



May 5, 2025  
Project 1801687

Consulting  
Engineers and  
Scientists

Mr. Matthew King  
Division of Environmental Remediation  
NYSDEC, Region 9  
700 Delaware Avenue  
Buffalo, NY 14209

**RE: Groundwater Monitoring Results  
First Quarter 2025 Event  
Hornell Former MGP Site  
NYSDEC Site # 851032**

Dear Mr. King:

This report has been prepared by GEI Consultants, Inc., P.C. (GEI) for National Fuel Gas Distribution Corporation (National Fuel) as an element of the post-remedial monitoring program at the Hornell Former Manufactured Gas Plant (MGP) Site in Hornell, New York (Figure 1). Quarterly groundwater monitoring is performed at the site in accordance with the Interim Site Management Plan (ISMP) that was approved by the New York State Department of Environmental Conservation (NYSDEC) in June 2024. This report presents the results of quarterly groundwater monitoring activities performed on March 18, 2025.

## **Background**

The Hornell Former MGP Site was remediated in 2020 and 2021 in accordance with the March 2018 Record of Decision. The remediation activities included removal of underground MGP appurtenances, excavation of soil, in-situ stabilization of soil, a layer of clean fill, institutional controls, and monitored natural attenuation. An Environmental Easement (EE) is also a planned component for long-term site management, but the EE has not been finalized by the NYSDEC, which also precludes finalization of the Site Management Plan (SMP). As a result, the ISMP was requested by the NYSDEC, submitted in February 2024, and approved by the NYSDEC in a letter to NFG dated June 24, 2024. The ISMP includes implementation of the quarterly groundwater monitoring for two years, along with other site management components (primarily annual site inspections). This sampling event was the third of the quarterly groundwater sampling events under the ISMP.

## **Quarterly Field Monitoring Activities and Results**

The locations of the monitoring wells are provided on Figure 1. The First Quarter 2025 monitoring activities and results are summarized below.

### ***Monitoring Well Elevation Gauging***

As required by the ISMP, the seven existing monitoring wells were gauged to obtain data to assess the direction of groundwater flow. Table 1 summarizes the monitoring well designations, surveyed well elevation data, depth-to-water measurements, and groundwater elevations reflecting measurement data from March 18, 2025. Based on that data, Figure 1 depicts the inferred shallow groundwater contours. As shown, groundwater flow is inferred to be generally toward the east/southeast and consistent with prior site data. A relatively higher water level was noted in MW15, suggesting a localized high groundwater elevation in the area; a similar condition was observed

during the November 25, 2024 gauging event. The highest groundwater elevation measurement was in the western area of the site at MW13 (1142.42 feet NAVD88). The lowest groundwater elevation measurement was in the eastern area of the site at MW4 (1141.70 feet NAVD88). The overall change in the elevation of the water table across the site was 0.72 feet, which represents a hydraulic gradient of approximately 0.002 ft/ft. The approximate direction of groundwater flow at the time of this sampling event is toward the east/southeast, consistent with the previous groundwater monitoring events performed prior to completion of the remedy.

### **NAPL Monitoring**

The ISMP calls for assessment and, if present, gauging of non-aqueous phase liquids (NAPL) at each of the seven wells. The monitoring wells were gauged to assess the presence or absence of both light non-aqueous phase liquid (LNAPL), and dense non-aqueous phase liquid (DNAPL). The results are summarized in Table 1. As shown in the table, NAPL was not identified at any of these wells.

### **Groundwater Sampling**

Groundwater sampling was performed on March 18, 2025. Samples were collected from monitoring wells MW6, MW7, MW8, MW12RR, and MW13, as prescribed in the ISMP. The samples were submitted to Eurofins of Buffalo, New York and analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX) by U.S. EPA Method 8260C, polycyclic aromatic hydrocarbons (PAHs) by U.S. EPA Method 8270D, and total cyanide by U.S. EPA Method 9014. Eurofins is certified to perform analyses under the NYSDOH Environmental Laboratory Approval Program (ELAP). The methods used for the analyses and the quality control measures performed were consistent with the specifications provided in the NYSDEC Analytical Services Protocol (ASP). Data exceeding applicable standards are summarized on Figure 2 and the entire dataset is tabulated in Table 2. As indicated in the table and figure, no analytes were detected at levels exceeding the noted standards.

The laboratory Form 1 Report sheets for the analyses and the chain-of-custody records are included in Appendix A.

### **Analytical Results**

All analytical data were validated per appropriate EPA guidance, consistent with New York State Analytical Services Protocol (NYSASP) Category B guidance. The Data Usability Summary Report (DUSR) is presented in Appendix B. Data and qualifiers in Table 2 and Figure 2 reflect the findings of the DUSR. All results were determined to be usable and valid with minor qualifications.

The groundwater analytical results were compared to the standards or guidance values provided in the document entitled “*NYSDEC Division of Water Technical and Operational Guidance Series (TOGS) Number 1.1.1,*” (NYSDEC, 1998, with addenda through 2023) and 6 NYCRR Part 703.6 water quality standards for GA groundwater, as applicable. Table 2 shows concentrations greater than method detection limits in bold font and any detected concentrations greater than applicable NYSDEC Groundwater Standards or Guidance Values are shaded gray.

#### **BTEX**

No VOCs were detected above the laboratory reporting limit during this event.

#### **PAHs**

No PAHs were detected above NYSDEC Standards and/or Guidance Values during this event.

**Total Cyanide**

Cyanide was not detected above the NYSDEC Ambient Water Quality Standard (AWQS) of 0.2 mg/L during this event.

**Implementation of the Post-Remedial Monitoring Work Plan**

As noted above, the groundwater monitoring program will continue quarterly for two years per the ISMP. The next groundwater monitoring event is expected to be conducted in June 2025. NYSDEC will be notified at least seven days prior to the sampling event.

If you have any questions or comments regarding the information presented in this report, please contact Brad Walker of National Fuel at 716.857.7247.

Sincerely,



Wendy Moore, P.E.  
Senior Engineer  
Project Manager



Emily Dallas  
Project Scientist

Attachments: Table 1 – Groundwater Elevation Summary and NAPL Gauging Results  
Table 2 – Groundwater Analytical Results  
Figure 1 – Well Location and Groundwater Contour Map  
Figure 2 – Summary of NYS GW Exceedances 1st Quarter 2025  
Appendix A – Chain-of-Custody Record and Form 1 Report Sheets  
Appendix B – Data Usability Summary Report

c: Ms. Kiera Thompson – NYSDEC (electronic copy)  
Mr. David Pratt, P.E. – NYSDEC (electronic copy)  
Mr. Brad Walker – National Fuel  
Ms. Tanya Alexander – National Fuel

# Tables

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**Table 1. Groundwater Elevation Summary and NAPL Gauging Results  
 1st Quarter 2025 Groundwater Monitoring Event  
 Hornell Former MGP Site**

<b>Well ID</b>	<b>PVC Riser Reference Elevation (Feet NAVD88)</b>	<b>Depth to Water March 18, 2025 (Feet below top of inner casing)</b>	<b>Groundwater Elevation March 18, 2025 (Feet NAVD88)</b>	<b>NAPL Gauging Results</b>
MW4	1156.23	14.53	1141.70	Not Present
MW6	1157.86	15.89	1141.97	Not Present
MW7	1155.74	13.74	1142.00	Not Present
MW8	1158.26	15.95	1142.31	Not Present
MW12RR	1156.99	15.01	1141.98	Not Present
MW13	1156.92	14.50	1142.42	Not Present
MW15	1156.10	14.10	1142.00	Not Present

**Table 2. Groundwater Analysis Results**  
**1st Quarter 2025 Groundwater Monitoring Event**  
**Hornell Former MGP Site**

