07/24/19 18:03	07/29/19 15:28	1
3 & 4 Methylphenol	1.9	U	1.9	0.18	ug/L		07/24/19 18:03	07/29/19 15:28	1
3,3'-Dichlorobenzidine	4.8	U	4.8	1.1	ug/L		07/24/19 18:03	07/29/19 15:28	1
3-Nitroaniline	1.9	U	1.9	0.54	ug/L		07/24/19 18:03	07/29/19 15:28	1
4,6-Dinitro-2-methylphenol	4.8	U	4.8	2.7	ug/L		07/24/19 18:03	07/29/19 15:28	1
4-Bromophenyl phenyl ether	1.9	U	1.9	0.48	ug/L		07/24/19 18:03	07/29/19 15:28	1
4-Chloro-3-methylphenol	1.9	U	1.9	0.28	ug/L		07/24/19 18:03	07/29/19 15:28	1
4-Chloroaniline	1.9	U	1.9	0.30	ug/L		07/24/19 18:03	07/29/19 15:28	1
4-Chlorophenyl phenyl ether	1.9	U	1.9	0.52	ug/L		07/24/19 18:03	07/29/19 15:28	1
4-Nitroaniline	1.9	U	1.9	0.87	ug/L		07/24/19 18:03	07/29/19 15:28	1
Acenaphthene	0.19	U	0.19	0.16	ug/L		07/24/19 18:03	07/29/19 15:28	1
Acenaphthylene	0.19	U	0.19	0.12	ug/L		07/24/19 18:03	07/29/19 15:28	1
Acetophenone	0.95	U	0.95	0.35	ug/L		07/24/19 18:03	07/29/19 15:28	1
Anthracene	0.19	U	0.19	0.13	ug/L		07/24/19 18:03	07/29/19 15:28	1
Atrazine	1.9	U	1.9	0.91	ug/L		07/24/19 18:03	07/29/19 15:28	1
Benzaldehyde	1.9	U	1.9	0.72	ug/L		07/24/19 18:03	07/29/19 15:28	1
Benzo[a]anthracene	0.19	U	0.19	0.16	ug/L		07/24/19 18:03	07/29/19 15:28	1
Benzo[a]pyrene	0.19	U	0.19	0.16	ug/L		07/24/19 18:03	07/29/19 15:28	1
Benzo[b]fluoranthene	0.19	U	0.19	0.15	ug/L		07/24/19 18:03	07/29/19 15:28	1
Benzo[g,h,i]perylene	0.19	U	0.19	0.17	ug/L		07/24/19 18:03	07/29/19 15:28	1
Benzo[k]fluoranthene	0.19	U	0.19	0.13	ug/L		07/24/19 18:03	07/29/19 15:28	1
Bis(2-chloroethoxy)methane	0.95	U	0.95	0.43	ug/L		07/24/19 18:03	07/29/19 15:28	1
Bis(2-chloroethyl)ether	0.95	U	0.95	0.38	ug/L		07/24/19 18:03	07/29/19 15:28	1
Bis(2-ethylhexyl) phthalate	4.8	U	4.8	2.1	ug/L		07/24/19 18:03	07/29/19 15:28	1
Butyl benzyl phthalate	1.9	U	1.9	0.63	ug/L		07/24/19 18:03	07/29/19 15:28	1
Caprolactam	4.8	U	4.8	0.89	ug/L		07/24/19 18:03	07/29/19 15:28	1
Carbazole	0.95	U	0.95	0.47	ug/L		07/24/19 18:03	07/29/19 15:28	1
Chrysene	0.19	U	0.19	0.18	ug/L		07/24/19 18:03	07/29/19 15:28	1
Di-n-butyl phthalate	4.8	U	4.8	1.7	ug/L		07/24/19 18:03	07/29/19 15:28	1
Di-n-octyl phthalate	1.9	U	1.9	0.78	ug/L		07/24/19 18:03	07/29/19 15:28	1
Dibenz(a,h)anthracene	0.19	U	0.19	0.14	ug/L		07/24/19 18:03	07/29/19 15:28	1
Dibenzofuran	0.95	U	0.95	0.53	ug/L		07/24/19 18:03	07/29/19 15:28	1
Diethyl phthalate	4.8	U	4.8	3.6	ug/L		07/24/19 18:03	07/29/19 15:28	1
Dimethyl phthalate	1.9	U	1.9	0.49	ug/L		07/24/19 18:03	07/29/19 15:28	1
Fluoranthene	0.19	U	0.19	0.15	ug/L		07/24/19 18:03	07/29/19 15:28	1
Fluorene	0.19	U	0.19	0.16	ug/L		07/24/19 18:03	07/29/19 15:28	1
Hexachlorobenzene	0.19	U	0.19	0.15	ug/L		07/24/19 18:03	07/29/19 15:28	1
Hexachlorobutadiene	0.95	U	0.95	0.52	ug/L		07/24/19 18:03	07/29/19 15:28	1
Hexachlorocyclopentadiene	9.5	U	9.5	1.7	ug/L		07/24/19 18:03	07/29/19 15:28	1
Hexachloroethane	0.95	U	0.95	0.38	ug/L		07/24/19 18:03	07/29/19 15:28	1
Indeno[1,2,3-cd]pyrene	0.19	U	0.19	0.13	ug/L		07/24/19 18:03	07/29/19 15:28	1
Isophorone	0.95	U	0.95	0.31	ug/L		07/24/19 18:03	07/29/19 15:28	1
N-Nitrosodi-n-propylamine	0.95	U	0.95	0.24	ug/L		07/24/19 18:03	07/29/19 15:28	1
N-Nitrosodiphenylamine	0.95	U	0.95	0.42	ug/L		07/24/19 18:03	07/29/19 15:28	1

Eurofins TestAmerica, Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11199639, NL Industries

Job ID: 240-116099-1

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

Client Sample ID: EB-11199639-071819-DT-005

Date Collected: 07/18/19 10:50

Date Received: 07/19/19 09:30

Lab Sample ID: 240-116099-7

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	0.19	U	0.19	0.10	ug/L		07/24/19 18:03	07/29/19 15:28	1
Nitrobenzene	0.95	U	0.95	0.49	ug/L		07/24/19 18:03	07/29/19 15:28	1
Pentachlorophenol	9.5	U	9.5	3.0	ug/L		07/24/19 18:03	07/29/19 15:28	1
Phenanthrene	0.19	U	0.19	0.16	ug/L		07/24/19 18:03	07/29/19 15:28	1
Phenol	0.95	U	0.95	0.12	ug/L		07/24/19 18:03	07/29/19 15:28	1
Pyrene	0.19	U	0.19	0.17	ug/L		07/24/19 18:03	07/29/19 15:28	1
bis (2-chloroisopropyl) ether	0.95	U	0.95	0.52	ug/L		07/24/19 18:03	07/29/19 15:28	1
2,6-Dinitrotoluene	4.8	U	4.8	2.0	ug/L		07/24/19 18:03	07/29/19 15:28	1
4-Nitrophenol	9.5	U	9.5	2.1	ug/L		07/24/19 18:03	07/29/19 15:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14 (Surr)	85		23 - 127	07/24/19 18:03	07/29/19 15:28	1
Phenol-d5 (Surr)	28		10 - 120	07/24/19 18:03	07/29/19 15:28	1
Nitrobenzene-d5 (Surr)	73		32 - 120	07/24/19 18:03	07/29/19 15:28	1
2-Fluorophenol (Surr)	45		10 - 120	07/24/19 18:03	07/29/19 15:28	1
2-Fluorobiphenyl (Surr)	73		38 - 120	07/24/19 18:03	07/29/19 15:28	1
2,4,6-Tribromophenol (Surr)	68		28 - 120	07/24/19 18:03	07/29/19 15:28	1

Client Sample ID: WG-11199639-071819-SG-006

Date Collected: 07/18/19 11:15

Date Received: 07/19/19 09:30

Lab Sample ID: 240-116099-8

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	0.95	U	0.95	0.47	ug/L		07/24/19 18:03	07/29/19 15:51	1
2,4,6-Trichlorophenol	4.8	U	4.8	1.7	ug/L		07/24/19 18:03	07/29/19 15:51	1
2,4,5-Trichlorophenol	4.8	U	4.8	1.9	ug/L		07/24/19 18:03	07/29/19 15:51	1
2,4-Dichlorophenol	1.9	U	1.9	0.25	ug/L		07/24/19 18:03	07/29/19 15:51	1
2,4-Dimethylphenol	1.9	U	1.9	0.49	ug/L		07/24/19 18:03	07/29/19 15:51	1
2,4-Dinitrophenol	9.5	U	9.5	5.9	ug/L		07/24/19 18:03	07/29/19 15:51	1
2,4-Dinitrotoluene	4.8	U	4.8	2.0	ug/L		07/24/19 18:03	07/29/19 15:51	1
2-Chloronaphthalene	0.95	U	0.95	0.46	ug/L		07/24/19 18:03	07/29/19 15:51	1
2-Chlorophenol	0.95	U	0.95	0.26	ug/L		07/24/19 18:03	07/29/19 15:51	1
2-Methylnaphthalene	0.19	U	0.19	0.11	ug/L		07/24/19 18:03	07/29/19 15:51	1
2-Methylphenol	0.95	U	0.95	0.20	ug/L		07/24/19 18:03	07/29/19 15:51	1
2-Nitroaniline	1.9	U	1.9	0.49	ug/L		07/24/19 18:03	07/29/19 15:51	1
2-Nitrophenol	1.9	U	1.9	0.54	ug/L		07/24/19 18:03	07/29/19 15:51	1
3 & 4 Methylphenol	1.9	U	1.9	0.18	ug/L		07/24/19 18:03	07/29/19 15:51	1
3,3'-Dichlorobenzidine	4.8	U	4.8	1.1	ug/L		07/24/19 18:03	07/29/19 15:51	1
3-Nitroaniline	1.9	U	1.9	0.54	ug/L		07/24/19 18:03	07/29/19 15:51	1
4,6-Dinitro-2-methylphenol	4.8	U	4.8	2.7	ug/L		07/24/19 18:03	07/29/19 15:51	1
4-Bromophenyl phenyl ether	1.9	U	1.9	0.48	ug/L		07/24/19 18:03	07/29/19 15:51	1
4-Chloro-3-methylphenol	1.9	U	1.9	0.28	ug/L		07/24/19 18:03	07/29/19 15:51	1
4-Chloroaniline	1.9	U	1.9	0.30	ug/L		07/24/19 18:03	07/29/19 15:51	1
4-Chlorophenyl phenyl ether	1.9	U	1.9	0.52	ug/L		07/24/19 18:03	07/29/19 15:51	1
4-Nitroaniline	1.9	U	1.9	0.87	ug/L		07/24/19 18:03	07/29/19 15:51	1
Acenaphthene	0.19	U	0.19	0.16	ug/L		07/24/19 18:03	07/29/19 15:51	1
Acenaphthylene	0.19	U	0.19	0.12	ug/L		07/24/19 18:03	07/29/19 15:51	1
Acetophenone	0.95	U	0.95	0.35	ug/L		07/24/19 18:03	07/29/19 15:51	1
Anthracene	0.19	U	0.19	0.13	ug/L		07/24/19 18:03	07/29/19 15:51	1
Atrazine	1.9	U	1.9	0.91	ug/L		07/24/19 18:03	07/29/19 15:51	1
Benzaldehyde	1.9	U	1.9	0.72	ug/L		07/24/19 18:03	07/29/19 15:51	1

Eurofins TestAmerica, Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11199639, NL Industries