Sample Name Sample Date				MW-6 3/18/2025	MW-7 3/18/2025	MW-8 3/18/2025	MW-12RR 3/18/2025	MW-13 3/18/2025
Analyte	Units	CAS No.	NYS AWQS					
<b>BTEX</b>	ug/L							
Benzene		71-43-2	1	1 U	1 U	1 U	1 U	1 U
Toluene		108-88-3	5	1 U	1 U	1 U	1 U	1 U
Ethylbenzene		100-41-4	5	1 U	1 U	1 U	1 U	1 U
Total Xylene		1330-20-7	5	2 U	2 U	2 U	2 U	2 U
Total BTEX			NE	ND	ND	ND	ND	ND
<b>PAH17</b>	ug/L							
Acenaphthene		83-32-9	20*	<b>6.2</b>	5 U	5 U	25 U	5 U
Acenaphthylene		208-96-8	NE	<b>1.9 J</b>	5 U	5 U	25 U	5 U
Anthracene		120-12-7	50*	5 U	5 U	5 U	25 U	5 U
Benzo(a)anthracene		56-55-3	0.002*	5 U	5 U	5 U	25 U	5 U
Benzo(b)fluoranthene		205-99-2	0.002*	5 U	5 U	5 U	25 U	5 U
Benzo(k)fluoranthene		207-08-9	0.002*	5 U	5 U	5 U	25 U	5 U
Benzo(g,h,i)perylene		191-24-2	NE	5 U	5 U	5 U	25 U	5 U
Benzo(a)pyrene		50-32-8	ND	5 U	5 U	5 U	25 U	5 U
Chrysene		218-01-9	0.002*	5 U	5 U	5 U	25 U	5 U
Dibenz(a,h)anthracene		53-70-3	NE	5 U	5 U	5 U	25 U	5 U
Fluoranthene		206-44-0	50*	5 U	5 U	5 U	25 U	5 U
Fluorene		86-73-7	50*	<b>6.4</b>	5 U	5 U	25 U	5 U
Indeno(1,2,3-cd)pyrene		193-39-5	0.002*	5 U	5 U	5 U	25 U	5 U
Naphthalene		91-20-3	10*	5 U	5 U	5 U	25 U	5 U
Phenanthrene		85-01-8	50*	5 U	5 U	5 U	25 U	5 U
Pyrene		129-00-0	50*	5 U	5 U	5 U	25 U	5 U
Total PAH (17)			NE	<b>14.5</b>	ND	ND	ND	ND
<b>Cyanides</b>	ug/L							
Total Cyanide		57-12-5	200	<b>45 J</b>	<b>190 J</b>	<b>51 J</b>	<b>28 J</b>	<b>42 J</b>

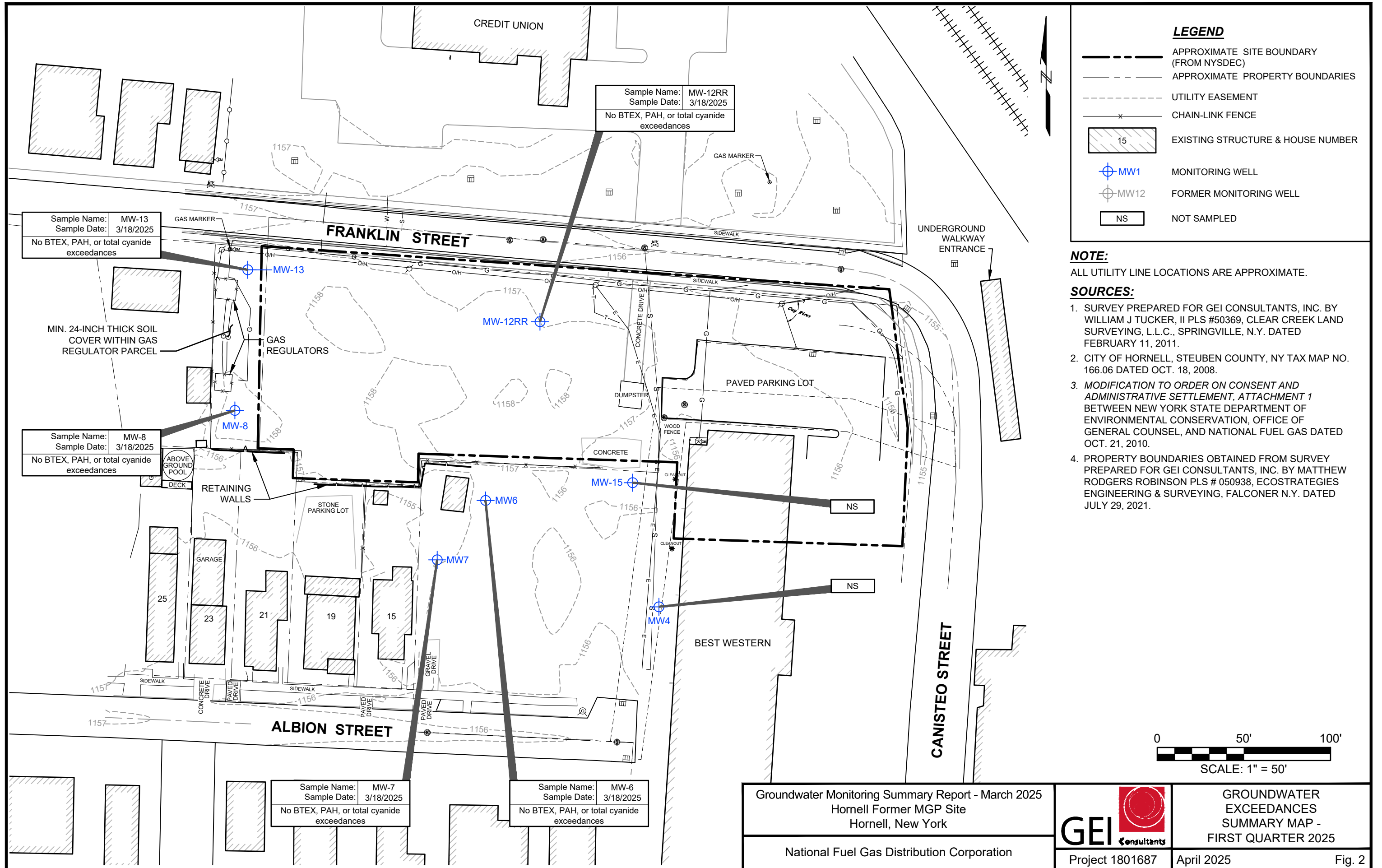
**Notes:**

Analytes in blue are not detected in any sample  
 ug/L = micrograms per liter or parts per billion (ppb)  
 BTEX = Benzene, Toluene, Ethylbenzene, and Xylenes  
 PAH = Polycyclic Aromatic Hydrocarbon  
 Total BTEX and Total PAHs are calculated using detects only.  
 NYS AWQS = New York State Ambient Water Quality Standards and Guidance Values for GA groundwater  
 \* indicates the value is a guidance value and not a standard  
 CAS No. = Chemical Abstracts Service Number  
 MGP = Manufactured Gas Plant  
 ND = Not Detected  
 NE = Not Established  
 Bolding indicates a detected result concentration  
 Shading and bolding indicates that the detected concentration is above the NYSDOH guidance it was compared to  
**Validation Qualifiers:**  
 J = The result is an estimated value.  
 U = The result was not detected above the reporting limit.

# Figures

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Groundwater Monitoring Summary Report - March 2025  
 Hornell Former MGP Site  
 Hornell, New York  
 National Fuel Gas Distribution Corporation



GROUNDWATER EXCEEDANCES SUMMARY MAP - FIRST QUARTER 2025  
 Project 1801687 April 2025 Fig. 2

# **Appendix A**

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## **Chain-of-Custody Record and Form 1 Report Sheet**



# ANALYTICAL REPORT

## PREPARED FOR

Attn: Mr. Jeff Holden  
GEI Consultants Inc  
950 Danby Road  
Suite 201-F  
Ithaca, New York 14850

Generated 3/27/2025 5:05:57 PM

## JOB DESCRIPTION

NFG Hornell

## JOB NUMBER

480-227992-1

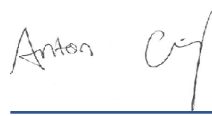
# Eurofins Buffalo

## Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northeast, LLC Project Manager.