Job ID: 240-116099-1

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

Client Sample ID: WG-11199639-071819-SG-006

Date Collected: 07/18/19 11:15

Date Received: 07/19/19 09:30

Lab Sample ID: 240-116099-8

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	0.19	U	0.19	0.16	ug/L		07/24/19 18:03	07/29/19 15:51	1
Benzo[a]pyrene	0.19	U	0.19	0.16	ug/L		07/24/19 18:03	07/29/19 15:51	1
Benzo[b]fluoranthene	0.19	U	0.19	0.15	ug/L		07/24/19 18:03	07/29/19 15:51	1
Benzo[g,h,i]perylene	0.19	U	0.19	0.17	ug/L		07/24/19 18:03	07/29/19 15:51	1
Benzo[k]fluoranthene	0.19	U	0.19	0.13	ug/L		07/24/19 18:03	07/29/19 15:51	1
Bis(2-chloroethoxy)methane	0.95	U	0.95	0.43	ug/L		07/24/19 18:03	07/29/19 15:51	1
Bis(2-chloroethyl)ether	0.95	U	0.95	0.38	ug/L		07/24/19 18:03	07/29/19 15:51	1
Bis(2-ethylhexyl) phthalate	4.8	U	4.8	2.1	ug/L		07/24/19 18:03	07/29/19 15:51	1
Butyl benzyl phthalate	1.9	U	1.9	0.63	ug/L		07/24/19 18:03	07/29/19 15:51	1
Caprolactam	4.8	U	4.8	0.89	ug/L		07/24/19 18:03	07/29/19 15:51	1
Carbazole	0.95	U	0.95	0.47	ug/L		07/24/19 18:03	07/29/19 15:51	1
Chrysene	0.19	U	0.19	0.18	ug/L		07/24/19 18:03	07/29/19 15:51	1
Di-n-butyl phthalate	4.8	U	4.8	1.7	ug/L		07/24/19 18:03	07/29/19 15:51	1
Di-n-octyl phthalate	1.9	U	1.9	0.78	ug/L		07/24/19 18:03	07/29/19 15:51	1
Dibenz(a,h)anthracene	0.19	U	0.19	0.14	ug/L		07/24/19 18:03	07/29/19 15:51	1
Dibenzofuran	0.95	U	0.95	0.53	ug/L		07/24/19 18:03	07/29/19 15:51	1
Diethyl phthalate	4.8	U	4.8	3.6	ug/L		07/24/19 18:03	07/29/19 15:51	1
Dimethyl phthalate	1.9	U	1.9	0.49	ug/L		07/24/19 18:03	07/29/19 15:51	1
Fluoranthene	0.19	U	0.19	0.15	ug/L		07/24/19 18:03	07/29/19 15:51	1
Fluorene	0.19	U	0.19	0.16	ug/L		07/24/19 18:03	07/29/19 15:51	1
Hexachlorobenzene	0.19	U	0.19	0.15	ug/L		07/24/19 18:03	07/29/19 15:51	1
Hexachlorobutadiene	0.95	U	0.95	0.52	ug/L		07/24/19 18:03	07/29/19 15:51	1
Hexachlorocyclopentadiene	9.5	U	9.5	1.7	ug/L		07/24/19 18:03	07/29/19 15:51	1
Hexachloroethane	0.95	U	0.95	0.38	ug/L		07/24/19 18:03	07/29/19 15:51	1
Indeno[1,2,3-cd]pyrene	0.19	U	0.19	0.13	ug/L		07/24/19 18:03	07/29/19 15:51	1
Isophorone	0.95	U	0.95	0.31	ug/L		07/24/19 18:03	07/29/19 15:51	1
N-Nitrosodi-n-propylamine	0.95	U	0.95	0.24	ug/L		07/24/19 18:03	07/29/19 15:51	1
N-Nitrosodiphenylamine	0.95	U	0.95	0.42	ug/L		07/24/19 18:03	07/29/19 15:51	1
Naphthalene	0.19	U	0.19	0.10	ug/L		07/24/19 18:03	07/29/19 15:51	1
Nitrobenzene	0.95	U	0.95	0.49	ug/L		07/24/19 18:03	07/29/19 15:51	1
Pentachlorophenol	9.5	U	9.5	3.0	ug/L		07/24/19 18:03	07/29/19 15:51	1
Phenanthrene	0.19	U	0.19	0.16	ug/L		07/24/19 18:03	07/29/19 15:51	1
Phenol	0.95	U	0.95	0.12	ug/L		07/24/19 18:03	07/29/19 15:51	1
Pyrene	0.19	U	0.19	0.17	ug/L		07/24/19 18:03	07/29/19 15:51	1
bis (2-chloroisopropyl) ether	0.95	U	0.95	0.52	ug/L		07/24/19 18:03	07/29/19 15:51	1
2,6-Dinitrotoluene	4.8	U	4.8	2.0	ug/L		07/24/19 18:03	07/29/19 15:51	1
4-Nitrophenol	9.5	U	9.5	2.1	ug/L		07/24/19 18:03	07/29/19 15:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14 (Surr)	80		23 - 127	07/24/19 18:03	07/29/19 15:51	1
Phenol-d5 (Surr)	21		10 - 120	07/24/19 18:03	07/29/19 15:51	1
Nitrobenzene-d5 (Surr)	70		32 - 120	07/24/19 18:03	07/29/19 15:51	1
2-Fluorophenol (Surr)	36		10 - 120	07/24/19 18:03	07/29/19 15:51	1
2-Fluorobiphenyl (Surr)	68		38 - 120	07/24/19 18:03	07/29/19 15:51	1
2,4,6-Tribromophenol (Surr)	64		28 - 120	07/24/19 18:03	07/29/19 15:51	1

Eurofins TestAmerica, Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11199639, NL Industries

Job ID: 240-116099-1

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

Client Sample ID: WG-11199639-071819-SG-008

Date Collected: 07/18/19 14:05

Date Received: 07/19/19 09:30

Lab Sample ID: 240-116099-9

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	0.95	U	0.95	0.47	ug/L		07/24/19 18:03	07/29/19 16:13	1
2,4,6-Trichlorophenol	4.8	U	4.8	1.7	ug/L		07/24/19 18:03	07/29/19 16:13	1
2,4,5-Trichlorophenol	4.8	U	4.8	1.9	ug/L		07/24/19 18:03	07/29/19 16:13	1
2,4-Dichlorophenol	1.9	U	1.9	0.25	ug/L		07/24/19 18:03	07/29/19 16:13	1
2,4-Dimethylphenol	1.9	U	1.9	0.49	ug/L		07/24/19 18:03	07/29/19 16:13	1
2,4-Dinitrophenol	9.5	U	9.5	5.9	ug/L		07/24/19 18:03	07/29/19 16:13	1
2,4-Dinitrotoluene	4.8	U	4.8	2.0	ug/L		07/24/19 18:03	07/29/19 16:13	1
2-Chloronaphthalene	0.95	U	0.95	0.46	ug/L		07/24/19 18:03	07/29/19 16:13	1
2-Chlorophenol	0.95	U	0.95	0.26	ug/L		07/24/19 18:03	07/29/19 16:13	1
2-Methylnaphthalene	0.19	U	0.19	0.11	ug/L		07/24/19 18:03	07/29/19 16:13	1
2-Methylphenol	0.95	U	0.95	0.20	ug/L		07/24/19 18:03	07/29/19 16:13	1
2-Nitroaniline	1.9	U	1.9	0.49	ug/L		07/24/19 18:03	07/29/19 16:13	1
2-Nitrophenol	1.9	U	1.9	0.54	ug/L		07/24/19 18:03	07/29/19 16:13	1
3 & 4 Methylphenol	1.9	U	1.9	0.18	ug/L		07/24/19 18:03	07/29/19 16:13	1
3,3'-Dichlorobenzidine	4.8	U	4.8	1.1	ug/L		07/24/19 18:03	07/29/19 16:13	1
3-Nitroaniline	1.9	U	1.9	0.54	ug/L		07/24/19 18:03	07/29/19 16:13	1
4,6-Dinitro-2-methylphenol	4.8	U	4.8	2.7	ug/L		07/24/19 18:03	07/29/19 16:13	1
4-Bromophenyl phenyl ether	1.9	U	1.9	0.48	ug/L		07/24/19 18:03	07/29/19 16:13	1
4-Chloro-3-methylphenol	1.9	U	1.9	0.28	ug/L		07/24/19 18:03	07/29/19 16:13	1
4-Chloroaniline	1.9	U	1.9	0.30	ug/L		07/24/19 18:03	07/29/19 16:13	1
4-Chlorophenyl phenyl ether	1.9	U	1.9	0.52	ug/L		07/24/19 18:03	07/29/19 16:13	1
4-Nitroaniline	1.9	U	1.9	0.87	ug/L		07/24/19 18:03	07/29/19 16:13	1
Acenaphthene	0.19	U	0.19	0.16	ug/L		07/24/19 18:03	07/29/19 16:13	1
Acenaphthylene	0.19	U	0.19	0.12	ug/L		07/24/19 18:03	07/29/19 16:13	1
Acetophenone	0.95	U	0.95	0.35	ug/L		07/24/19 18:03	07/29/19 16:13	1
Anthracene	0.19	U	0.19	0.13	ug/L		07/24/19 18:03	07/29/19 16:13	1
Atrazine	1.9	U	1.9	0.91	ug/L		07/24/19 18:03	07/29/19 16:13	1
Benzaldehyde	1.9	U	1.9	0.72	ug/L		07/24/19 18:03	07/29/19 16:13	1
Benzo[a]anthracene	0.19	U	0.19	0.16	ug/L		07/24/19 18:03	07/29/19 16:13	1
Benzo[a]pyrene	0.19	U	0.19	0.16	ug/L		07/24/19 18:03	07/29/19 16:13	1
Benzo[b]fluoranthene	0.19	U	0.19	0.15	ug/L		07/24/19 18:03	07/29/19 16:13	1
Benzo[g,h,i]perylene	0.19	U	0.19	0.17	ug/L		07/24/19 18:03	07/29/19 16:13	1
Benzo[k]fluoranthene	0.19	U	0.19	0.13	ug/L		07/24/19 18:03	07/29/19 16:13	1
Bis(2-chloroethoxy)methane	0.95	U	0.95	0.43	ug/L		07/24/19 18:03	07/29/19 16:13	1
Bis(2-chloroethyl)ether	0.95	U	0.95	0.38	ug/L		07/24/19 18:03	07/29/19 16:13	1
Bis(2-ethylhexyl) phthalate	4.8	U	4.8	2.1	ug/L		07/24/19 18:03	07/29/19 16:13	1
Butyl benzyl phthalate	1.9	U	1.9	0.63	ug/L		07/24/19 18:03	07/29/19 16:13	1
Caprolactam	4.8	U	4.8	0.89	ug/L		07/24/19 18:03	07/29/19 16:13	1
Carbazole	0.95	U	0.95	0.47	ug/L		07/24/19 18:03	07/29/19 16:13	1
Chrysene	0.19	U	0.19	0.18	ug/L		07/24/19 18:03	07/29/19 16:13	1
Di-n-butyl phthalate	4.8	U	4.8	1.7	ug/L		07/24/19 18:03	07/29/19 16:13	1
Di-n-octyl phthalate	1.9	U	1.9	0.78	ug/L		07/24/19 18:03	07/29/19 16:13	1
Dibenz(a,h)anthracene	0.19	U	0.19	0.14	ug/L		07/24/19 18:03	07/29/19 16:13	1
Dibenzofuran	0.95	U	0.95	0.53	ug/L		07/24/19 18:03	07/29/19 16:13	1
Diethyl phthalate	4.8	U	4.8	3.6	ug/L		07/24/19 18:03	07/29/19 16:13	1
Dimethyl phthalate	1.9	U	1.9	0.49	ug/L		07/24/19 18:03	07/29/19 16:13	1
Fluoranthene	0.19	U	0.19	0.15	ug/L		07/24/19 18:03	07/29/19 16:13	1
Fluorene	0.19	U	0.19	0.16	ug/L		07/24/19 18:03	07/29/19 16:13	1
Hexachlorobenzene	0.19	U	0.19	0.15	ug/L		07/24/19 18:03	07/29/19 16:13	1

Eurofins TestAmerica, Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11199639, NL Industries

Job ID: 240-116099-1

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

Client Sample ID: WG-11199639-071819-SG-008

Date Collected: 07/18/19 14:05

Date Received: 07/19/19 09:30

Lab Sample ID: 240-116099-9

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobutadiene	0.95	U	0.95	0.52	ug/L		07/24/19 18:03	07/29/19 16:13	1
Hexachlorocyclopentadiene	9.5	U	9.5	1.7	ug/L		07/24/19 18:03	07/29/19 16:13	1
Hexachloroethane	0.95	U	0.95	0.38	ug/L		07/24/19 18:03	07/29/19 16:13	1
Indeno[1,2,3-cd]pyrene	0.19	U	0.19	0.13	ug/L		07/24/19 18:03	07/29/19 16:13	1
Isophorone	0.95	U	0.95	0.31	ug/L		07/24/19 18:03	07/29/19 16:13	1
N-Nitrosodi-n-propylamine	0.95	U	0.95	0.24	ug/L		07/24/19 18:03	07/29/19 16:13	1
N-Nitrosodiphenylamine	0.95	U	0.95	0.42	ug/L		07/24/19 18:03	07/29/19 16:13	1
Naphthalene	0.19	U	0.19	0.10	ug/L		07/24/19 18:03	07/29/19 16:13	1
Nitrobenzene	0.95	U	0.95	0.49	ug/L		07/24/19 18:03	07/29/19 16:13	1
Pentachlorophenol	9.5	U	9.5	3.0	ug/L		07/24/19 18:03	07/29/19 16:13	1
Phenanthrene	0.19	U	0.19	0.16	ug/L		07/24/19 18:03	07/29/19 16:13	1
Phenol	0.95	U	0.95	0.12	ug/L		07/24/19 18:03	07/29/19 16:13	1
Pyrene	0.19	U	0.19	0.17	ug/L		07/24/19 18:03	07/29/19 16:13	1
bis (2-chloroisopropyl) ether	0.95	U	0.95	0.52	ug/L		07/24/19 18:03	07/29/19 16:13	1
2,6-Dinitrotoluene	4.8	U	4.8	2.0	ug/L		07/24/19 18:03	07/29/19 16:13	1
4-Nitrophenol	9.5	U	9.5	2.1	ug/L		07/24/19 18:03	07/29/19 16:13	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14 (Surr)	83		23 - 127				07/24/19 18:03	07/29/19 16:13	1
Phenol-d5 (Surr)	20		10 - 120				07/24/19 18:03	07/29/19 16:13	1
Nitrobenzene-d5 (Surr)	62		32 - 120				07/24/19 18:03	07/29/19 16:13	1
2-Fluorophenol (Surr)	33		10 - 120				07/24/19 18:03	07/29/19 16:13	1
2-Fluorobiphenyl (Surr)	62		38 - 120				07/24/19 18:03	07/29/19 16:13	1
2,4,6-Tribromophenol (Surr)	63		28 - 120				07/24/19 18:03	07/29/19 16:13	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11199639, NL Industries