## Authorization



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# Definitions/Glossary

Client: GEI Consultants Inc  
Project/Site: NFG Hornell

Job ID: 480-227992-1

## Qualifiers

### GC/MS Semi 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.

### General Chemistry

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count

# Case Narrative

Client: GEI Consultants Inc  
Project: NFG Hornell

Job ID: 480-227992-1

**Job ID: 480-227992-1**

**Eurofins Buffalo**

## Job Narrative 480-227992-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

### Receipt

The samples were received on 3/19/2025 9:30 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.1°C.

### GC/MS VOA

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

### GC/MS Semi VOA

Method 8270D: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with preparation batch 480-741247.

Method 8270D: The following sample was diluted due to color, appearance, and viscosity: MW-12RR (480-227992-4). Elevated reporting limits (RL) are provided.

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

### General Chemistry

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

Eurofins Buffalo

# Detection Summary

Client: GEI Consultants Inc  
Project/Site: NFG Hornell

Job ID: 480-227992-1

## Client Sample ID: MW-6

## Lab Sample ID: 480-227992-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	6.2		5.0	0.41	ug/L	1		8270D	Total/NA
Acenaphthylene	1.9	J	5.0	0.38	ug/L	1		8270D	Total/NA
Fluorene	6.4		5.0	0.36	ug/L	1		8270D	Total/NA
Cyanide, Total	0.045	B	0.010	0.0041	mg/L	1		9012B	Total/NA

## Client Sample ID: MW-7

## Lab Sample ID: 480-227992-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cyanide, Total	0.19	B	0.010	0.0041	mg/L	1		9012B	Total/NA

## Client Sample ID: MW-8

## Lab Sample ID: 480-227992-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cyanide, Total	0.051	B	0.010	0.0041	mg/L	1		9012B	Total/NA

## Client Sample ID: MW-12RR

## Lab Sample ID: 480-227992-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cyanide, Total	0.028	B F1	0.010	0.0041	mg/L	1		9012B	Total/NA

## Client Sample ID: MW-13

## Lab Sample ID: 480-227992-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cyanide, Total	0.042	B	0.010	0.0041	mg/L	1		9012B	Total/NA

## Client Sample ID: TB-03182025

## Lab Sample ID: 480-227992-6

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Buffalo

# Client Sample Results

Client: GEI Consultants Inc  
Project/Site: NFG Hornell

Job ID: 480-227992-1

**Client Sample ID: MW-6**

**Lab Sample ID: 480-227992-1**

Date Collected: 03/18/25 13:00

Matrix: Water

Date Received: 03/19/25 09:30

## Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.41	ug/L			03/21/25 02:41	1
Ethylbenzene	ND		1.0	0.74	ug/L			03/21/25 02:41	1
Toluene	ND		1.0	0.51	ug/L			03/21/25 02:41	1
Xylenes, Total	ND		2.0	0.66	ug/L			03/21/25 02:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		77 - 120		03/21/25 02:41	1
4-Bromofluorobenzene (Surr)	100		73 - 120		03/21/25 02:41	1
Dibromofluoromethane (Surr)	97		75 - 123		03/21/25 02:41	1
Toluene-d8 (Surr)	100		80 - 120		03/21/25 02:41	1

## Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Acenaphthene</b>	<b>6.2</b>		5.0	0.41	ug/L		03/20/25 06:41	03/21/25 19:46	1
<b>Acenaphthylene</b>	<b>1.9</b>	<b>J</b>	5.0	0.38	ug/L		03/20/25 06:41	03/21/25 19:46	1
Anthracene	ND		5.0	0.28	ug/L		03/20/25 06:41	03/21/25 19:46	1
Benzo[a]anthracene	ND		5.0	0.36	ug/L		03/20/25 06:41	03/21/25 19:46	1
Benzo[a]pyrene	ND		5.0	0.47	ug/L		03/20/25 06:41	03/21/25 19:46	1
Benzo[b]fluoranthene	ND		5.0	0.34	ug/L		03/20/25 06:41	03/21/25 19:46	1
Benzo[g,h,i]perylene	ND		5.0	0.35	ug/L		03/20/25 06:41	03/21/25 19:46	1
Benzo[k]fluoranthene	ND		5.0	0.73	ug/L		03/20/25 06:41	03/21/25 19:46	1
Chrysene	ND		5.0	0.33	ug/L		03/20/25 06:41	03/21/25 19:46	1
Dibenz(a,h)anthracene	ND		5.0	0.42	ug/L		03/20/25 06:41	03/21/25 19:46	1
Fluoranthene	ND		5.0	0.40	ug/L		03/20/25 06:41	03/21/25 19:46	1
<b>Fluorene</b>	<b>6.4</b>		5.0	0.36	ug/L		03/20/25 06:41	03/21/25 19:46	1
Indeno[1,2,3-cd]pyrene	ND		5.0	0.47	ug/L		03/20/25 06:41	03/21/25 19:46	1
Naphthalene	ND		5.0	0.76	ug/L		03/20/25 06:41	03/21/25 19:46	1
Phenanthrene	ND		5.0	0.44	ug/L		03/20/25 06:41	03/21/25 19:46	1
Pyrene	ND		5.0	0.34	ug/L		03/20/25 06:41	03/21/25 19:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	82		53 - 126	03/20/25 06:41	03/21/25 19:46	1
Nitrobenzene-d5 (Surr)	72		29 - 129	03/20/25 06:41	03/21/25 19:46	1
p-Terphenyl-d14 (Surr)	81		33 - 132	03/20/25 06:41	03/21/25 19:46	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Cyanide, Total (SW846 9012B)</b>	<b>0.045</b>	<b>B</b>	0.010	0.0041	mg/L			03/26/25 18:04	1

# Client Sample Results

Client: GEI Consultants Inc  
Project/Site: NFG Hornell

Job ID: 480-227992-1

**Client Sample ID: MW-7**

**Lab Sample ID: 480-227992-2**

Date Collected: 03/18/25 14:20

Matrix: Water

Date Received: 03/19/25 09:30

## Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.41	ug/L			03/21/25 03:05	1
Ethylbenzene	ND		1.0	0.74	ug/L			03/21/25 03:05	1
Toluene	ND		1.0	0.51	ug/L			03/21/25 03:05	1
Xylenes, Total	ND		2.0	0.66	ug/L			03/21/25 03:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		77 - 120		03/21/25 03:05	1
4-Bromofluorobenzene (Surr)	98		73 - 120		03/21/25 03:05	1
Dibromofluoromethane (Surr)	100		75 - 123		03/21/25 03:05	1
Toluene-d8 (Surr)	98		80 - 120		03/21/25 03:05	1

## Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		5.0	0.41	ug/L		03/20/25 06:41	03/21/25 20:13	1
Acenaphthylene	ND		5.0	0.38	ug/L		03/20/25 06:41	03/21/25 20:13	1
Anthracene	ND		5.0	0.28	ug/L		03/20/25 06:41	03/21/25 20:13	1
Benzo[a]anthracene	ND		5.0	0.36	ug/L		03/20/25 06:41	03/21/25 20:13	1
Benzo[a]pyrene	ND		5.0	0.47	ug/L		03/20/25 06:41	03/21/25 20:13	1
Benzo[b]fluoranthene	ND		5.0	0.34	ug/L		03/20/25 06:41	03/21/25 20:13	1
Benzo[g,h,i]perylene	ND		5.0	0.35	ug/L		03/20/25 06:41	03/21/25 20:13	1
Benzo[k]fluoranthene	ND		5.0	0.73	ug/L		03/20/25 06:41	03/21/25 20:13	1
Chrysene	ND		5.0	0.33	ug/L		03/20/25 06:41	03/21/25 20:13	1
Dibenz(a,h)anthracene	ND		5.0	0.42	ug/L		03/20/25 06:41	03/21/25 20:13	1
Fluoranthene	ND		5.0	0.40	ug/L		03/20/25 06:41	03/21/25 20:13	1
Fluorene	ND		5.0	0.36	ug/L		03/20/25 06:41	03/21/25 20:13	1
Indeno[1,2,3-cd]pyrene	ND		5.0	0.47	ug/L		03/20/25 06:41	03/21/25 20:13	1
Naphthalene	ND		5.0	0.76	ug/L		03/20/25 06:41	03/21/25 20:13	1
Phenanthrene	ND		5.0	0.44	ug/L		03/20/25 06:41	03/21/25 20:13	1
Pyrene	ND		5.0	0.34	ug/L		03/20/25 06:41	03/21/25 20:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	77		53 - 126	03/20/25 06:41	03/21/25 20:13	1
Nitrobenzene-d5 (Surr)	66		29 - 129	03/20/25 06:41	03/21/25 20:13	1
p-Terphenyl-d14 (Surr)	72		33 - 132	03/20/25 06:41	03/21/25 20:13	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total (SW846 9012B)	0.19	B	0.010	0.0041	mg/L			03/26/25 18:07	1