Job ID: 240-116099-1

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

Client Sample ID: WG-11199639-071819-DT-001

Date Collected: 07/18/19 09:30

Date Received: 07/19/19 09:30

Lab Sample ID: 240-116099-2

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	1.0	U	1.0	0.053	ug/L		07/22/19 14:00	07/24/19 20:18	1
Aluminum	64		50	34	ug/L		07/22/19 14:00	07/24/19 20:18	1
Arsenic	5.0	U	5.0	0.75	ug/L		07/22/19 14:00	07/24/19 20:18	1
Barium	160		5.0	2.2	ug/L		07/22/19 14:00	07/24/19 20:18	1
Beryllium	1.0	U	1.0	0.31	ug/L		07/22/19 14:00	07/24/19 20:18	1
Cadmium	1.0	U	1.0	0.21	ug/L		07/22/19 14:00	07/24/19 20:18	1
Cobalt	1.0	U	1.0	0.19	ug/L		07/22/19 14:00	07/24/19 20:18	1
Chromium	2.0	U	2.0	0.98	ug/L		07/22/19 14:00	07/24/19 20:18	1
Copper	5.5		2.0	1.7	ug/L		07/22/19 14:00	07/24/19 20:18	1
Iron	110		100	47	ug/L		07/22/19 14:00	07/24/19 20:18	1
Manganese	42		5.0	2.1	ug/L		07/22/19 14:00	07/24/19 20:18	1
Nickel	2.0	U	2.0	1.5	ug/L		07/22/19 14:00	07/24/19 20:18	1
Lead	4.4		1.0	0.45	ug/L		07/22/19 14:00	07/24/19 20:18	1
Antimony	2.0	U	2.0	0.57	ug/L		07/22/19 14:00	07/24/19 20:18	1
Selenium	5.0	U	5.0	0.89	ug/L		07/22/19 14:00	07/24/19 20:18	1
Thallium	1.0	U	1.0	0.20	ug/L		07/22/19 14:00	07/24/19 20:18	1
Vanadium	5.0	U	5.0	0.82	ug/L		07/22/19 14:00	07/24/19 20:18	1
Zinc	20	U	20	15	ug/L		07/22/19 14:00	07/24/19 20:18	1
Calcium	89000		1000	580	ug/L		07/22/19 14:00	07/24/19 20:18	1
Potassium	710	J	1000	220	ug/L		07/22/19 14:00	07/24/19 20:18	1
Magnesium	97000		1000	200	ug/L		07/22/19 14:00	07/24/19 20:18	1
Sodium	75000		1000	330	ug/L		07/22/19 14:00	07/24/19 20:18	1

Client Sample ID: WG-11199639-071819-SG-002

Date Collected: 07/18/19 09:30

Date Received: 07/19/19 09:30

Lab Sample ID: 240-116099-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	1.0	U	1.0	0.053	ug/L		07/22/19 14:00	07/24/19 20:20	1
Aluminum	50	U	50	34	ug/L		07/22/19 14:00	07/24/19 20:20	1
Arsenic	6.8		5.0	0.75	ug/L		07/22/19 14:00	07/24/19 20:20	1
Barium	140		5.0	2.2	ug/L		07/22/19 14:00	07/24/19 20:20	1
Beryllium	1.0	U	1.0	0.31	ug/L		07/22/19 14:00	07/24/19 20:20	1
Cadmium	1.0	U	1.0	0.21	ug/L		07/22/19 14:00	07/24/19 20:20	1
Cobalt	0.38	J	1.0	0.19	ug/L		07/22/19 14:00	07/24/19 20:20	1
Chromium	2.0	U	2.0	0.98	ug/L		07/22/19 14:00	07/24/19 20:20	1
Copper	12		2.0	1.7	ug/L		07/22/19 14:00	07/24/19 20:20	1
Iron	97	J	100	47	ug/L		07/22/19 14:00	07/24/19 20:20	1
Manganese	98		5.0	2.1	ug/L		07/22/19 14:00	07/24/19 20:20	1
Nickel	2.0	U	2.0	1.5	ug/L		07/22/19 14:00	07/24/19 20:20	1
Lead	3.1		1.0	0.45	ug/L		07/22/19 14:00	07/24/19 20:20	1
Antimony	2.0	U	2.0	0.57	ug/L		07/22/19 14:00	07/24/19 20:20	1
Selenium	5.0	U	5.0	0.89	ug/L		07/22/19 14:00	07/24/19 20:20	1
Thallium	1.0	U	1.0	0.20	ug/L		07/22/19 14:00	07/24/19 20:20	1
Vanadium	5.0	U	5.0	0.82	ug/L		07/22/19 14:00	07/24/19 20:20	1
Zinc	34		20	15	ug/L		07/22/19 14:00	07/24/19 20:20	1
Calcium	68000		1000	580	ug/L		07/22/19 14:00	07/24/19 20:20	1
Potassium	2500		1000	220	ug/L		07/22/19 14:00	07/24/19 20:20	1
Magnesium	86000		1000	200	ug/L		07/22/19 14:00	07/24/19 20:20	1
Sodium	74000		1000	330	ug/L		07/22/19 14:00	07/24/19 20:20	1

Eurofins TestAmerica, Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11199639, NL Industries

Job ID: 240-116099-1

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

Client Sample ID: WG-11199639-071819-DT-003

Date Collected: 07/18/19 10:55

Date Received: 07/19/19 09:30

Lab Sample ID: 240-116099-4

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	1.0	U	1.0	0.053	ug/L		07/22/19 14:00	07/24/19 20:22	1
Aluminum	50	U	50	34	ug/L		07/22/19 14:00	07/24/19 20:22	1
Arsenic	9.4		5.0	0.75	ug/L		07/22/19 14:00	07/24/19 20:22	1
Barium	39		5.0	2.2	ug/L		07/22/19 14:00	07/24/19 20:22	1
Beryllium	1.0	U	1.0	0.31	ug/L		07/22/19 14:00	07/24/19 20:22	1
Cadmium	1.0	U	1.0	0.21	ug/L		07/22/19 14:00	07/24/19 20:22	1
Cobalt	1.0	U	1.0	0.19	ug/L		07/22/19 14:00	07/24/19 20:22	1
Chromium	2.0	U	2.0	0.98	ug/L		07/22/19 14:00	07/24/19 20:22	1
Copper	2.0	U	2.0	1.7	ug/L		07/22/19 14:00	07/24/19 20:22	1
Iron	340		100	47	ug/L		07/22/19 14:00	07/24/19 20:22	1
Manganese	11		5.0	2.1	ug/L		07/22/19 14:00	07/24/19 20:22	1
Nickel	2.0	U	2.0	1.5	ug/L		07/22/19 14:00	07/24/19 20:22	1
Lead	1.0	U	1.0	0.45	ug/L		07/22/19 14:00	07/24/19 20:22	1
Antimony	2.0	U	2.0	0.57	ug/L		07/22/19 14:00	07/24/19 20:22	1
Selenium	5.0	U	5.0	0.89	ug/L		07/22/19 14:00	07/24/19 20:22	1
Thallium	1.0	U	1.0	0.20	ug/L		07/22/19 14:00	07/24/19 20:22	1
Vanadium	5.0	U	5.0	0.82	ug/L		07/22/19 14:00	07/24/19 20:22	1
Zinc	20	U	20	15	ug/L		07/22/19 14:00	07/24/19 20:22	1
Calcium	79000		1000	580	ug/L		07/22/19 14:00	07/24/19 20:22	1
Potassium	1900		1000	220	ug/L		07/22/19 14:00	07/24/19 20:22	1
Magnesium	100000		1000	200	ug/L		07/22/19 14:00	07/24/19 20:22	1
Sodium	65000		1000	330	ug/L		07/22/19 14:00	07/24/19 20:22	1

Client Sample ID: WG-11199639-071819-SG-004

Date Collected: 07/18/19 11:15

Date Received: 07/19/19 09:30

Lab Sample ID: 240-116099-5

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	1.0	U	1.0	0.053	ug/L		07/22/19 14:00	07/24/19 20:25	1
Aluminum	110		50	34	ug/L		07/22/19 14:00	07/24/19 20:25	1
Arsenic	1.2	J	5.0	0.75	ug/L		07/22/19 14:00	07/24/19 20:25	1
Barium	98		5.0	2.2	ug/L		07/22/19 14:00	07/24/19 20:25	1
Beryllium	1.0	U	1.0	0.31	ug/L		07/22/19 14:00	07/24/19 20:25	1
Cadmium	1.0	U	1.0	0.21	ug/L		07/22/19 14:00	07/24/19 20:25	1
Cobalt	2.4		1.0	0.19	ug/L		07/22/19 14:00	07/24/19 20:25	1
Chromium	1.5	J	2.0	0.98	ug/L		07/22/19 14:00	07/24/19 20:25	1
Copper	11		2.0	1.7	ug/L		07/22/19 14:00	07/24/19 20:25	1
Iron	680		100	47	ug/L		07/22/19 14:00	07/24/19 20:25	1
Manganese	250		5.0	2.1	ug/L		07/22/19 14:00	07/24/19 20:25	1
Nickel	2.0	U	2.0	1.5	ug/L		07/22/19 14:00	07/24/19 20:25	1
Lead	5.2		1.0	0.45	ug/L		07/22/19 14:00	07/24/19 20:25	1
Antimony	2.0	U	2.0	0.57	ug/L		07/22/19 14:00	07/24/19 20:25	1
Selenium	5.0	U	5.0	0.89	ug/L		07/22/19 14:00	07/24/19 20:25	1
Thallium	1.0	U	1.0	0.20	ug/L		07/22/19 14:00	07/24/19 20:25	1
Vanadium	5.0	U	5.0	0.82	ug/L		07/22/19 14:00	07/24/19 20:25	1
Zinc	27		20	15	ug/L		07/22/19 14:00	07/24/19 20:25	1
Calcium	87000		1000	580	ug/L		07/22/19 14:00	07/24/19 20:25	1
Potassium	2200		1000	220	ug/L		07/22/19 14:00	07/24/19 20:25	1
Magnesium	100000		1000	200	ug/L		07/22/19 14:00	07/24/19 20:25	1
Sodium	62000		1000	330	ug/L		07/22/19 14:00	07/24/19 20:25	1

Eurofins TestAmerica, Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11199639, NL Industries

Job ID: 240-116099-1

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

Client Sample ID: WG-11199639-071819-DT-007

Date Collected: 07/18/19 12:30

Date Received: 07/19/19 09:30

Lab Sample ID: 240-116099-6

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	1.0	U	1.0	0.053	ug/L		07/22/19 14:00	07/24/19 20:27	1
Aluminum	50	U	50	34	ug/L		07/22/19 14:00	07/24/19 20:27	1
Arsenic	5.0	U	5.0	0.75	ug/L		07/22/19 14:00	07/24/19 20:27	1
Barium	5.0	U	5.0	2.2	ug/L		07/22/19 14:00	07/24/19 20:27	1
Beryllium	1.0	U	1.0	0.31	ug/L		07/22/19 14:00	07/24/19 20:27	1
Cadmium	1.0	U	1.0	0.21	ug/L		07/22/19 14:00	07/24/19 20:27	1
Cobalt	1.0	U	1.0	0.19	ug/L		07/22/19 14:00	07/24/19 20:27	1
Chromium	2.0	U	2.0	0.98	ug/L		07/22/19 14:00	07/24/19 20:27	1
Copper	2.0	U	2.0	1.7	ug/L		07/22/19 14:00	07/24/19 20:27	1
Iron	100	U	100	47	ug/L		07/22/19 14:00	07/24/19 20:27	1
Manganese	5.0	U	5.0	2.1	ug/L		07/22/19 14:00	07/24/19 20:27	1
Nickel	2.0	U	2.0	1.5	ug/L		07/22/19 14:00	07/24/19 20:27	1
Lead	1.0	U	1.0	0.45	ug/L		07/22/19 14:00	07/24/19 20:27	1
Antimony	2.0	U	2.0	0.57	ug/L		07/22/19 14:00	07/24/19 20:27	1
Selenium	5.0	U	5.0	0.89	ug/L		07/22/19 14:00	07/24/19 20:27	1
Thallium	1.0	U	1.0	0.20	ug/L		07/22/19 14:00	07/24/19 20:27	1
Vanadium	5.0	U	5.0	0.82	ug/L		07/22/19 14:00	07/24/19 20:27	1
Zinc	20	U	20	15	ug/L		07/22/19 14:00	07/24/19 20:27	1
Calcium	1000	U	1000	580	ug/L		07/22/19 14:00	07/24/19 20:27	1
Potassium	1000	U	1000	220	ug/L		07/22/19 14:00	07/24/19 20:27	1
Magnesium	1000	U	1000	200	ug/L		07/22/19 14:00	07/24/19 20:27	1
Sodium	1000	U	1000	330	ug/L		07/22/19 14:00	07/24/19 20:27	1

Client Sample ID: EB-11199639-071819-DT-005

Date Collected: 07/18/19 10:50

Date Received: 07/19/19 09:30

Lab Sample ID: 240-116099-7

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	1.0	U	1.0	0.053	ug/L		07/22/19 14:00	07/24/19 20:30	1
Aluminum	50	U	50	34	ug/L		07/22/19 14:00	07/24/19 20:30	1
Arsenic	1.1	J	5.0	0.75	ug/L		07/22/19 14:00	07/24/19 20:30	1
Barium	87		5.0	2.2	ug/L		07/22/19 14:00	07/24/19 20:30	1
Beryllium	1.0	U	1.0	0.31	ug/L		07/22/19 14:00	07/24/19 20:30	1
Cadmium	1.0	U	1.0	0.21	ug/L		07/22/19 14:00	07/24/19 20:30	1
Cobalt	2.1		1.0	0.19	ug/L		07/22/19 14:00	07/24/19 20:30	1
Chromium	2.0	U	2.0	0.98	ug/L		07/22/19 14:00	07/24/19 20:30	1
Copper	2.0	U	2.0	1.7	ug/L		07/22/19 14:00	07/24/19 20:30	1
Iron	480		100	47	ug/L		07/22/19 14:00	07/24/19 20:30	1
Manganese	240		5.0	2.1	ug/L		07/22/19 14:00	07/24/19 20:30	1
Nickel	2.0	U	2.0	1.5	ug/L		07/22/19 14:00	07/24/19 20:30	1
Lead	1.0	U	1.0	0.45	ug/L		07/22/19 14:00	07/24/19 20:30	1
Antimony	2.0	U	2.0	0.57	ug/L		07/22/19 14:00	07/24/19 20:30	1
Selenium	5.0	U	5.0	0.89	ug/L		07/22/19 14:00	07/24/19 20:30	1
Thallium	1.0	U	1.0	0.20	ug/L		07/22/19 14:00	07/24/19 20:30	1
Vanadium	5.0	U	5.0	0.82	ug/L		07/22/19 14:00	07/24/19 20:30	1
Zinc	20	U	20	15	ug/L		07/22/19 14:00	07/24/19 20:30	1
Calcium	87000		1000	580	ug/L		07/22/19 14:00	07/24/19 20:30	1
Potassium	2100		1000	220	ug/L		07/22/19 14:00	07/24/19 20:30	1
Magnesium	100000		1000	200	ug/L		07/22/19 14:00	07/24/19 20:30	1
Sodium	63000		1000	330	ug/L		07/22/19 14:00	07/24/19 20:30	1