# Client Sample Results

Client: GEI Consultants Inc  
Project/Site: NFG Hornell

Job ID: 480-227992-1

**Client Sample ID: MW-8**

**Lab Sample ID: 480-227992-3**

Date Collected: 03/18/25 12:35

Matrix: Water

Date Received: 03/19/25 09:30

## Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.41	ug/L			03/21/25 03:29	1
Ethylbenzene	ND		1.0	0.74	ug/L			03/21/25 03:29	1
Toluene	ND		1.0	0.51	ug/L			03/21/25 03:29	1
Xylenes, Total	ND		2.0	0.66	ug/L			03/21/25 03:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		77 - 120		03/21/25 03:29	1
4-Bromofluorobenzene (Surr)	98		73 - 120		03/21/25 03:29	1
Dibromofluoromethane (Surr)	98		75 - 123		03/21/25 03:29	1
Toluene-d8 (Surr)	100		80 - 120		03/21/25 03:29	1

## Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		5.0	0.41	ug/L		03/20/25 06:41	03/21/25 20:40	1
Acenaphthylene	ND		5.0	0.38	ug/L		03/20/25 06:41	03/21/25 20:40	1
Anthracene	ND		5.0	0.28	ug/L		03/20/25 06:41	03/21/25 20:40	1
Benzo[a]anthracene	ND		5.0	0.36	ug/L		03/20/25 06:41	03/21/25 20:40	1
Benzo[a]pyrene	ND		5.0	0.47	ug/L		03/20/25 06:41	03/21/25 20:40	1
Benzo[b]fluoranthene	ND		5.0	0.34	ug/L		03/20/25 06:41	03/21/25 20:40	1
Benzo[g,h,i]perylene	ND		5.0	0.35	ug/L		03/20/25 06:41	03/21/25 20:40	1
Benzo[k]fluoranthene	ND		5.0	0.73	ug/L		03/20/25 06:41	03/21/25 20:40	1
Chrysene	ND		5.0	0.33	ug/L		03/20/25 06:41	03/21/25 20:40	1
Dibenz(a,h)anthracene	ND		5.0	0.42	ug/L		03/20/25 06:41	03/21/25 20:40	1
Fluoranthene	ND		5.0	0.40	ug/L		03/20/25 06:41	03/21/25 20:40	1
Fluorene	ND		5.0	0.36	ug/L		03/20/25 06:41	03/21/25 20:40	1
Indeno[1,2,3-cd]pyrene	ND		5.0	0.47	ug/L		03/20/25 06:41	03/21/25 20:40	1
Naphthalene	ND		5.0	0.76	ug/L		03/20/25 06:41	03/21/25 20:40	1
Phenanthrene	ND		5.0	0.44	ug/L		03/20/25 06:41	03/21/25 20:40	1
Pyrene	ND		5.0	0.34	ug/L		03/20/25 06:41	03/21/25 20:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	70		53 - 126	03/20/25 06:41	03/21/25 20:40	1
Nitrobenzene-d5 (Surr)	61		29 - 129	03/20/25 06:41	03/21/25 20:40	1
p-Terphenyl-d14 (Surr)	76		33 - 132	03/20/25 06:41	03/21/25 20:40	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total (SW846 9012B)	0.051	B	0.010	0.0041	mg/L			03/26/25 18:11	1

# Client Sample Results

Client: GEI Consultants Inc  
Project/Site: NFG Hornell

Job ID: 480-227992-1

**Client Sample ID: MW-12RR**

**Lab Sample ID: 480-227992-4**

Date Collected: 03/18/25 15:20

Matrix: Water

Date Received: 03/19/25 09:30

## Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.41	ug/L			03/21/25 03:53	1
Ethylbenzene	ND		1.0	0.74	ug/L			03/21/25 03:53	1
Toluene	ND		1.0	0.51	ug/L			03/21/25 03:53	1
Xylenes, Total	ND		2.0	0.66	ug/L			03/21/25 03:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		77 - 120		03/21/25 03:53	1
4-Bromofluorobenzene (Surr)	99		73 - 120		03/21/25 03:53	1
Dibromofluoromethane (Surr)	100		75 - 123		03/21/25 03:53	1
Toluene-d8 (Surr)	100		80 - 120		03/21/25 03:53	1

## Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		25	2.1	ug/L		03/20/25 06:41	03/21/25 21:06	5
Acenaphthylene	ND		25	1.9	ug/L		03/20/25 06:41	03/21/25 21:06	5
Anthracene	ND		25	1.4	ug/L		03/20/25 06:41	03/21/25 21:06	5
Benzo[a]anthracene	ND		25	1.8	ug/L		03/20/25 06:41	03/21/25 21:06	5
Benzo[a]pyrene	ND		25	2.4	ug/L		03/20/25 06:41	03/21/25 21:06	5
Benzo[b]fluoranthene	ND		25	1.7	ug/L		03/20/25 06:41	03/21/25 21:06	5
Benzo[g,h,i]perylene	ND		25	1.8	ug/L		03/20/25 06:41	03/21/25 21:06	5
Benzo[k]fluoranthene	ND		25	3.7	ug/L		03/20/25 06:41	03/21/25 21:06	5
Chrysene	ND		25	1.7	ug/L		03/20/25 06:41	03/21/25 21:06	5
Dibenz(a,h)anthracene	ND		25	2.1	ug/L		03/20/25 06:41	03/21/25 21:06	5
Fluoranthene	ND		25	2.0	ug/L		03/20/25 06:41	03/21/25 21:06	5
Fluorene	ND		25	1.8	ug/L		03/20/25 06:41	03/21/25 21:06	5
Indeno[1,2,3-cd]pyrene	ND		25	2.4	ug/L		03/20/25 06:41	03/21/25 21:06	5
Naphthalene	ND		25	3.8	ug/L		03/20/25 06:41	03/21/25 21:06	5
Phenanthrene	ND		25	2.2	ug/L		03/20/25 06:41	03/21/25 21:06	5
Pyrene	ND		25	1.7	ug/L		03/20/25 06:41	03/21/25 21:06	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	80		53 - 126	03/20/25 06:41	03/21/25 21:06	5
Nitrobenzene-d5 (Surr)	68		29 - 129	03/20/25 06:41	03/21/25 21:06	5
p-Terphenyl-d14 (Surr)	65		33 - 132	03/20/25 06:41	03/21/25 21:06	5

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total (SW846 9012B)	0.028	B F1	0.010	0.0041	mg/L			03/26/25 18:27	1

# Client Sample Results

Client: GEI Consultants Inc  
Project/Site: NFG Hornell

Job ID: 480-227992-1

**Client Sample ID: MW-13**

**Lab Sample ID: 480-227992-5**

**Date Collected: 03/18/25 13:25**

**Matrix: Water**

**Date Received: 03/19/25 09:30**

## Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.41	ug/L			03/21/25 04:16	1
Ethylbenzene	ND		1.0	0.74	ug/L			03/21/25 04:16	1
Toluene	ND		1.0	0.51	ug/L			03/21/25 04:16	1
Xylenes, Total	ND		2.0	0.66	ug/L			03/21/25 04:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		77 - 120		03/21/25 04:16	1
4-Bromofluorobenzene (Surr)	94		73 - 120		03/21/25 04:16	1
Dibromofluoromethane (Surr)	98		75 - 123		03/21/25 04:16	1
Toluene-d8 (Surr)	99		80 - 120		03/21/25 04:16	1

## Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		5.0	0.41	ug/L		03/20/25 06:41	03/21/25 21:33	1
Acenaphthylene	ND		5.0	0.38	ug/L		03/20/25 06:41	03/21/25 21:33	1
Anthracene	ND		5.0	0.28	ug/L		03/20/25 06:41	03/21/25 21:33	1
Benzo[a]anthracene	ND		5.0	0.36	ug/L		03/20/25 06:41	03/21/25 21:33	1
Benzo[a]pyrene	ND		5.0	0.47	ug/L		03/20/25 06:41	03/21/25 21:33	1
Benzo[b]fluoranthene	ND		5.0	0.34	ug/L		03/20/25 06:41	03/21/25 21:33	1
Benzo[g,h,i]perylene	ND		5.0	0.35	ug/L		03/20/25 06:41	03/21/25 21:33	1
Benzo[k]fluoranthene	ND		5.0	0.73	ug/L		03/20/25 06:41	03/21/25 21:33	1
Chrysene	ND		5.0	0.33	ug/L		03/20/25 06:41	03/21/25 21:33	1
Dibenz(a,h)anthracene	ND		5.0	0.42	ug/L		03/20/25 06:41	03/21/25 21:33	1
Fluoranthene	ND		5.0	0.40	ug/L		03/20/25 06:41	03/21/25 21:33	1
Fluorene	ND		5.0	0.36	ug/L		03/20/25 06:41	03/21/25 21:33	1
Indeno[1,2,3-cd]pyrene	ND		5.0	0.47	ug/L		03/20/25 06:41	03/21/25 21:33	1
Naphthalene	ND		5.0	0.76	ug/L		03/20/25 06:41	03/21/25 21:33	1
Phenanthrene	ND		5.0	0.44	ug/L		03/20/25 06:41	03/21/25 21:33	1
Pyrene	ND		5.0	0.34	ug/L		03/20/25 06:41	03/21/25 21:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	95		53 - 126	03/20/25 06:41	03/21/25 21:33	1
Nitrobenzene-d5 (Surr)	79		29 - 129	03/20/25 06:41	03/21/25 21:33	1
p-Terphenyl-d14 (Surr)	89		33 - 132	03/20/25 06:41	03/21/25 21:33	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total (SW846 9012B)	0.042	B	0.010	0.0041	mg/L			03/26/25 18:37	1

# Client Sample Results

Client: GEI Consultants Inc  
 Project/Site: NFG Hornell

Job ID: 480-227992-1

**Client Sample ID: TB-03182025**

**Lab Sample ID: 480-227992-6**

**Date Collected: 03/18/25 00:00**

**Matrix: Water**

**Date Received: 03/19/25 09:30**

**Method: SW846 8260C - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.41	ug/L			03/21/25 04:40	1
Ethylbenzene	ND		1.0	0.74	ug/L			03/21/25 04:40	1
Toluene	ND		1.0	0.51	ug/L			03/21/25 04:40	1
Xylenes, Total	ND		2.0	0.66	ug/L			03/21/25 04:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		77 - 120		03/21/25 04:40	1
4-Bromofluorobenzene (Surr)	101		73 - 120		03/21/25 04:40	1
Dibromofluoromethane (Surr)	97		75 - 123		03/21/25 04:40	1
Toluene-d8 (Surr)	100		80 - 120		03/21/25 04:40	1

# Surrogate Summary

Client: GEI Consultants Inc  
Project/Site: NFG Hornell

Job ID: 480-227992-1

## 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)			
		DCA (77-120)	BFB (73-120)	DBFM (75-123)	TOL (80-120)
480-227992-1	MW-6	98	100	97	100
480-227992-2	MW-7	99	98	100	98
480-227992-3	MW-8	98	98	98	100
480-227992-4	MW-12RR	100	99	100	100
480-227992-5	MW-13	98	94	98	99
480-227992-6	TB-03182025	97	101	97	100
LCS 480-741320/6	Lab Control Sample	102	97	100	98
MB 480-741320/8	Method Blank	98	99	98	99

### Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)  
BFB = 4-Bromofluorobenzene (Surr)  
DBFM = Dibromofluoromethane (Surr)  
TOL = Toluene-d8 (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)		
		FBP (53-126)	NBZ (29-129)	TPHd14 (33-132)
480-227992-1	MW-6	82	72	81
480-227992-2	MW-7	77	66	72
480-227992-3	MW-8	70	61	76
480-227992-4	MW-12RR	80	68	65
480-227992-5	MW-13	95	79	89
LCS 480-741247/2-A	Lab Control Sample	77	72	88
LCSD 480-741247/3-A	Lab Control Sample Dup	82	78	93
MB 480-741247/1-A	Method Blank	82	75	97

### Surrogate Legend

FBP = 2-Fluorobiphenyl (Surr)  
NBZ = Nitrobenzene-d5 (Surr)  
TPHd14 = p-Terphenyl-d14 (Surr)

# QC Sample Results

Client: GEI Consultants Inc  
Project/Site: NFG Hornell

Job ID: 480-227992-1

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

**Lab Sample ID: MB 480-741320/8**  
**Matrix: Water**  
**Analysis Batch: 741320**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.41	ug/L			03/21/25 01:31	1
Ethylbenzene	ND		1.0	0.74	ug/L			03/21/25 01:31	1
Toluene	ND		1.0	0.51	ug/L			03/21/25 01:31	1
Xylenes, Total	ND		2.0	0.66	ug/L			03/21/25 01:31	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		77 - 120		03/21/25 01:31	1
4-Bromofluorobenzene (Surr)	99		73 - 120		03/21/25 01:31	1
Dibromofluoromethane (Surr)	98		75 - 123		03/21/25 01:31	1
Toluene-d8 (Surr)	99		80 - 120		03/21/25 01:31	1

**Lab Sample ID: LCS 480-741320/6**  
**Matrix: Water**  
**Analysis Batch: 741320**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	25.0	26.5		ug/L		106	71 - 124
Ethylbenzene	25.0	26.3		ug/L		105	77 - 123
Toluene	25.0	26.2		ug/L		105	80 - 122
Xylenes, Total	50.0	53.6		ug/L		107	76 - 122

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	102		77 - 120
4-Bromofluorobenzene (Surr)	97		73 - 120
Dibromofluoromethane (Surr)	100		75 - 123
Toluene-d8 (Surr)	98		80 - 120

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

**Lab Sample ID: MB 480-741247/1-A**  
**Matrix: Water**  
**Analysis Batch: 741411**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 741247**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		5.0	0.41	ug/L		03/20/25 06:41	03/21/25 14:25	1
Acenaphthylene	ND		5.0	0.38	ug/L		03/20/25 06:41	03/21/25 14:25	1
Anthracene	ND		5.0	0.28	ug/L		03/20/25 06:41	03/21/25 14:25	1
Benzo[a]anthracene	ND		5.0	0.36	ug/L		03/20/25 06:41	03/21/25 14:25	1
Benzo[a]pyrene	ND		5.0	0.47	ug/L		03/20/25 06:41	03/21/25 14:25	1
Benzo[b]fluoranthene	ND		5.0	0.34	ug/L		03/20/25 06:41	03/21/25 14:25	1
Benzo[g,h,i]perylene	ND		5.0	0.35	ug/L		03/20/25 06:41	03/21/25 14:25	1
Benzo[k]fluoranthene	ND		5.0	0.73	ug/L		03/20/25 06:41	03/21/25 14:25	1
Chrysene	ND		5.0	0.33	ug/L		03/20/25 06:41	03/21/25 14:25	1
Dibenz(a,h)anthracene	ND		5.0	0.42	ug/L		03/20/25 06:41	03/21/25 14:25	1
Fluoranthene	ND		5.0	0.40	ug/L		03/20/25 06:41	03/21/25 14:25	1
Fluorene	ND		5.0	0.36	ug/L		03/20/25 06:41	03/21/25 14:25	1
Indeno[1,2,3-cd]pyrene	ND		5.0	0.47	ug/L		03/20/25 06:41	03/21/25 14:25	1
Naphthalene	ND		5.0	0.76	ug/L		03/20/25 06:41	03/21/25 14:25	1