Eurofins TestAmerica, Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11199639, NL Industries

Job ID: 240-116099-1

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

Client Sample ID: WG-11199639-071819-SG-006

Date Collected: 07/18/19 11:15

Date Received: 07/19/19 09:30

Lab Sample ID: 240-116099-8

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	1.0	U	1.0	0.053	ug/L		07/22/19 14:00	07/24/19 20:32	1
Aluminum	50	U	50	34	ug/L		07/22/19 14:00	07/24/19 20:32	1
Arsenic	3.2	J	5.0	0.75	ug/L		07/22/19 14:00	07/24/19 20:32	1
Barium	96		5.0	2.2	ug/L		07/22/19 14:00	07/24/19 20:32	1
Beryllium	1.0	U	1.0	0.31	ug/L		07/22/19 14:00	07/24/19 20:32	1
Cadmium	1.0	U	1.0	0.21	ug/L		07/22/19 14:00	07/24/19 20:32	1
Cobalt	0.44	J	1.0	0.19	ug/L		07/22/19 14:00	07/24/19 20:32	1
Chromium	2.0	U	2.0	0.98	ug/L		07/22/19 14:00	07/24/19 20:32	1
Copper	2.0	U	2.0	1.7	ug/L		07/22/19 14:00	07/24/19 20:32	1
Iron	930		100	47	ug/L		07/22/19 14:00	07/24/19 20:32	1
Manganese	47		5.0	2.1	ug/L		07/22/19 14:00	07/24/19 20:32	1
Nickel	2.0	U	2.0	1.5	ug/L		07/22/19 14:00	07/24/19 20:32	1
Lead	1.0	U	1.0	0.45	ug/L		07/22/19 14:00	07/24/19 20:32	1
Antimony	2.0	U	2.0	0.57	ug/L		07/22/19 14:00	07/24/19 20:32	1
Selenium	5.0	U	5.0	0.89	ug/L		07/22/19 14:00	07/24/19 20:32	1
Thallium	1.0	U	1.0	0.20	ug/L		07/22/19 14:00	07/24/19 20:32	1
Vanadium	5.0	U	5.0	0.82	ug/L		07/22/19 14:00	07/24/19 20:32	1
Zinc	20	U	20	15	ug/L		07/22/19 14:00	07/24/19 20:32	1
Calcium	110000		1000	580	ug/L		07/22/19 14:00	07/24/19 20:32	1
Potassium	3300		1000	220	ug/L		07/22/19 14:00	07/24/19 20:32	1
Magnesium	85000		1000	200	ug/L		07/22/19 14:00	07/24/19 20:32	1
Sodium	140000		1000	330	ug/L		07/22/19 14:00	07/24/19 20:32	1

Client Sample ID: WG-11199639-071819-SG-008

Date Collected: 07/18/19 14:05

Date Received: 07/19/19 09:30

Lab Sample ID: 240-116099-9

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	1.0	U	1.0	0.053	ug/L		07/22/19 14:00	07/24/19 20:39	1
Aluminum	50	U	50	34	ug/L		07/22/19 14:00	07/24/19 20:39	1
Arsenic	5.0	U	5.0	0.75	ug/L		07/22/19 14:00	07/24/19 20:39	1
Barium	180		5.0	2.2	ug/L		07/22/19 14:00	07/24/19 20:39	1
Beryllium	1.0	U	1.0	0.31	ug/L		07/22/19 14:00	07/24/19 20:39	1
Cadmium	1.0	U	1.0	0.21	ug/L		07/22/19 14:00	07/24/19 20:39	1
Cobalt	1.0	U	1.0	0.19	ug/L		07/22/19 14:00	07/24/19 20:39	1
Chromium	2.0	U	2.0	0.98	ug/L		07/22/19 14:00	07/24/19 20:39	1
Copper	2.0	U	2.0	1.7	ug/L		07/22/19 14:00	07/24/19 20:39	1
Iron	350		100	47	ug/L		07/22/19 14:00	07/24/19 20:39	1
Manganese	13		5.0	2.1	ug/L		07/22/19 14:00	07/24/19 20:39	1
Nickel	2.0	U	2.0	1.5	ug/L		07/22/19 14:00	07/24/19 20:39	1
Lead	1.0	U	1.0	0.45	ug/L		07/22/19 14:00	07/24/19 20:39	1
Antimony	2.0	U	2.0	0.57	ug/L		07/22/19 14:00	07/24/19 20:39	1
Selenium	5.0	U	5.0	0.89	ug/L		07/22/19 14:00	07/24/19 20:39	1
Thallium	1.0	U	1.0	0.20	ug/L		07/22/19 14:00	07/24/19 20:39	1
Vanadium	5.0	U	5.0	0.82	ug/L		07/22/19 14:00	07/24/19 20:39	1
Zinc	20	U	20	15	ug/L		07/22/19 14:00	07/24/19 20:39	1
Calcium	47000		1000	580	ug/L		07/22/19 14:00	07/24/19 20:39	1
Potassium	3100		1000	220	ug/L		07/22/19 14:00	07/24/19 20:39	1
Magnesium	71000		1000	200	ug/L		07/22/19 14:00	07/24/19 20:39	1
Sodium	71000		1000	330	ug/L		07/22/19 14:00	07/24/19 20:39	1

Eurofins TestAmerica, Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 11199639, NL Industries

Job ID: 240-116099-1

Method: 7470A - Mercury (CVAA)

Client Sample ID: WG-11199639-071819-DT-001

Date Collected: 07/18/19 09:30

Date Received: 07/19/19 09:30

Lab Sample ID: 240-116099-2

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.20	U	0.20	0.13	ug/L	-	07/22/19 12:00	07/23/19 09:56	1

Client Sample ID: WG-11199639-071819-SG-002

Date Collected: 07/18/19 09:30

Date Received: 07/19/19 09:30

Lab Sample ID: 240-116099-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.20	U	0.20	0.13	ug/L	-	07/22/19 12:00	07/23/19 09:58	1

Client Sample ID: WG-11199639-071819-DT-003

Date Collected: 07/18/19 10:55

Date Received: 07/19/19 09:30

Lab Sample ID: 240-116099-4

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.20	U	0.20	0.13	ug/L	-	07/22/19 12:00	07/23/19 10:00	1

Client Sample ID: WG-11199639-071819-SG-004

Date Collected: 07/18/19 11:15

Date Received: 07/19/19 09:30

Lab Sample ID: 240-116099-5

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.20	U	0.20	0.13	ug/L	-	07/22/19 12:00	07/23/19 10:02	1

Client Sample ID: WG-11199639-071819-DT-007

Date Collected: 07/18/19 12:30

Date Received: 07/19/19 09:30

Lab Sample ID: 240-116099-6

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.20	U	0.20	0.13	ug/L	-	07/22/19 12:00	07/23/19 10:04	1

Client Sample ID: EB-11199639-071819-DT-005

Date Collected: 07/18/19 10:50

Date Received: 07/19/19 09:30

Lab Sample ID: 240-116099-7

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.20	U	0.20	0.13	ug/L	-	07/22/19 12:00	07/23/19 10:06	1

Client Sample ID: WG-11199639-071819-SG-006

Date Collected: 07/18/19 11:15

Date Received: 07/19/19 09:30

Lab Sample ID: 240-116099-8

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.20	U	0.20	0.13	ug/L	-	07/22/19 12:00	07/23/19 10:08	1

Client Sample ID: WG-11199639-071819-SG-008

Date Collected: 07/18/19 14:05

Date Received: 07/19/19 09:30

Lab Sample ID: 240-116099-9

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.20	U	0.20	0.13	ug/L	-	07/22/19 12:00	07/23/19 10:10	1

Eurofins TestAmerica, Canton

Surrogate Summary

Client: GHD Services Inc.
Project/Site: 11199639, NL Industries

Job ID: 240-116099-1

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 (70-123)	DBFM (75-128)	BFB (59-120)	DCA (70-121)
240-116099-1	TB-11199639-071819-DT	93	95	95	107
240-116099-2	WG-11199639-071819-DT-001	96	95	98	106
240-116099-3	WG-11199639-071819-SG-002	92	97	94	106
240-116099-4	WG-11199639-071819-DT-003	96	98	96	110
240-116099-5	WG-11199639-071819-SG-004	94	99	96	111
240-116099-6	WG-11199639-071819-DT-007	93	96	93	105
240-116099-7	EB-11199639-071819-DT-005	92	94	93	104
240-116099-8	WG-11199639-071819-SG-006	93	94	95	107
240-116099-9	WG-11199639-071819-SG-008	94	96	96	107
LCS 240-393412/5	Lab Control Sample	90	91	91	100
MB 240-393412/7	Method Blank	95	95	99	107

Surrogate Legend

TOL = Toluene-d8 (Surr)
DBFM = Dibromofluoromethane (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DCA = 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)					
		TPHL (23-127)	PHL (10-120)	NBZ (32-120)	2FP (10-120)	FBP (38-120)	TBP (28-120)
240-116099-2	WG-11199639-071819-DT-001	81	22	65	35	66	75
240-116099-3	WG-11199639-071819-SG-002	83	28	71	44	68	75
240-116099-4	WG-11199639-071819-DT-003	82	22	64	36	62	66
240-116099-5	WG-11199639-071819-SG-004	79	24	69	39	66	67
240-116099-6	WG-11199639-071819-DT-007	86	23	66	37	67	65
240-116099-7	EB-11199639-071819-DT-005	85	28	73	45	73	68
240-116099-8	WG-11199639-071819-SG-006	80	21	70	36	68	64
240-116099-9	WG-11199639-071819-SG-008	83	20	62	33	62	63
LCS 240-392792/20-A	Lab Control Sample	98	45	96	66	96	85
MB 240-392792/19-A	Method Blank	98	48	88	66	88	70

Surrogate Legend

TPHL = 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)

QC Sample Results

Client: GHD Services Inc.
Project/Site: 11199639, NL Industries

Job ID: 240-116099-1

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

Lab Sample ID: MB 240-393412/7

Matrix: Water

Analysis Batch: 393412

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	0.24	ug/L			07/29/19 17:36	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.13	ug/L			07/29/19 17:36	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			07/29/19 17:36	1
1,1,2-Trichloroethane	1.0	U	1.0	0.090	ug/L			07/29/19 17:36	1
1,1-Dichloroethane	1.0	U	1.0	0.17	ug/L			07/29/19 17:36	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			07/29/19 17:36	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.26	ug/L			07/29/19 17:36	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			07/29/19 17:36	1
Ethylene Dibromide	1.0	U	1.0	0.12	ug/L			07/29/19 17:36	1
1,2-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			07/29/19 17:36	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			07/29/19 17:36	1
1,2-Dichloropropane	1.0	U	1.0	0.15	ug/L			07/29/19 17:36	1
1,3-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			07/29/19 17:36	1
1,4-Dichlorobenzene	1.0	U	1.0	0.16	ug/L			07/29/19 17:36	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			07/29/19 17:36	1
2-Hexanone	10	U	10	0.54	ug/L			07/29/19 17:36	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.42	ug/L			07/29/19 17:36	1
Acetone	10	U	10	5.4	ug/L			07/29/19 17:36	1
Benzene	1.0	U	1.0	0.13	ug/L			07/29/19 17:36	1
Dichlorobromomethane	1.0	U	1.0	0.17	ug/L			07/29/19 17:36	1
Bromoform	1.0	U	1.0	0.76	ug/L			07/29/19 17:36	1
Bromomethane	1.0	U	1.0	0.42	ug/L			07/29/19 17:36	1
Carbon disulfide	1.0	U	1.0	0.28	ug/L			07/29/19 17:36	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			07/29/19 17:36	1
Chlorobenzene	1.0	U	1.0	0.14	ug/L			07/29/19 17:36	1
Chloroethane	1.0	U	1.0	0.83	ug/L			07/29/19 17:36	1
Chloroform	1.0	U	1.0	0.13	ug/L			07/29/19 17:36	1
Chloromethane	1.0	U	1.0	0.20	ug/L			07/29/19 17:36	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			07/29/19 17:36	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			07/29/19 17:36	1
Cyclohexane	1.0	U	1.0	0.24	ug/L			07/29/19 17:36	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			07/29/19 17:36	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			07/29/19 17:36	1
Ethylbenzene	1.0	U	1.0	0.11	ug/L			07/29/19 17:36	1
Isopropylbenzene	1.0	U	1.0	0.090	ug/L			07/29/19 17:36	1
Methyl acetate	10	U	10	1.7	ug/L			07/29/19 17:36	1
Methyl tert-butyl ether	1.0	U	1.0	0.070	ug/L			07/29/19 17:36	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			07/29/19 17:36	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			07/29/19 17:36	1
Styrene	1.0	U	1.0	0.10	ug/L			07/29/19 17:36	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			07/29/19 17:36	1
Toluene	1.0	U	1.0	0.14	ug/L			07/29/19 17:36	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			07/29/19 17:36	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			07/29/19 17:36	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			07/29/19 17:36	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			07/29/19 17:36	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			07/29/19 17:36	1
Xylenes, Total	2.0	U	2.0	0.15	ug/L			07/29/19 17:36	1