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# QC Sample Results

Client: GEI Consultants Inc  
Project/Site: NFG Hornell

Job ID: 480-227992-1

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

**Lab Sample ID: MB 480-741247/1-A**  
**Matrix: Water**  
**Analysis Batch: 741411**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 741247**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenanthrene	ND		5.0	0.44	ug/L		03/20/25 06:41	03/21/25 14:25	1
Pyrene	ND		5.0	0.34	ug/L		03/20/25 06:41	03/21/25 14:25	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	82		53 - 126				03/20/25 06:41	03/21/25 14:25	1
Nitrobenzene-d5 (Surr)	75		29 - 129				03/20/25 06:41	03/21/25 14:25	1
p-Terphenyl-d14 (Surr)	97		33 - 132				03/20/25 06:41	03/21/25 14:25	1

**Lab Sample ID: LCS 480-741247/2-A**  
**Matrix: Water**  
**Analysis Batch: 741411**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 741247**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Acenaphthene	32.0	28.2		ug/L		88	60 - 120
Acenaphthylene	32.0	27.7		ug/L		87	63 - 120
Anthracene	32.0	29.6		ug/L		93	67 - 120
Benzo[a]anthracene	32.0	30.9		ug/L		97	70 - 121
Benzo[a]pyrene	32.0	30.7		ug/L		96	60 - 123
Benzo[b]fluoranthene	32.0	29.6		ug/L		93	66 - 126
Benzo[g,h,i]perylene	32.0	29.6		ug/L		92	66 - 150
Benzo[k]fluoranthene	32.0	33.4		ug/L		105	65 - 124
Chrysene	32.0	30.1		ug/L		94	69 - 120
Dibenz(a,h)anthracene	32.0	30.5		ug/L		95	65 - 135
Fluoranthene	32.0	30.9		ug/L		97	69 - 126
Fluorene	32.0	29.3		ug/L		92	66 - 120
Indeno[1,2,3-cd]pyrene	32.0	30.8		ug/L		96	69 - 146
Naphthalene	32.0	21.8		ug/L		68	57 - 120
Phenanthrene	32.0	31.3		ug/L		98	68 - 120
Pyrene	32.0	31.5		ug/L		98	70 - 125
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
2-Fluorobiphenyl (Surr)	77		53 - 126				
Nitrobenzene-d5 (Surr)	72		29 - 129				
p-Terphenyl-d14 (Surr)	88		33 - 132				

**Lab Sample ID: LCSD 480-741247/3-A**  
**Matrix: Water**  
**Analysis Batch: 741411**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 741247**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	RPD Limit
Acenaphthene	32.0	30.1		ug/L		94	60 - 120	7	24
Acenaphthylene	32.0	29.6		ug/L		93	63 - 120	7	18
Anthracene	32.0	31.6		ug/L		99	67 - 120	6	15
Benzo[a]anthracene	32.0	32.6		ug/L		102	70 - 121	5	15
Benzo[a]pyrene	32.0	31.4		ug/L		98	60 - 123	2	15
Benzo[b]fluoranthene	32.0	31.5		ug/L		98	66 - 126	6	15
Benzo[g,h,i]perylene	32.0	30.8		ug/L		96	66 - 150	4	15
Benzo[k]fluoranthene	32.0	34.8		ug/L		109	65 - 124	4	22

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# QC Sample Results

Client: GEI Consultants Inc  
Project/Site: NFG Hornell

Job ID: 480-227992-1

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

**Lab Sample ID: LCSD 480-741247/3-A**  
**Matrix: Water**  
**Analysis Batch: 741411**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 741247**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
Chrysene	32.0	31.4		ug/L		98	69 - 120	4	15	
Dibenz(a,h)anthracene	32.0	32.0		ug/L		100	65 - 135	5	15	
Fluoranthene	32.0	33.0		ug/L		103	69 - 126	7	15	
Fluorene	32.0	31.6		ug/L		99	66 - 120	8	15	
Indeno[1,2,3-cd]pyrene	32.0	32.6		ug/L		102	69 - 146	6	15	
Naphthalene	32.0	23.9		ug/L		75	57 - 120	9	29	
Phenanthrene	32.0	32.9		ug/L		103	68 - 120	5	15	
Pyrene	32.0	33.2		ug/L		104	70 - 125	5	19	

Surrogate	%Recovery	LCSD Qualifier	Limits
Nitrobenzene-d5 (Surr)	78		29 - 129
p-Terphenyl-d14 (Surr)	93		33 - 132

## Method: 9012B - Cyanide, Total and/or Amenable

**Lab Sample ID: MB 480-741930/47**  
**Matrix: Water**  
**Analysis Batch: 741930**

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

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Cyanide, Total	0.00660	J	0.010	0.0041	mg/L			03/26/25 17:41	1

**Lab Sample ID: HLCS 480-741930/22**  
**Matrix: Water**  
**Analysis Batch: 741930**

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

Analyte	Spike Added	HLCS Result	HLCS Qualifier	Unit	D	%Rec	%Rec	
							Limits	RPD
Cyanide, Total	0.400	0.400		mg/L		100	90 - 110	

**Lab Sample ID: LCS 480-741930/48**  
**Matrix: Water**  
**Analysis Batch: 741930**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec	
							Limits	RPD
Cyanide, Total	0.250	0.238		mg/L		95	90 - 110	

**Lab Sample ID: 480-227992-4 MS**  
**Matrix: Water**  
**Analysis Batch: 741930**

**Client Sample ID: MW-12RR**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec	
									Limits	RPD
Cyanide, Total	0.028	B F1	0.100	0.117	F1	mg/L		89	90 - 110	

**Lab Sample ID: 480-227992-4 DU**  
**Matrix: Water**  
**Analysis Batch: 741930**

**Client Sample ID: MW-12RR**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit	
								RPD	Limit
Cyanide, Total	0.028	B F1	0.0258		mg/L		8	15	

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# QC Association Summary

Client: GEI Consultants Inc  
Project/Site: NFG Hornell

Job ID: 480-227992-1

## GC/MS VOA

### Analysis Batch: 741320

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-227992-1	MW-6	Total/NA	Water	8260C	
480-227992-2	MW-7	Total/NA	Water	8260C	
480-227992-3	MW-8	Total/NA	Water	8260C	
480-227992-4	MW-12RR	Total/NA	Water	8260C	
480-227992-5	MW-13	Total/NA	Water	8260C	
480-227992-6	TB-03182025	Total/NA	Water	8260C	
MB 480-741320/8	Method Blank	Total/NA	Water	8260C	
LCS 480-741320/6	Lab Control Sample	Total/NA	Water	8260C	

## GC/MS Semi VOA

### Prep Batch: 741247

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-227992-1	MW-6	Total/NA	Water	3510C	
480-227992-2	MW-7	Total/NA	Water	3510C	
480-227992-3	MW-8	Total/NA	Water	3510C	
480-227992-4	MW-12RR	Total/NA	Water	3510C	
480-227992-5	MW-13	Total/NA	Water	3510C	
MB 480-741247/1-A	Method Blank	Total/NA	Water	3510C	
LCS 480-741247/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 480-741247/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