Eurofins TestAmerica, Canton

QC Sample Results

Client: GHD Services Inc.
Project/Site: 11199639, NL Industries

Job ID: 240-116099-1

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

Lab Sample ID: MB 240-393412/7

Matrix: Water

Analysis Batch: 393412

Client Sample ID: Method Blank

Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	95		70 - 123		07/29/19 17:36	1
Dibromofluoromethane (Surr)	95		75 - 128		07/29/19 17:36	1
4-Bromofluorobenzene (Surr)	99		59 - 120		07/29/19 17:36	1
1,2-Dichloroethane-d4 (Surr)	107		70 - 121		07/29/19 17:36	1

Lab Sample ID: LCS 240-393412/5

Matrix: Water

Analysis Batch: 393412

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	20.0	20.7		ug/L		104	69 - 134
1,1,1,2-Tetrachloroethane	20.0	19.3		ug/L		96	65 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	19.9		ug/L		99	50 - 156
1,1,2-Trichloroethane	20.0	19.0		ug/L		95	78 - 133
1,1-Dichloroethane	20.0	18.8		ug/L		94	75 - 133
1,1-Dichloroethene	20.0	20.3		ug/L		101	65 - 139
1,2,4-Trichlorobenzene	20.0	14.2		ug/L		71	42 - 133
1,2-Dibromo-3-Chloropropane	20.0	17.8		ug/L		89	46 - 132
Ethylene Dibromide	20.0	19.6		ug/L		98	77 - 123
1,2-Dichlorobenzene	20.0	17.3		ug/L		87	78 - 120
1,2-Dichloroethane	20.0	20.7		ug/L		104	71 - 135
1,2-Dichloropropane	20.0	20.0		ug/L		100	78 - 133
1,3-Dichlorobenzene	20.0	17.5		ug/L		87	78 - 120
1,4-Dichlorobenzene	20.0	17.5		ug/L		87	78 - 120
2-Butanone (MEK)	40.0	37.1		ug/L		93	39 - 163
2-Hexanone	40.0	38.5		ug/L		96	43 - 148
4-Methyl-2-pentanone (MIBK)	40.0	38.5		ug/L		96	49 - 143
Acetone	40.0	32.5		ug/L		81	21 - 162
Benzene	20.0	18.9		ug/L		94	80 - 123
Dichlorobromomethane	20.0	20.2		ug/L		101	77 - 125
Bromoform	20.0	20.6		ug/L		103	49 - 141
Bromomethane	20.0	19.1		ug/L		95	41 - 175
Carbon disulfide	20.0	17.1		ug/L		86	60 - 138
Carbon tetrachloride	20.0	20.7		ug/L		104	63 - 140
Chlorobenzene	20.0	18.8		ug/L		94	80 - 121
Chloroethane	20.0	18.0		ug/L		90	33 - 173
Chloroform	20.0	19.5		ug/L		98	79 - 127
Chloromethane	20.0	11.6		ug/L		58	54 - 143
cis-1,2-Dichloroethene	20.0	18.2		ug/L		91	76 - 128
cis-1,3-Dichloropropene	20.0	20.5		ug/L		103	64 - 132
Cyclohexane	20.0	18.6		ug/L		93	58 - 145
Chlorodibromomethane	20.0	19.9		ug/L		100	70 - 132
Dichlorodifluoromethane	20.0	14.0		ug/L		70	29 - 148
Ethylbenzene	20.0	19.0		ug/L		95	80 - 120
Isopropylbenzene	20.0	19.0		ug/L		95	74 - 120
Methyl acetate	40.0	33.0		ug/L		83	52 - 145
Methyl tert-butyl ether	20.0	19.2		ug/L		96	51 - 133
Methylcyclohexane	20.0	18.0		ug/L		90	60 - 125

Eurofins TestAmerica, Canton

QC Sample Results

Client: GHD Services Inc.
Project/Site: 11199639, NL Industries

Job ID: 240-116099-1

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

Lab Sample ID: LCS 240-393412/5

Matrix: Water

Analysis Batch: 393412

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methylene Chloride	20.0	16.6		ug/L		83	70 - 134
Styrene	20.0	18.9		ug/L		94	79 - 120
Tetrachloroethene	20.0	19.5		ug/L		97	74 - 130
Toluene	20.0	19.2		ug/L		96	78 - 129
trans-1,2-Dichloroethene	20.0	19.3		ug/L		97	78 - 133
trans-1,3-Dichloropropene	20.0	19.6		ug/L		98	55 - 128
Trichloroethene	20.0	19.3		ug/L		97	76 - 125
Trichlorofluoromethane	20.0	21.3		ug/L		107	51 - 164
Vinyl chloride	20.0	15.9		ug/L		79	58 - 143
Xylenes, Total	40.0	37.7		ug/L		94	80 - 120
m-Xylene & p-Xylene	20.0	19.0		ug/L		95	80 - 120
o-Xylene	20.0	18.7		ug/L		94	80 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	90		70 - 123
Dibromofluoromethane (Surr)	91		75 - 128
4-Bromofluorobenzene (Surr)	91		59 - 120
1,2-Dichloroethane-d4 (Surr)	100		70 - 121

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

Lab Sample ID: MB 240-392792/19-A

Matrix: Water

Analysis Batch: 393037

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 392792

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	1.0	U	1.0	0.49	ug/L		07/24/19 18:03	07/26/19 10:22	1
2,4,6-Trichlorophenol	5.0	U	5.0	1.8	ug/L		07/24/19 18:03	07/26/19 10:22	1
2,4,5-Trichlorophenol	5.0	U	5.0	2.0	ug/L		07/24/19 18:03	07/26/19 10:22	1
2,4-Dichlorophenol	2.0	U	2.0	0.26	ug/L		07/24/19 18:03	07/26/19 10:22	1
2,4-Dimethylphenol	2.0	U	2.0	0.52	ug/L		07/24/19 18:03	07/26/19 10:22	1
2,4-Dinitrophenol	10	U	10	6.2	ug/L		07/24/19 18:03	07/26/19 10:22	1
2,4-Dinitrotoluene	5.0	U	5.0	2.1	ug/L		07/24/19 18:03	07/26/19 10:22	1
2-Chloronaphthalene	1.0	U	1.0	0.48	ug/L		07/24/19 18:03	07/26/19 10:22	1
2-Chlorophenol	1.0	U	1.0	0.27	ug/L		07/24/19 18:03	07/26/19 10:22	1
2-Methylnaphthalene	0.20	U	0.20	0.11	ug/L		07/24/19 18:03	07/26/19 10:22	1
2-Methylphenol	1.0	U	1.0	0.21	ug/L		07/24/19 18:03	07/26/19 10:22	1
2-Nitroaniline	2.0	U	2.0	0.51	ug/L		07/24/19 18:03	07/26/19 10:22	1
2-Nitrophenol	2.0	U	2.0	0.56	ug/L		07/24/19 18:03	07/26/19 10:22	1
3 & 4 Methylphenol	2.0	U	2.0	0.19	ug/L		07/24/19 18:03	07/26/19 10:22	1
3,3'-Dichlorobenzidine	5.0	U	5.0	1.2	ug/L		07/24/19 18:03	07/26/19 10:22	1
3-Nitroaniline	2.0	U	2.0	0.57	ug/L		07/24/19 18:03	07/26/19 10:22	1
4,6-Dinitro-2-methylphenol	5.0	U	5.0	2.8	ug/L		07/24/19 18:03	07/26/19 10:22	1
4-Bromophenyl phenyl ether	2.0	U	2.0	0.50	ug/L		07/24/19 18:03	07/26/19 10:22	1
4-Chloro-3-methylphenol	2.0	U	2.0	0.30	ug/L		07/24/19 18:03	07/26/19 10:22	1
4-Chloroaniline	2.0	U	2.0	0.32	ug/L		07/24/19 18:03	07/26/19 10:22	1
4-Chlorophenyl phenyl ether	2.0	U	2.0	0.55	ug/L		07/24/19 18:03	07/26/19 10:22	1
4-Nitroaniline	2.0	U	2.0	0.92	ug/L		07/24/19 18:03	07/26/19 10:22	1
Acenaphthene	0.20	U	0.20	0.17	ug/L		07/24/19 18:03	07/26/19 10:22	1

Eurofins TestAmerica, Canton

QC Sample Results

Client: GHD Services Inc.
Project/Site: 11199639, NL Industries

Job ID: 240-116099-1

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

Lab Sample ID: MB 240-392792/19-A

Matrix: Water

Analysis Batch: 393037

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 392792

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	0.20	U	0.20	0.13	ug/L		07/24/19 18:03	07/26/19 10:22	1
Acetophenone	1.39		1.0	0.37	ug/L		07/24/19 18:03	07/26/19 10:22	1
Anthracene	0.20	U	0.20	0.14	ug/L		07/24/19 18:03	07/26/19 10:22	1
Atrazine	2.0	U	2.0	0.95	ug/L		07/24/19 18:03	07/26/19 10:22	1
Benzaldehyde	2.0	U	2.0	0.76	ug/L		07/24/19 18:03	07/26/19 10:22	1
Benzo[a]anthracene	0.20	U	0.20	0.17	ug/L		07/24/19 18:03	07/26/19 10:22	1
Benzo[a]pyrene	0.20	U	0.20	0.17	ug/L		07/24/19 18:03	07/26/19 10:22	1
Benzo[b]fluoranthene	0.20	U	0.20	0.15	ug/L		07/24/19 18:03	07/26/19 10:22	1
Benzo[g,h,i]perylene	0.20	U	0.20	0.18	ug/L		07/24/19 18:03	07/26/19 10:22	1
Benzo[k]fluoranthene	0.20	U	0.20	0.14	ug/L		07/24/19 18:03	07/26/19 10:22	1
Bis(2-chloroethoxy)methane	1.0	U	1.0	0.46	ug/L		07/24/19 18:03	07/26/19 10:22	1
Bis(2-chloroethyl)ether	1.0	U	1.0	0.40	ug/L		07/24/19 18:03	07/26/19 10:22	1
Bis(2-ethylhexyl) phthalate	5.0	U	5.0	2.2	ug/L		07/24/19 18:03	07/26/19 10:22	1
Butyl benzyl phthalate	2.0	U	2.0	0.67	ug/L		07/24/19 18:03	07/26/19 10:22	1
Caprolactam	5.0	U	5.0	0.93	ug/L		07/24/19 18:03	07/26/19 10:22	1
Carbazole	1.0	U	1.0	0.49	ug/L		07/24/19 18:03	07/26/19 10:22	1
Chrysene	0.20	U	0.20	0.19	ug/L		07/24/19 18:03	07/26/19 10:22	1
Di-n-butyl phthalate	5.0	U	5.0	1.8	ug/L		07/24/19 18:03	07/26/19 10:22	1
Di-n-octyl phthalate	2.0	U	2.0	0.82	ug/L		07/24/19 18:03	07/26/19 10:22	1
Dibenz(a,h)anthracene	0.20	U	0.20	0.15	ug/L		07/24/19 18:03	07/26/19 10:22	1
Dibenzofuran	1.0	U	1.0	0.56	ug/L		07/24/19 18:03	07/26/19 10:22	1
Diethyl phthalate	5.0	U	5.0	3.8	ug/L		07/24/19 18:03	07/26/19 10:22	1
Dimethyl phthalate	2.0	U	2.0	0.52	ug/L		07/24/19 18:03	07/26/19 10:22	1
Fluoranthene	0.20	U	0.20	0.16	ug/L		07/24/19 18:03	07/26/19 10:22	1
Fluorene	0.20	U	0.20	0.17	ug/L		07/24/19 18:03	07/26/19 10:22	1
Hexachlorobenzene	0.20	U	0.20	0.16	ug/L		07/24/19 18:03	07/26/19 10:22	1
Hexachlorobutadiene	1.0	U	1.0	0.54	ug/L		07/24/19 18:03	07/26/19 10:22	1
Hexachlorocyclopentadiene	10	U	10	1.8	ug/L		07/24/19 18:03	07/26/19 10:22	1
Hexachloroethane	1.0	U	1.0	0.40	ug/L		07/24/19 18:03	07/26/19 10:22	1
Indeno[1,2,3-cd]pyrene	0.20	U	0.20	0.14	ug/L		07/24/19 18:03	07/26/19 10:22	1
Isophorone	1.0	U	1.0	0.32	ug/L		07/24/19 18:03	07/26/19 10:22	1
N-Nitrosodi-n-propylamine	1.0	U	1.0	0.25	ug/L		07/24/19 18:03	07/26/19 10:22	1
N-Nitrosodiphenylamine	1.0	U	1.0	0.44	ug/L		07/24/19 18:03	07/26/19 10:22	1
Naphthalene	0.20	U	0.20	0.11	ug/L		07/24/19 18:03	07/26/19 10:22	1
Nitrobenzene	1.0	U	1.0	0.51	ug/L		07/24/19 18:03	07/26/19 10:22	1
Pentachlorophenol	10	U	10	3.1	ug/L		07/24/19 18:03	07/26/19 10:22	1
Phenanthrene	0.20	U	0.20	0.17	ug/L		07/24/19 18:03	07/26/19 10:22	1
Phenol	1.0	U	1.0	0.13	ug/L		07/24/19 18:03	07/26/19 10:22	1
Pyrene	0.20	U	0.20	0.18	ug/L		07/24/19 18:03	07/26/19 10:22	1
bis (2-chloroisopropyl) ether	1.0	U	1.0	0.55	ug/L		07/24/19 18:03	07/26/19 10:22	1
2,6-Dinitrotoluene	5.0	U	5.0	2.1	ug/L		07/24/19 18:03	07/26/19 10:22	1
4-Nitrophenol	10	U	10	2.2	ug/L		07/24/19 18:03	07/26/19 10:22	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14 (Surr)	98		23 - 127	07/24/19 18:03	07/26/19 10:22	1
Phenol-d5 (Surr)	48		10 - 120	07/24/19 18:03	07/26/19 10:22	1
Nitrobenzene-d5 (Surr)	88		32 - 120	07/24/19 18:03	07/26/19 10:22	1
2-Fluorophenol (Surr)	66		10 - 120	07/24/19 18:03	07/26/19 10:22	1

Eurofins TestAmerica, Canton

QC Sample Results

Client: GHD Services Inc.
Project/Site: 11199639, NL Industries

Job ID: 240-116099-1

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

Lab Sample ID: MB 240-392792/19-A

Matrix: Water

Analysis Batch: 393037

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 392792

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	88		38 - 120	07/24/19 18:03	07/26/19 10:22	1
2,4,6-Tribromophenol (Surr)	70		28 - 120	07/24/19 18:03	07/26/19 10:22	1

Lab Sample ID: LCS 240-392792/20-A

Matrix: Water

Analysis Batch: 393037

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 392792

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1'-Biphenyl	20.0	18.4		ug/L		92	53 - 120
2,4,6-Trichlorophenol	20.0	19.1		ug/L		96	54 - 120
2,4,5-Trichlorophenol	20.0	19.1		ug/L		95	54 - 120
2,4-Dichlorophenol	20.0	18.7		ug/L		93	55 - 120
2,4-Dimethylphenol	20.0	17.6		ug/L		88	52 - 120
2,4-Dinitrophenol	40.0	31.6		ug/L		79	12 - 120
2,4-Dinitrotoluene	20.0	20.3		ug/L		101	60 - 120
2-Chloronaphthalene	20.0	18.6		ug/L		93	53 - 120
2-Chlorophenol	20.0	17.5		ug/L		88	53 - 120
2-Methylnaphthalene	20.0	17.8		ug/L		89	54 - 120
2-Methylphenol	20.0	15.0		ug/L		75	46 - 120
2-Nitroaniline	20.0	21.7		ug/L		109	51 - 120
2-Nitrophenol	20.0	19.2		ug/L		96	54 - 120
3 & 4 Methylphenol	20.0	14.9		ug/L		74	40 - 120
3,3'-Dichlorobenzidine	40.0	42.1		ug/L		105	57 - 120
3-Nitroaniline	20.0	16.0		ug/L		80	53 - 120
4,6-Dinitro-2-methylphenol	40.0	40.0		ug/L		100	36 - 120
4-Bromophenyl phenyl ether	20.0	16.4		ug/L		82	54 - 120
4-Chloro-3-methylphenol	20.0	18.4		ug/L		92	54 - 120
4-Chloroaniline	20.0	2.90		ug/L		14	10 - 120
4-Chlorophenyl phenyl ether	20.0	18.4		ug/L		92	56 - 120
4-Nitroaniline	20.0	19.7		ug/L		98	55 - 120
Acenaphthene	20.0	18.3		ug/L		92	54 - 120
Acenaphthylene	20.0	19.0		ug/L		95	53 - 120
Acetophenone	20.0	20.2		ug/L		101	56 - 120
Anthracene	20.0	18.7		ug/L		94	56 - 120
Atrazine	40.0	41.1		ug/L		103	61 - 127
Benzaldehyde	40.0	40.4		ug/L		101	47 - 134
Benzo[a]anthracene	20.0	18.4		ug/L		92	54 - 120
Benzo[a]pyrene	20.0	18.0		ug/L		90	54 - 120
Benzo[b]fluoranthene	20.0	18.5		ug/L		93	53 - 120
Benzo[g,h,i]perylene	20.0	18.5		ug/L		92	55 - 120
Benzo[k]fluoranthene	20.0	19.1		ug/L		95	55 - 120
Bis(2-chloroethoxy)methane	20.0	18.2		ug/L		91	56 - 120
Bis(2-chloroethyl)ether	20.0	17.6		ug/L		88	51 - 120
Bis(2-ethylhexyl) phthalate	20.0	21.3		ug/L		106	50 - 120
Butyl benzyl phthalate	20.0	20.8		ug/L		104	51 - 120
Caprolactam	40.0	7.15		ug/L		18	10 - 120
Carbazole	20.0	19.9		ug/L		100	62 - 120
Chrysene	20.0	18.6		ug/L		93	56 - 120

Eurofins TestAmerica, Canton

QC Sample Results

Client: GHD Services Inc.
Project/Site: 11199639, NL Industries

Job ID: 240-116099-1

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

Lab Sample ID: LCS 240-392792/20-A

Matrix: Water

Analysis Batch: 393037

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 392792

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Di-n-butyl phthalate	20.0	20.5		ug/L		103	61 - 120
Di-n-octyl phthalate	20.0	21.7		ug/L		109	58 - 120
Dibenz(a,h)anthracene	20.0	19.3		ug/L		97	52 - 120
Dibenzofuran	20.0	18.4		ug/L		92	55 - 120
Diethyl phthalate	20.0	20.4		ug/L		102	42 - 132
Dimethyl phthalate	20.0	19.5		ug/L		98	56 - 120
Fluoranthene	20.0	18.7		ug/L		93	58 - 120
Fluorene	20.0	18.5		ug/L		92	56 - 120
Hexachlorobenzene	20.0	16.3		ug/L		82	51 - 120
Hexachlorobutadiene	20.0	16.3		ug/L		81	44 - 120
Hexachlorocyclopentadiene	20.0	12.5		ug/L		63	19 - 120
Hexachloroethane	20.0	17.1		ug/L		86	44 - 120
Indeno[1,2,3-cd]pyrene	20.0	19.0		ug/L		95	54 - 120
Isophorone	20.0	19.3		ug/L		97	55 - 120
N-Nitrosodi-n-propylamine	20.0	19.5		ug/L		98	53 - 120
N-Nitrosodiphenylamine	20.0	18.3		ug/L		91	55 - 120
Naphthalene	20.0	17.3		ug/L		87	53 - 120
Nitrobenzene	20.0	19.5		ug/L		98	55 - 120
Pentachlorophenol	40.0	33.7		ug/L		84	30 - 120
Phenanthrene	20.0	18.0		ug/L		90	55 - 120
Phenol	20.0	9.35		ug/L		47	10 - 120
Pyrene	20.0	19.3		ug/L		96	57 - 120
bis (2-chloroisopropyl) ether	20.0	18.9		ug/L		94	45 - 120
2,6-Dinitrotoluene	20.0	20.6		ug/L		103	60 - 120
4-Nitrophenol	40.0	24.6		ug/L		62	10 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Terphenyl-d14 (Surr)	98		23 - 127
Phenol-d5 (Surr)	45		10 - 120
Nitrobenzene-d5 (Surr)	96		32 - 120
2-Fluorophenol (Surr)	66		10 - 120
2-Fluorobiphenyl (Surr)	96		38 - 120
2,4,6-Tribromophenol (Surr)	85		28 - 120

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 240-392251/1-A

Matrix: Water

Analysis Batch: 392882

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 392251

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	1.0	U	1.0	0.053	ug/L		07/22/19 14:00	07/24/19 19:45	1
Aluminum	50	U	50	34	ug/L		07/22/19 14:00	07/24/19 19:45	1
Arsenic	5.0	U	5.0	0.75	ug/L		07/22/19 14:00	07/24/19 19:45	1
Barium	5.0	U	5.0	2.2	ug/L		07/22/19 14:00	07/24/19 19:45	1
Beryllium	1.0	U	1.0	0.31	ug/L		07/22/19 14:00	07/24/19 19:45	1
Cadmium	1.0	U	1.0	0.21	ug/L		07/22/19 14:00	07/24/19 19:45	1
Cobalt	1.0	U	1.0	0.19	ug/L		07/22/19 14:00	07/24/19 19:45	1
Chromium	2.0	U	2.0	0.98	ug/L		07/22/19 14:00	07/24/19 19:45	1

Eurofins TestAmerica, Canton

QC Sample Results

Client: GHD Services Inc.
Project/Site: 11199639, NL Industries

Job ID: 240-116099-1

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

Lab Sample ID: MB 240-392251/1-A
Matrix: Water
Analysis Batch: 392882

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 392251

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Copper	2.0	U	2.0	1.7	ug/L		07/22/19 14:00	07/24/19 19:45	1
Iron	100	U	100	47	ug/L		07/22/19 14:00	07/24/19 19:45	1
Manganese	5.0	U	5.0	2.1	ug/L		07/22/19 14:00	07/24/19 19:45	1
Nickel	2.0	U	2.0	1.5	ug/L		07/22/19 14:00	07/24/19 19:45	1
Lead	1.0	U	1.0	0.45	ug/L		07/22/19 14:00	07/24/19 19:45	1
Antimony	2.0	U	2.0	0.57	ug/L		07/22/19 14:00	07/24/19 19:45	1
Selenium	5.0	U	5.0	0.89	ug/L		07/22/19 14:00	07/24/19 19:45	1
Thallium	1.0	U	1.0	0.20	ug/L		07/22/19 14:00	07/24/19 19:45	1
Vanadium	5.0	U	5.0	0.82	ug/L		07/22/19 14:00	07/24/19 19:45	1
Zinc	20	U	20	15	ug/L		07/22/19 14:00	07/24/19 19:45	1
Calcium	1000	U	1000	580	ug/L		07/22/19 14:00	07/24/19 19:45	1
Potassium	1000	U	1000	220	ug/L		07/22/19 14:00	07/24/19 19:45	1
Magnesium	1000	U	1000	200	ug/L		07/22/19 14:00	07/24/19 19:45	1
Sodium	1000	U	1000	330	ug/L		07/22/19 14:00	07/24/19 19:45	1

Lab Sample ID: LCS 240-392251/2-A
Matrix: Water
Analysis Batch: 392882

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 392251

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	100	97.8		ug/L		98	80 - 120
Aluminum	5000	5250		ug/L		105	80 - 120
Arsenic	1000	992		ug/L		99	80 - 120
Barium	1000	1100		ug/L		110	80 - 120
Beryllium	500	554		ug/L		111	80 - 120
Cadmium	500	512		ug/L		102	80 - 120
Cobalt	500	506		ug/L		101	80 - 120
Chromium	500	514		ug/L		103	80 - 120
Copper	500	509		ug/L		102	80 - 120
Iron	5000	4930		ug/L		99	80 - 120
Manganese	500	511		ug/L		102	80 - 120
Nickel	500	508		ug/L		102	80 - 120
Lead	500	545		ug/L		109	80 - 120
Antimony	100	102		ug/L		102	80 - 120
Selenium	1000	980		ug/L		98	80 - 120
Thallium	1000	1000		ug/L		100	80 - 120
Vanadium	500	522		ug/L		104	80 - 120
Zinc	500	481		ug/L		96	80 - 120
Calcium	25000	25700		ug/L		103	80 - 120
Potassium	25000	25400		ug/L		102	80 - 120
Magnesium	25000	26000		ug/L		104	80 - 120
Sodium	25000	26500		ug/L		106	80 - 120

Eurofins TestAmerica, Canton

QC Sample Results

Client: GHD Services Inc.
Project/Site: 11199639, NL Industries

Job ID: 240-116099-1

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 240-392258/1-A
Matrix: Water
Analysis Batch: 392658

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 392258

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.131	J	0.20	0.13	ug/L		07/22/19 12:00	07/23/19 09:31	1

Lab Sample ID: LCS 240-392258/2-A
Matrix: Water
Analysis Batch: 392658

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 392258

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	5.00	4.69		ug/L		94	80 - 120

QC Association Summary

Client: GHD Services Inc.
Project/Site: 11199639, NL Industries

Job ID: 240-116099-1

GC/MS VOA

Analysis Batch: 393412

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-116099-1	TB-11199639-071819-DT	Total/NA	Water	8260C	
240-116099-2	WG-11199639-071819-DT-001	Total/NA	Water	8260C	
240-116099-3	WG-11199639-071819-SG-002	Total/NA	Water	8260C	
240-116099-4	WG-11199639-071819-DT-003	Total/NA	Water	8260C	
240-116099-5	WG-11199639-071819-SG-004	Total/NA	Water	8260C	
240-116099-6	WG-11199639-071819-DT-007	Total/NA	Water	8260C	
240-116099-7	EB-11199639-071819-DT-005	Total/NA	Water	8260C	
240-116099-8	WG-11199639-071819-SG-006	Total/NA	Water	8260C	
240-116099-9	WG-11199639-071819-SG-008	Total/NA	Water	8260C	
MB 240-393412/7	Method Blank	Total/NA	Water	8260C	
LCS 240-393412/5	Lab Control Sample	Total/NA	Water	8260C	

GC/MS Semi VOA

Prep Batch: 392792

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-116099-2	WG-11199639-071819-DT-001	Total/NA	Water	3510C	
240-116099-3	WG-11199639-071819-SG-002	Total/NA	Water	3510C	
240-116099-4	WG-11199639-071819-DT-003	Total/NA	Water	3510C	
240-116099-5	WG-11199639-071819-SG-004	Total/NA	Water	3510C	
240-116099-6	WG-11199639-071819-DT-007	Total/NA	Water	3510C	
240-116099-7	EB-11199639-071819-DT-005	Total/NA	Water	3510C	
240-116099-8	WG-11199639-071819-SG-006	Total/NA	Water	3510C	
240-116099-9	WG-11199639-071819-SG-008	Total/NA	Water	3510C	
MB 240-392792/19-A	Method Blank	Total/NA	Water	3510C	
LCS 240-392792/20-A	Lab Control Sample	Total/NA	Water	3510C	