### Analysis Batch: 741411

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-227992-1	MW-6	Total/NA	Water	8270D	741247
480-227992-2	MW-7	Total/NA	Water	8270D	741247
480-227992-3	MW-8	Total/NA	Water	8270D	741247
480-227992-4	MW-12RR	Total/NA	Water	8270D	741247
480-227992-5	MW-13	Total/NA	Water	8270D	741247
MB 480-741247/1-A	Method Blank	Total/NA	Water	8270D	741247
LCS 480-741247/2-A	Lab Control Sample	Total/NA	Water	8270D	741247
LCSD 480-741247/3-A	Lab Control Sample Dup	Total/NA	Water	8270D	741247

## General Chemistry

### Analysis Batch: 741930

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-227992-1	MW-6	Total/NA	Water	9012B	
480-227992-2	MW-7	Total/NA	Water	9012B	
480-227992-3	MW-8	Total/NA	Water	9012B	
480-227992-4	MW-12RR	Total/NA	Water	9012B	
480-227992-5	MW-13	Total/NA	Water	9012B	
MB 480-741930/47	Method Blank	Total/NA	Water	9012B	
HLCS 480-741930/22	Lab Control Sample	Total/NA	Water	9012B	
LCS 480-741930/48	Lab Control Sample	Total/NA	Water	9012B	
480-227992-4 MS	MW-12RR	Total/NA	Water	9012B	
480-227992-4 DU	MW-12RR	Total/NA	Water	9012B	

# Lab Chronicle

Client: GEI Consultants Inc  
Project/Site: NFG Hornell

Job ID: 480-227992-1

**Client Sample ID: MW-6**  
**Date Collected: 03/18/25 13:00**  
**Date Received: 03/19/25 09:30**

**Lab Sample ID: 480-227992-1**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260C		1	741320	AXK	EET BUF	03/21/25 02:41
Total/NA	Prep	3510C			741247	DP	EET BUF	03/20/25 06:41
Total/NA	Analysis	8270D		1	741411	JMM	EET BUF	03/21/25 19:46
Total/NA	Analysis	9012B		1	741930	GW	EET BUF	03/26/25 18:04

**Client Sample ID: MW-7**  
**Date Collected: 03/18/25 14:20**  
**Date Received: 03/19/25 09:30**

**Lab Sample ID: 480-227992-2**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260C		1	741320	AXK	EET BUF	03/21/25 03:05
Total/NA	Prep	3510C			741247	DP	EET BUF	03/20/25 06:41
Total/NA	Analysis	8270D		1	741411	JMM	EET BUF	03/21/25 20:13
Total/NA	Analysis	9012B		1	741930	GW	EET BUF	03/26/25 18:07

**Client Sample ID: MW-8**  
**Date Collected: 03/18/25 12:35**  
**Date Received: 03/19/25 09:30**

**Lab Sample ID: 480-227992-3**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260C		1	741320	AXK	EET BUF	03/21/25 03:29
Total/NA	Prep	3510C			741247	DP	EET BUF	03/20/25 06:41
Total/NA	Analysis	8270D		1	741411	JMM	EET BUF	03/21/25 20:40
Total/NA	Analysis	9012B		1	741930	GW	EET BUF	03/26/25 18:11

**Client Sample ID: MW-12RR**  
**Date Collected: 03/18/25 15:20**  
**Date Received: 03/19/25 09:30**

**Lab Sample ID: 480-227992-4**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260C		1	741320	AXK	EET BUF	03/21/25 03:53
Total/NA	Prep	3510C			741247	DP	EET BUF	03/20/25 06:41
Total/NA	Analysis	8270D		5	741411	JMM	EET BUF	03/21/25 21:06
Total/NA	Analysis	9012B		1	741930	GW	EET BUF	03/26/25 18:27

**Client Sample ID: MW-13**  
**Date Collected: 03/18/25 13:25**  
**Date Received: 03/19/25 09:30**

**Lab Sample ID: 480-227992-5**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260C		1	741320	AXK	EET BUF	03/21/25 04:16
Total/NA	Prep	3510C			741247	DP	EET BUF	03/20/25 06:41
Total/NA	Analysis	8270D		1	741411	JMM	EET BUF	03/21/25 21:33
Total/NA	Analysis	9012B		1	741930	GW	EET BUF	03/26/25 18:37

# Lab Chronicle

Client: GEI Consultants Inc  
Project/Site: NFG Hornell

Job ID: 480-227992-1

**Client Sample ID: TB-03182025**

**Lab Sample ID: 480-227992-6**

**Date Collected: 03/18/25 00:00**

**Matrix: Water**

**Date Received: 03/19/25 09:30**

<u>Prep Type</u>	<u>Batch Type</u>	<u>Batch Method</u>	<u>Run</u>	<u>Dilution Factor</u>	<u>Batch Number</u>	<u>Analyst</u>	<u>Lab</u>	<u>Prepared or Analyzed</u>
Total/NA	Analysis	8260C		1	741320	AXK	EET BUF	03/21/25 04:40

**Laboratory References:**

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

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# Accreditation/Certification Summary

Client: GEI Consultants Inc  
Project/Site: NFG Hornell

Job ID: 480-227992-1

## Laboratory: Eurofins Buffalo

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

Authority	Program	Identification Number	Expiration Date
New York	NELAP	10026	03-31-25

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# Method Summary

Client: GEI Consultants Inc  
Project/Site: NFG Hornell

Job ID: 480-227992-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	EET BUF
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	EET BUF
9012B	Cyanide, Total and/or Amenable	SW846	EET BUF
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	EET BUF
5030C	Purge and Trap	SW846	EET BUF

**Protocol References:**

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

**Laboratory References:**

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



# Sample Summary

Client: GEI Consultants Inc  
Project/Site: NFG Hornell

Job ID: 480-227992-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-227992-1	MW-6	Water	03/18/25 13:00	03/19/25 09:30
480-227992-2	MW-7	Water	03/18/25 14:20	03/19/25 09:30
480-227992-3	MW-8	Water	03/18/25 12:35	03/19/25 09:30
480-227992-4	MW-12RR	Water	03/18/25 15:20	03/19/25 09:30
480-227992-5	MW-13	Water	03/18/25 13:25	03/19/25 09:30
480-227992-6	TB-03182025	Water	03/18/25 00:00	03/19/25 09:30

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# Chain of Custody Record

**Client Information**  
 Client Contact: Mr. Jeff Holden  
 Company: GEI Consultants Inc  
 Address: 950 Danby Road Suite 201-F  
 City: Ithaca  
 State, Zip: NY, 14850  
 Phone: 607-216-8956(Tel)  
 Email: JHolden@geiconsultants.com  
 Project Name: NFG Hornell  
 Site: Hornell Former MGP


Lab PM: Schove, John R  
 E-Mail: John.Schove@eurofins.com  
 PWSID: \_\_\_\_\_

Due Date Requested: \_\_\_\_\_  
 TAT Requested (days): Standard TAT  
 Compliance Project:  Yes  No  
 PO #: 1801687.1.8  
 WO #: \_\_\_\_\_  
 Project #: 48027937  
 SOW#: \_\_\_\_\_

Sampler: E. Dallas / A. Jock  
 Phone: \_\_\_\_\_

Carrier: **Syracus** (C No: 880-203696-41609.1)  
 State of Origin: #225  
 Page: Page 1 of 1  
 Job #: \_\_\_\_\_

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=oil, B=biota, A=air)	Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		9012B NP - Cyanide, Total	8270D - PAH Semivolatiles	8260C - VOCs - BTEX	Total Number of Containers	Special Instructions/Note:
					Field Filtered	MS/MSD	Field Filtered	MS/MSD					
<u>WW-6</u>	<u>03/18/25</u>	<u>1300</u>		<u>Water</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>6</u>	
<u>WW-7</u>		<u>1420</u>		<u>Water</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
<u>WW-8</u>		<u>1235</u>		<u>Water</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
<u>WW-12RR</u>		<u>1520</u>		<u>Water</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
<u>WW-13</u>		<u>1325</u>		<u>Water</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
<u>TB-03/18/2025</u>				<u>Water</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		