Analysis Batch: 393037

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-116099-2	WG-11199639-071819-DT-001	Total/NA	Water	8270D	392792
240-116099-3	WG-11199639-071819-SG-002	Total/NA	Water	8270D	392792
240-116099-4	WG-11199639-071819-DT-003	Total/NA	Water	8270D	392792
240-116099-5	WG-11199639-071819-SG-004	Total/NA	Water	8270D	392792
240-116099-6	WG-11199639-071819-DT-007	Total/NA	Water	8270D	392792
MB 240-392792/19-A	Method Blank	Total/NA	Water	8270D	392792
LCS 240-392792/20-A	Lab Control Sample	Total/NA	Water	8270D	392792

Analysis Batch: 393280

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-116099-7	EB-11199639-071819-DT-005	Total/NA	Water	8270D	392792
240-116099-8	WG-11199639-071819-SG-006	Total/NA	Water	8270D	392792
240-116099-9	WG-11199639-071819-SG-008	Total/NA	Water	8270D	392792

Metals

Prep Batch: 392251

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-116099-2	WG-11199639-071819-DT-001	Total Recoverable	Water	3005A	
240-116099-3	WG-11199639-071819-SG-002	Total Recoverable	Water	3005A	
240-116099-4	WG-11199639-071819-DT-003	Total Recoverable	Water	3005A	
240-116099-5	WG-11199639-071819-SG-004	Total Recoverable	Water	3005A	
240-116099-6	WG-11199639-071819-DT-007	Total Recoverable	Water	3005A	

Eurofins TestAmerica, Canton

QC Association Summary

Client: GHD Services Inc.
Project/Site: 11199639, NL Industries

Job ID: 240-116099-1

Metals (Continued)

Prep Batch: 392251 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-116099-7	EB-11199639-071819-DT-005	Total Recoverable	Water	3005A	
240-116099-8	WG-11199639-071819-SG-006	Total Recoverable	Water	3005A	
240-116099-9	WG-11199639-071819-SG-008	Total Recoverable	Water	3005A	
MB 240-392251/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-392251/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 392258

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-116099-2	WG-11199639-071819-DT-001	Total/NA	Water	7470A	
240-116099-3	WG-11199639-071819-SG-002	Total/NA	Water	7470A	
240-116099-4	WG-11199639-071819-DT-003	Total/NA	Water	7470A	
240-116099-5	WG-11199639-071819-SG-004	Total/NA	Water	7470A	
240-116099-6	WG-11199639-071819-DT-007	Total/NA	Water	7470A	
240-116099-7	EB-11199639-071819-DT-005	Total/NA	Water	7470A	
240-116099-8	WG-11199639-071819-SG-006	Total/NA	Water	7470A	
240-116099-9	WG-11199639-071819-SG-008	Total/NA	Water	7470A	
MB 240-392258/1-A	Method Blank	Total/NA	Water	7470A	
LCS 240-392258/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 392658

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-116099-2	WG-11199639-071819-DT-001	Total/NA	Water	7470A	392258
240-116099-3	WG-11199639-071819-SG-002	Total/NA	Water	7470A	392258
240-116099-4	WG-11199639-071819-DT-003	Total/NA	Water	7470A	392258
240-116099-5	WG-11199639-071819-SG-004	Total/NA	Water	7470A	392258
240-116099-6	WG-11199639-071819-DT-007	Total/NA	Water	7470A	392258
240-116099-7	EB-11199639-071819-DT-005	Total/NA	Water	7470A	392258
240-116099-8	WG-11199639-071819-SG-006	Total/NA	Water	7470A	392258
240-116099-9	WG-11199639-071819-SG-008	Total/NA	Water	7470A	392258
MB 240-392258/1-A	Method Blank	Total/NA	Water	7470A	392258
LCS 240-392258/2-A	Lab Control Sample	Total/NA	Water	7470A	392258

Analysis Batch: 392882

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-116099-2	WG-11199639-071819-DT-001	Total Recoverable	Water	6020A	392251
240-116099-3	WG-11199639-071819-SG-002	Total Recoverable	Water	6020A	392251
240-116099-4	WG-11199639-071819-DT-003	Total Recoverable	Water	6020A	392251
240-116099-5	WG-11199639-071819-SG-004	Total Recoverable	Water	6020A	392251
240-116099-6	WG-11199639-071819-DT-007	Total Recoverable	Water	6020A	392251
240-116099-7	EB-11199639-071819-DT-005	Total Recoverable	Water	6020A	392251
240-116099-8	WG-11199639-071819-SG-006	Total Recoverable	Water	6020A	392251
240-116099-9	WG-11199639-071819-SG-008	Total Recoverable	Water	6020A	392251
MB 240-392251/1-A	Method Blank	Total Recoverable	Water	6020A	392251
LCS 240-392251/2-A	Lab Control Sample	Total Recoverable	Water	6020A	392251

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 11199639, NL Industries

Job ID: 240-116099-1

Client Sample ID: TB-11199639-071819-DT

Lab Sample ID: 240-116099-1

Date Collected: 07/18/19 00:00

Matrix: Water

Date Received: 07/19/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	393412	07/29/19 23:14	TJL1	TAL CAN

Client Sample ID: WG-11199639-071819-DT-001

Lab Sample ID: 240-116099-2

Date Collected: 07/18/19 09:30

Matrix: Water

Date Received: 07/19/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	393412	07/29/19 23:36	TJL1	TAL CAN
Total/NA	Prep	3510C			392792	07/24/19 18:03	BMB	TAL CAN
Total/NA	Analysis	8270D		1	393037	07/26/19 17:33	MRU	TAL CAN
Total Recoverable	Prep	3005A			392251	07/22/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1	392882	07/24/19 20:18	DSH	TAL CAN
Total/NA	Prep	7470A			392258	07/22/19 12:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1	392658	07/23/19 09:56	DTN	TAL CAN

Client Sample ID: WG-11199639-071819-SG-002

Lab Sample ID: 240-116099-3

Date Collected: 07/18/19 09:30

Matrix: Water

Date Received: 07/19/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	393412	07/29/19 23:59	TJL1	TAL CAN
Total/NA	Prep	3510C			392792	07/24/19 18:03	BMB	TAL CAN
Total/NA	Analysis	8270D		1	393037	07/26/19 17:56	MRU	TAL CAN
Total Recoverable	Prep	3005A			392251	07/22/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1	392882	07/24/19 20:20	DSH	TAL CAN
Total/NA	Prep	7470A			392258	07/22/19 12:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1	392658	07/23/19 09:58	DTN	TAL CAN

Client Sample ID: WG-11199639-071819-DT-003

Lab Sample ID: 240-116099-4

Date Collected: 07/18/19 10:55

Matrix: Water

Date Received: 07/19/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	393412	07/30/19 00:21	TJL1	TAL CAN
Total/NA	Prep	3510C			392792	07/24/19 18:03	BMB	TAL CAN
Total/NA	Analysis	8270D		1	393037	07/26/19 18:18	MRU	TAL CAN
Total Recoverable	Prep	3005A			392251	07/22/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1	392882	07/24/19 20:22	DSH	TAL CAN
Total/NA	Prep	7470A			392258	07/22/19 12:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1	392658	07/23/19 10:00	DTN	TAL CAN

Eurofins TestAmerica, Canton

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 11199639, NL Industries

Job ID: 240-116099-1

Client Sample ID: WG-11199639-071819-SG-004

Lab Sample ID: 240-116099-5

Date Collected: 07/18/19 11:15

Matrix: Water

Date Received: 07/19/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	393412	07/30/19 00:44	TJL1	TAL CAN
Total/NA	Prep	3510C			392792	07/24/19 18:03	BMB	TAL CAN
Total/NA	Analysis	8270D		1	393037	07/26/19 18:41	MRU	TAL CAN
Total Recoverable	Prep	3005A			392251	07/22/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1	392882	07/24/19 20:25	DSH	TAL CAN
Total/NA	Prep	7470A			392258	07/22/19 12:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1	392658	07/23/19 10:02	DTN	TAL CAN

Client Sample ID: WG-11199639-071819-DT-007

Lab Sample ID: 240-116099-6

Date Collected: 07/18/19 12:30

Matrix: Water

Date Received: 07/19/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	393412	07/30/19 01:07	TJL1	TAL CAN
Total/NA	Prep	3510C			392792	07/24/19 18:03	BMB	TAL CAN
Total/NA	Analysis	8270D		1	393037	07/26/19 19:04	MRU	TAL CAN
Total Recoverable	Prep	3005A			392251	07/22/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1	392882	07/24/19 20:27	DSH	TAL CAN
Total/NA	Prep	7470A			392258	07/22/19 12:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1	392658	07/23/19 10:04	DTN	TAL CAN

Client Sample ID: EB-11199639-071819-DT-005

Lab Sample ID: 240-116099-7

Date Collected: 07/18/19 10:50

Matrix: Water

Date Received: 07/19/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	393412	07/30/19 01:29	TJL1	TAL CAN
Total/NA	Prep	3510C			392792	07/24/19 18:03	BMB	TAL CAN
Total/NA	Analysis	8270D		1	393280	07/29/19 15:28	MRU	TAL CAN
Total Recoverable	Prep	3005A			392251	07/22/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1	392882	07/24/19 20:30	DSH	TAL CAN
Total/NA	Prep	7470A			392258	07/22/19 12:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1	392658	07/23/19 10:06	DTN	TAL CAN

Client Sample ID: WG-11199639-071819-SG-006

Lab Sample ID: 240-116099-8

Date Collected: 07/18/19 11:15

Matrix: Water

Date Received: 07/19/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	393412	07/30/19 01:52	TJL1	TAL CAN
Total/NA	Prep	3510C			392792	07/24/19 18:03	BMB	TAL CAN
Total/NA	Analysis	8270D		1	393280	07/29/19 15:51	MRU	TAL CAN
Total Recoverable	Prep	3005A			392251	07/22/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1	392882	07/24/19 20:32	DSH	TAL CAN

Eurofins TestAmerica, Canton

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 11199639, NL Industries

Job ID: 240-116099-1

Client Sample ID: WG-11199639-071819-SG-006

Lab Sample ID: 240-116099-8

Date Collected: 07/18/19 11:15

Matrix: Water

Date Received: 07/19/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7470A			392258	07/22/19 12:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1	392658	07/23/19 10:08	DTN	TAL CAN

Client Sample ID: WG-11199639-071819-SG-008

Lab Sample ID: 240-116099-9

Date Collected: 07/18/19 14:05

Matrix: Water

Date Received: 07/19/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	393412	07/30/19 02:15	TJL1	TAL CAN
Total/NA	Prep	3510C			392792	07/24/19 18:03	BMB	TAL CAN
Total/NA	Analysis	8270D		1	393280	07/29/19 16:13	MRU	TAL CAN
Total Recoverable	Prep	3005A			392251	07/22/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1	392882	07/24/19 20:39	DSH	TAL CAN
Total/NA	Prep	7470A			392258	07/22/19 12:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1	392658	07/23/19 10:10	DTN	TAL CAN

Laboratory References:

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

Accreditation/Certification Summary

Client: GHD Services Inc.
Project/Site: 11199639, NL Industries

Job ID: 240-116099-1

Laboratory: Eurofins TestAmerica, Canton

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
New York	NELAP	2	10975	03-31-20

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

[illegible]☐ See Temperature Excursion Form

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-11199639-071819-DT-001	240-116099-D-2	Plastic 500ml - with Nitric Acid	<2	_____	_____
WG-11199639-071819-SG-002	240-116099-D-3	Plastic 500ml - with Nitric Acid	<2	_____	_____
WG-11199639-071819-DT-003	240-116099-D-4	Plastic 500ml - with Nitric Acid	<2	_____	_____
WG-11199639-071819-SG-004	240-116099-D-5	Plastic 500ml - with Nitric Acid	<2	_____	_____
WG-11199639-071819-DT-007	240-116099-D-6	Plastic 500ml - with Nitric Acid	<2	_____	_____
EB-11199639-071819-DT-005	240-116099-D-7	Plastic 500ml - with Nitric Acid	<2	_____	_____
WG-11199639-071819-SG-006	240-116099-D-8	Plastic 500ml - with Nitric Acid	<2	_____	_____
WG-11199639-071819-SG-008	240-116099-D-9	Plastic 500ml - with Nitric Acid	<2	_____	_____

Appendix E

Data Usability Summary Report



Memorandum

September 4, 2019

To: Kathy Galanti

Ref. No.: 11199639

From: Kathy Willy/adh/1

Tel: 716-205-1942

CC: Chris Barton

**Subject: Data Usability Summary Report (DUSR)
Annual Groundwater Sampling
NL Industries
Depew, New York
July 2019**

1. Introduction

The following details the data usability, quality assessment, and validation of the analytical data resulting from the collection of groundwater samples at the NL Industries Site in Depew, New York. The sample summary detailing sample identification, sample location, quality control (QC) samples, and analytical parameters is presented in Table 1. Samples were submitted to TestAmerica Laboratories, Inc. located in Amherst, New York. The validated analytical results are summarized in Table 2. A summary of the analytical methodology is presented in Table 3.

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 Data Deliverables and the Development of Data Usability Summary Reports," (DER-10) 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 finished data sheets, chain of custody form, blank data, recovery data from surrogate spikes/laboratory control samples (LCS), 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 Superfund Organic Methods Data Review," United States Environmental Protection Agency (USEPA) 540-R-2016-002, September 2016
- ii) "United States Environmental Protection Agency (USEPA) National Functional Guidelines for Inorganic Superfund Data Review", USEPA 540-R-2016-001, September 2016

These items 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 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 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. Low concentrations of acetophenone and mercury were reported in some blanks. Associated sample results were non-detect, and no qualification of the data was required.

4. Surrogate Spike Recoveries

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 compound (VOC) and semi-volatile organic compound (SVOC) determinations 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 met the laboratory criteria.

5. Laboratory Control Sample Analyses

LCS are prepared and analyzed as a sample to assess the analytical efficiencies of the method employed independent of sample matrix effects.



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

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

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

To evaluate the effects of sample matrices on the preparation 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 relative percent difference (RPD) between the MS and MSD is used to assess analytical precision.

Non-site-specific samples were utilized as MS/MSDs. Qualification of samples associated with these MS/MSDs was not performed.

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.

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. All results were non-detect for the compounds of interest with the exception of a low concentration of acetone. Associated sample results were non-detect, and no qualification of the data was required.

Equipment Blank Sample Analysis

To assess field decontamination procedures, ambient conditions at the site, and cleanliness of sample containers, an equipment blank was submitted for analysis, as identified in Table 1. All results were non-detect for the analytes of interest.

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 for water samples.

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 limits (MDL) for each analyte. Positive analyte detections less than the 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

Based on the assessment detailed in the foregoing, the data summarized in Table 2 are acceptable without qualification.

Table 1

Sample Collection and Analysis Summary
Annual Groundwater Sampling
NL Industries
Depew, New York
July 2019

Sample Identification	Location	Matrix	Collection Date (mm/dd/yyyy)	Collection Time (hr:min)	Analysis/Parameters				Comments
					TAL Metals	Mercury	TCL VOCs	TCL SVOCs	
WG-11199639-071819-SG-002	MW-101	Water	07/18/2019	09:30	X	X	X	X	Field duplicate of sample WG-11199639-071819-SG-004
WG-11199639-071819-SG-004	MW-102	Water	07/18/2019	11:15	X	X	X	X	
WG-11199639-071819-SG-006	MW-102	Water	07/18/2019	11:15	X	X	X	X	
WG-11199639-071819-DT-007	MW-103	Water	07/18/2019	12:30	X	X	X	X	
WG-11199639-071819-DT-003	MW-104	Water	07/18/2019	10:55	X	X	X	X	
WG-11199639-071819-SG-008	MW-105	Water	07/18/2019	14:05	X	X	X	X	Equipment Blank Trip Blank
WG-11199639-071819-DT-001	MW-106F	Water	07/18/2019	09:30	X	X	X	X	
EB-11199639-071819-DT-005	-	Water	07/18/2019	10:50	X	X	X	X	
TB-11199639-071819-DT	-	Water	07/18/2019	-			X		

Notes:

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

Table 2

Analytical Results Summary
Annual Groundwater Sampling
NL Industries
Depew, New York
July 2019

Location ID:	MW-101	MW-102	MW-102	MW-103
Sample Name:	WG-11199639-071819-SG-002	WG-11199639-071819-SG-004	WG-11199639-071819-SG-006	WG-11199639-071819-DT-007
Sample Date:	07/18/2019	07/18/2019	07/18/2019 Duplicate	07/18/2019

Parameters	Unit				
Volatile Organic Compounds (VOCs)					
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
Methyl tert butyl ether (MTBE)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U

Table 2

Analytical Results Summary
Annual Groundwater Sampling
NL Industries
Depew, New York
July 2019

Location ID:	MW-101	MW-102	MW-102	MW-103
Sample Name:	WG-11199639-071819-SG-002	WG-11199639-071819-SG-004	WG-11199639-071819-SG-006	WG-11199639-071819-DT-007
Sample Date:	07/18/2019	07/18/2019	07/18/2019	07/18/2019
			Duplicate	

Parameters	Unit				
VOCs-Continued					
Methylene chloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 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 (CFC-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 (SVOCs)					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	0.95 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	9.5 U	9.5 U	9.5 U	9.5 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	0.95 U	0.95 U	0.95 U	0.95 U
2-Chlorophenol	µg/L	0.95 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	0.95 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
4-Nitroaniline	µg/L	1.9 U	1.9 U	1.9 U	1.9 U
4-Nitrophenol	µg/L	9.5 U	9.5 U	9.5 U	9.5 U

Table 2

Analytical Results Summary
Annual Groundwater Sampling
NL Industries
Depew, New York
July 2019

Location ID:	MW-101	MW-102	MW-102	MW-103
Sample Name:	WG-11199639-071819-SG-002	WG-11199639-071819-SG-004	WG-11199639-071819-SG-006	WG-11199639-071819-DT-007
Sample Date:	07/18/2019	07/18/2019	07/18/2019 Duplicate	07/18/2019

Parameters	Unit				
SVOCs-Continued					
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	0.95 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	1.9 U	1.9 U	1.9 U	1.9 U
Benzaldehyde	µg/L	1.9 U	1.9 U	1.9 U	1.9 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	0.95 U	0.95 U	0.95 U	0.95 U
bis(2-Chloroethoxy)methane	µg/L	0.95 U	0.95 U	0.95 U	0.95 U
bis(2-Chloroethyl)ether	µg/L	0.95 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	0.95 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	0.95 U	0.95 U	0.95 U	0.95 U
Diethyl phthalate	µg/L	4.8 U	4.8 U	4.8 U	4.8 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	0.95 U	0.95 U	0.95 U	0.95 U
Hexachlorocyclopentadiene	µg/L	9.5 U	9.5 U	9.5 U	9.5 U
Hexachloroethane	µg/L	0.95 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	0.95 U	0.95 U	0.95 U	0.95 U
N-Nitrosodi-n-propylamine	µg/L	0.95 U	0.95 U	0.95 U	0.95 U
N-Nitrosodiphenylamine	µg/L	0.95 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	0.95 U	0.95 U	0.95 U	0.95 U

Table 2

**Analytical Results Summary
Annual Groundwater Sampling
NL Industries
Depew, New York
July 2019**

Location ID: Sample Name: Sample Date:		MW-101 WG-11199639-071819-SG-002 07/18/2019	MW-102 WG-11199639-071819-SG-004 07/18/2019	MW-102 WG-11199639-071819-SG-006 07/18/2019 Duplicate	MW-103 WG-11199639-071819-DT-007 07/18/2019
Parameters	Unit				
SVOCs-Continued					
Pentachlorophenol	µg/L	9.5 U	9.5 U	9.5 U	9.5 U
Phenanthrene	µg/L	0.19 U	0.19 U	0.19 U	0.19 U
Phenol	µg/L	0.95 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	50 U	110	50 U	50 U
Antimony	µg/L	2.0 U	2.0 U	2.0 U	2.0 U
Arsenic	µg/L	6.8	1.2 J	1.1 J	3.2 J
Barium	µg/L	140	98	87	96
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	68000	87000	87000	110000
Chromium	µg/L	2.0 U	1.5 J	2.0 U	2.0 U
Cobalt	µg/L	0.38 J	2.4	2.1	0.44 J
Copper	µg/L	12	11	2.0 U	2.0 U
Iron	µg/L	97 J	680	480	930
Lead	µg/L	3.1	5.2	1.0 U	1.0 U
Magnesium	µg/L	86000	100000	100000	85000
Manganese	µg/L	98	250	240	47
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	2100	3300
Selenium	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Silver	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Sodium	µg/L	74000	62000	63000	140000
Thallium	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Vanadium	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Zinc	µg/L	34	27	20 U	20 U

Table 2

Analytical Results Summary
Annual Groundwater Sampling
NL Industries
Depew, New York
July 2019

	Location ID:	MW-104	MW-105	MW-106F
	Sample Name:	WG-11199639-071819-DT-003	WG-11199639-071819-SG-008	WG-11199639-071819-DT-001
	Sample Date:	07/18/2019	07/18/2019	07/18/2019
Parameters	Unit			
Volatile Organic Compounds (VOCs)				
1,1,1-Trichloroethane	µg/L	1.0 U	1.0 U	1.0 U
1,1,1,2-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
Methyl tert butyl ether (MTBE)	µg/L	1.0 U	1.0 U	1.0 U

Table 2

Analytical Results Summary
Annual Groundwater Sampling
NL Industries
Depew, New York
July 2019

Location ID:		MW-104	MW-105	MW-106F
Sample Name:		WG-11199639-071819-DT-003	WG-11199639-071819-SG-008	WG-11199639-071819-DT-001
Sample Date:		07/18/2019	07/18/2019	07/18/2019
Parameters	Unit			
VOCs-Continued				
Methylene chloride	µg/L	5.0 U	5.0 U	5.0 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 (CFC-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 (SVOCs)				
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	9.5 U	9.5 U	9.5 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
4-Nitroaniline	µg/L	1.9 U	1.9 U	1.9 U
4-Nitrophenol	µg/L	9.5 U	9.5 U	9.5 U

Table 2

Analytical Results Summary
Annual Groundwater Sampling
NL Industries
Depew, New York
July 2019

Location ID:	MW-104	MW-105	MW-106F
Sample Name:	WG-11199639-071819-DT-003	WG-11199639-071819-SG-008	WG-11199639-071819-DT-001
Sample Date:	07/18/2019	07/18/2019	07/18/2019
Parameters	Unit		
SVOCs-Continued			
Acenaphthene	µg/L	0.19 U	0.19 U
Acenaphthylene	µg/L	0.19 U	0.19 U
Acetophenone	µg/L	0.95 U	0.95 U
Anthracene	µg/L	0.19 U	0.19 U
Atrazine	µg/L	1.9 U	1.9 U
Benzaldehyde	µg/L	1.9 U	1.9 U
Benzo(a)anthracene	µg/L	0.19 U	0.19 U
Benzo(a)pyrene	µg/L	0.19 U	0.19 U
Benzo(b)fluoranthene	µg/L	0.19 U	0.19 U
Benzo(g,h,i)perylene	µg/L	0.19 U	0.19 U
Benzo(k)fluoranthene	µg/L	0.19 U	0.19 U
Biphenyl (1,1-Biphenyl)	µg/L	0.95 U	0.95 U
bis(2-Chloroethoxy)methane	µg/L	0.95 U	0.95 U
bis(2-Chloroethyl)ether	µg/L	0.95 U	0.95 U
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	4.8 U	4.8 U
Butyl benzylphthalate (BBP)	µg/L	1.9 U	1.9 U
Caprolactam	µg/L	4.8 U	4.8 U
Carbazole	µg/L	0.95 U	0.95 U
Chrysene	µg/L	0.19 U	0.19 U
Di-n-butylphthalate (DBP)	µg/L	4.8 U	4.8 U
Di-n-octyl phthalate (DnOP)	µg/L	1.9 U	1.9 U
Dibenz(a,h)anthracene	µg/L	0.19 U	0.19 U
Dibenzofuran	µg/L	0.95 U	0.95 U
Diethyl phthalate	µg/L	4.8 U	4.8 U
Dimethyl phthalate	µg/L	1.9 U	1.9 U
Fluoranthene	µg/L	0.19 U	0.19 U
Fluorene	µg/L	0.19 U	0.19 U
Hexachlorobenzene	µg/L	0.19 U	0.19 U
Hexachlorobutadiene	µg/L	0.95 U	0.95 U
Hexachlorocyclopentadiene	µg/L	9.5 U	9.5 U
Hexachloroethane	µg/L	0.95 U	0.95 U
Indeno(1,2,3-cd)pyrene	µg/L	0.19 U	0.19 U
Isophorone	µg/L	0.95 U	0.95 U
N-Nitrosodi-n-propylamine	µg/L	0.95 U	0.95 U
N-Nitrosodiphenylamine	µg/L	0.95 U	0.95 U
Naphthalene	µg/L	0.19 U	0.19 U
Nitrobenzene	µg/L	0.95 U	0.95 U

Table 2

Analytical Results Summary
Annual Groundwater Sampling
NL Industries
Depew, New York
July 2019

	Location ID:	MW-104	MW-105	MW-106F
	Sample Name:	WG-11199639-071819-DT-003	WG-11199639-071819-SG-008	WG-11199639-071819-DT-001
	Sample Date:	07/18/2019	07/18/2019	07/18/2019
Parameters	Unit			
SVOCs-Continued				
Pentachlorophenol	µg/L	9.5 U	9.5 U	9.5 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	50 U	64
Antimony	µg/L	2.0 U	2.0 U	2.0 U
Arsenic	µg/L	9.4	5.0 U	5.0 U
Barium	µg/L	39	180	160
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	79000	47000	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	5.5
Iron	µg/L	340	350	110
Lead	µg/L	1.0 U	1.0 U	4.4
Magnesium	µg/L	100000	71000	97000
Manganese	µg/L	11	13	42
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	1900	3100	710 J
Selenium	µg/L	5.0 U	5.0 U	5.0 U
Silver	µg/L	1.0 U	1.0 U	1.0 U
Sodium	µg/L	65000	71000	75000
Thallium	µg/L	1.0 U	1.0 U	1.0 U
Vanadium	µg/L	5.0 U	5.0 U	5.0 U
Zinc	µg/L	20 U	20 U	20 U

Notes:

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

Table 3

**Analytical Methods
Annual Groundwater Sampling
NL Industries
Depew, New York
July 2019**

Parameter	Method	Matrix	Holding Time	
			Collection to Extraction (Days)	Collection or Extraction to Analysis (Days)
TCL VOCs	SW846 8260	Water	-	14
TCL SVOCs	SW846 8270	Water	7	40
TAL Metals (except Mercury)	SW846 6020	Water	-	180
Mercury	SW846 7470A	Water	-	28

Notes:

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

Method Reference:

SW846 - Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, Third Edition, 1986, with subsequent revisions



about GHD

GHD is one of the world's leading professional services companies operating in the global markets of water, energy and resources, environment, property and buildings, and transportation. We provide engineering, environmental, and construction services to private and public sector clients.

www.ghd.com