480-227992 Chain of Custody

**Possible Hazard Identification**  
 Non-Hazard  Flammable  Skin Irritant  Poison B  Unknown  Radiological  
 Deliverable Requested:  I/II/III, IV, Other (specify)

Empty Kit Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_  
 Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_  
 Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_  
 Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_

Custody Seals Intact:  Yes  No  Custody Seal No.: \_\_\_\_\_  
 Cooler Temperature(s) °C and Other Remarks: 21 IR #SCLF

**Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)**  
 Return To Client  Disposal By Lab  Archive For \_\_\_\_\_ Months  
 Special Instructions/QC Requirements: \_\_\_\_\_

Method of Shipment: \_\_\_\_\_  
 Received by: JMKNW/1610 Date/Time: 3/19/25 9:30 AM Company: \_\_\_\_\_  
 Received by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_  
 Received by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_



# Login Sample Receipt Checklist

Client: GEI Consultants Inc

Job Number: 480-227992-1

**Login Number: 227992**

**List Number: 1**

**Creator: Wallace, Cameron**

**List Source: Eurofins Buffalo**

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



# **Appendix B**

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## **Data Usability Summary Report**

**Site:** Hornell, NY Groundwater Sampling  
**Laboratory:** Eurofins, Amherst, NY  
**Report Number:** 480-227992  
**Reviewer:** Darionna Malone/GEI Consultants  
**Date:** April 1, 2025

### **Samples Reviewed and Evaluation Summary**

FIELD ID	LAB ID	Level 2 Review
MW-6	480-227992-1	BTEX, PAH, Cyanide
MW-7	480-227992-2	BTEX, PAH, Cyanide
MW-8	480-227992-3	BTEX, PAH, Cyanide
MW-12RR	480-227992-4	BTEX, PAH, Cyanide
MW-13	480-227992-5	BTEX, PAH, Cyanide
TB-03182025	480-227992-6	BTEX

Associated QC Samples:

Trip/Field Blanks: TB-03182025

Field Duplicate Pair: None associated

The above-listed aqueous samples were collected on March 18, 2025 and were analyzed for BTEX volatile organic compounds (VOCs) by SW-846 method 8260C, polynuclear aromatic hydrocarbon (PAH) semivolatile organic compounds (SVOCs) by SW-846 method 8270D, and total cyanide by SW-846 method 9012B. The data validation was performed in accordance with the following USEPA Region 2 Documents: Standard Operating Procedure (SOP) QA-HWSS-A-005 *Semivolatile Data Validation* (April 2022), SOP QA-HWSS-A-004 *Low/Medium Volatile Data Validation* (March 2022), and *USEPA Region 2 Standard Operating Procedures QA-HWSS-A-012 (SOPs) for the Evaluation of Cyanide for the Contract Laboratory Program* (March 2022), as well as by the methods referenced by the data package and professional and technical judgment.

The data were evaluated based on the following parameters:

- Data Completeness
- Holding Times and Sample Preservation
- Gas Chromatography/Mass Spectrometry (GC/MS) Tunes
- Initial and Continuing Calibrations
- Blanks
- Surrogate Recoveries
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results
- Laboratory Duplicate Results
- Field Duplicate Results
- Laboratory Control Sample (LCS) Results
- Internal Standards
- Serial Dilution Results
- Quantitation Limits
- Sample Quantitation and Compound Identification

All results appear usable as reported or usable with minor qualification due to sample matrix or laboratory quality control outliers. Select results were qualified as estimated due to blank

**Site: Hornell, NY Groundwater Sampling**  
**Report Number 480-227992**  
**Date: April 1, 2025**

contamination, MS recovery exceedances, and uncertainty for levels below the reporting limit. These results were considered valid; even though some were qualified as discussed below.

The validation findings were based on the following information.

### **Data Completeness**

The data package was complete as received by the laboratory.

### **Holding Times and Sample Preservation**

All criteria were met.

### **GC/MS Tunes**

All criteria were met.

### **Initial and Continuing Calibrations**

All initial and continuing calibration criteria were met.

### **Blanks**

Contamination was not detected in the laboratory instrument and method blank samples, and field blank and trip blank samples, except where noted below.

Analyte	Blank ID/ Associated Samples	Blank Concentration	2X Action Level	10X Action Level	Validation Actions
Cyanide	MB 480-741930/ MW-6, MW-7, MW-8, MW-12RR, MW-13, TB-03182025	0.0066 mg/L	0.0132 mg/L	0.066 mg/L	Estimate (J) results for cyanide in samples MW-6, MW-8, MW-12RR, MW-13. High Bias.

Blank Actions:

If the sample result is < RL (<2xRL for common contaminants); report the result as nondetect (U) at the reporting limit (RL) or reported value.

If the sample result is  $\geq$  RL and <blank contamination detected; report the result as nondetect (U) at the reported value.

If the sample result is  $\geq$  RL and < 10x Action Level; professional judgment was taken to report the sample result as estimated (J); biased high.

If the sample result is nondetect or  $\geq$  10x Action Level; validation action is not required.

### **Surrogate Recoveries**

All criteria were met.

### **MS/MSD Results**

**Site: Hornell, NY Groundwater Sampling**  
**Report Number 480-227992**  
**Date: April 1, 2025**

MS/MSD analysis was performed on sample MW-12RR for cyanide. All recovery and precision criteria were met for levels less than four times the spike amount except where noted below.

MS/MSD Sample MW-12RR					
Analyte	MS (%)	MSD (%)	RPD (%)	Control Limits	Validation Action/Bias
Cyanide	89	-	-	90-110	Estimate (J) the detect results for cyanide in samples MW-6, MW-7, MW-8, MW-12RR, MW-13. Low bias.
- Criteria met					

### **Laboratory Duplicate Results**

Laboratory duplicate analysis was performed on sample MW-12RR for cyanide. All precision criteria were met.

### **Field Duplicate Results**

None associated with project.

### **LCS Results**

All criteria were met.

### **Internal Standards**

All criteria were met.

### **Quantitation Limits**

Results were reported which were below the reporting limit (RL) and above the method detection limit (MDL). If detected, these results were qualified as estimated (J) by the laboratory. The direction of the bias is indeterminate for these results.

The following table lists the sample dilutions which were performed to bring results within the instrument calibration range.

Sample	Analysis	Dilution Performed
MW-12RR	PAH	The sample was analyzed at a 5-fold dilution due to high analyte level.

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### **Serial Dilution Results**

A serial dilution analysis was not performed.

### **Sample Quantitation and Compound Identification**

Compound identification criteria were met. Calculations were spot-checked; no discrepancies were noted.

## DATA VALIDATION QUALIFIERS

- U - The analyte was analyzed for, but due to blank contamination was flagged as nondetect (U). The result is usable as a nondetect.
- J - Data are flagged (J) when a QC analysis fails outside the primary acceptance limits. The qualified “J” data are not excluded from further review or consideration. However, only one flag (J) is applied to a sample result, even though several associated QC analyses may fail. The ‘J’ data may be biased high or low or the direction of the bias may be indeterminable.
- UJ - The analyte was not detected above the reported sample quantitation limit. Data are flagged (UJ) when a QC analysis fails outside the primary acceptance limits. The qualified “UJ” data are not excluded from further review or consideration. However, only one flag is applied to a sample result, even though several associated QC analyses may fail. The ‘UJ’ data may be biased low.
- JN - The analysis indicates the presence of a compound that has been “tentatively identified” (N) and the associated numerical value represents its approximate (J) concentration.
- R - Data rejected (R) on the basis of an unacceptable QC analysis should be excluded from further review or consideration. Data are rejected when associated QC analysis results exceed the expanded control limits of the QC criteria. The rejected data are known to contain significant errors based on documented information. The data user must not use the rejected data to make environmental decisions. The presence or absence of the analyte cannot be verified.