



October 3, 2023

Mr. Jack Ruh  
Quaker Development Inc.  
124 Meadow Rd  
Orchard Park, NY 14127

**Subject: Summary Results of Follow-Up Groundwater Sampling Post BCP - 31 Tonawanda Street, Buffalo, New York - NYSDEC Site # C915299 (2023)**

**Dear Mr. Ruh**

The following is a summary of the follow-up groundwater sampling at 31 Tonawanda Street, Buffalo, New York. The sampling was completed to assess groundwater after the insitu injection of anaerobic bio-chem and zero valent iron (ABC+) mixture formulated by REDOX Tech, LLC. to address elevated chlorinated organic solvents in the southeast corner of the property.

## **BACKGROUND**

During the Brownfield Cleanup Program (BCP) at 31 Tonawanda Street (NYSDEC Site# C915299) an IRM was conducted to support the implementation of a groundwater treatment remedial action at the 31 Tonawanda Street building. The IRM included in-situ groundwater treatment through installation of injection points exterior to and along the 31 Tonawanda Street southeast building wall as well as within the building crawl space in that area. The BCP remedial investigation indicated that the overburden groundwater in these areas was impacted with chlorinated solvents. Based on discussions with NYSDEC and after consideration of several alternate methods a remedial action was chosen which included injection of Anaerobic Bio-Chem and zero valent iron (ABC+) by REDOX Tech, LLC.

Based on the geochemistry of the site groundwater interface identified during the remedial investigation this method was chosen as an effective method for the mineralization (degradation) of chlorinated solvents. It was introduced to the groundwater through the injection points. **Figure 1** shows the as-built location plan of the injection points and applicable monitoring well.

The installation of the injection points and injection of the treatment product occurred during February and March 2020. The process used an anaerobic BioChem and Zero Valent Iron (ABC+) solution to remediate chlorinated alkene compounds in the soil/groundwater interface and in groundwater. BE3 (engineer), REDOX (Bio-Chem firm) and Nature's Way (driller-installer) mobilized to the property and completed the injection process as follows:

- **Exterior Injection Points:** the injection of the ABC+ was performed through 1.5-inch injection rods that were advanced into the subsurface using a Geoprobe® direct push unit. A total of twenty-nine (29) injection points, spaced approximately 5 feet apart in a hexagonal or zigzag grid pattern, were used for the treatment area along the exterior southeast wall (crawl space section) of the building at 31 Tonawanda Street. The subsurface receive approximately 11,000 pounds of ABC+ (50% zero valent iron) to treat the contamination along the bank separating the building from the Creek. Each injection

point received approximately 240 gallons divided up between depth intervals 8, 10, 12, 14, 16, 18, 20, and 22 feet below the ground surface. As the points were installed downward, 30 gallons was applied to each of these 8 depth intervals.

- **Interior Injection Points:** Injection of ABC+ was performed through 1.5-inch injection rods that were penetrated into the subsurface with a Geoprobe®. A total of 21 injection points (spaced 15 to 20 feet apart) were needed for the treatment area. At four (4) locations drilling hit refusal at shallow locations and no injections occurred. The subsurface receive approximately 27,000 pounds of ABC+ (50 percent zero valent iron) to treat the contamination in the source area. Mixed at approximately 20 wt% solution, this resulted in 12,920 gallons of solution. Each injection point received approximately 680 gallons, divided up between depth intervals 8, 11, 14, 17, and 20 feet below the ground surface below the floor. As the points were installed downward, 136 gallons was applied to each of these 5 depth intervals.
- **Post Injection Monitoring** - The ultimate measure of success is destruction of the target contaminants. Groundwater samples were collected from monitoring well MW-3 in a little over two months after completion of injections on May 22, 2020, in September 15, 2020 and on August 8, 2023. The samples were analyzed for the following parameters: VOCs, pH, ORP, DO, dissolved iron (field filtered and measure total iron), total organic carbon (TOC) and; sulfate.

## SAMPLING SCOPE

Only two of the Brownfield Cleanup Program (BCP) remedial investigation monitoring wells remain after development of the property including the “upgradient” monitoring well (well 31MW-2) at the northwest corner of West and Tonawanda Streets and the “downgradient” monitoring well (well 31MW3) in the southeast corner of the property adjacent to the creek and downgradient of the remedial injections. The following tasks were completed to measure the ongoing effectiveness of the remedial action.

**TASK 1** – The wells were purged and in-field parameters including water levels, pH, dissolved oxygen, and conductivity were obtained

**TASK 2** – Samples were collected from each well and transported to Eurofins Buffalo for laboratory analysis for the following parameters: Volatile Organic Compounds (VOCs) focusing on chlorinated solvents; pH; ORP; DO; dissolved iron; total organic carbon (TOC); and sulfate.

## SAMPLING METHOD

To collect representative samples, groundwater wells were adequately purged prior to sampling. Purging included removing three volumes of standing water. Groundwater samples were collected using low flow pump into appropriate containers. **Please refer to attached field data forms.**

## RESULTS/FINDINGS AND CONCLUSION

Groundwater samples were submitted to Eurofins Laboratory (Buffalo) for analysis using the methods identified in the filed sampling plan. **The full laboratory results are attached.** The results of the three rounds of post injection GW sampling of downgradient MW-3 are provided in

the attached **Groundwater Injection Treatment Monitoring Well Sample Results - Table 1** along with the prior sampling rounds prior to and after injection.

The assessment of the first round of post injection sampling (5/22/20) indicated the attenuation of chlorinated solvents was occurring. The second round of sampling (9/15/20) showed a continued breakdown of solvents after the bio-remedial injections. The most recent round in August (8-8-2023) also indicated that Total Organic Carbon (TOC) is still sufficiently elevated, and the biodegradation is on-going.

The conclusion after the first two rounds of follow-up groundwater sampling was that the data appear to be typical of a site with DNAPL after treatment with anaerobic bio-chem and zero valent iron (ABC+) by Redox Tech, LLC. There was a large initial drop from the zero valent iron and the level of the parent product (TCA) had stabilized. Continued bioremediation was indicated as evidenced by the continued increase in chloroethane. The chloroethane was formed from the biodegradation of dichloroethane.

The most recent results in August 2023 suggest that the anaerobic biodegradation is still ongoing based upon the gradual decay of the target compounds (TCA, DCA and TCE) and will continue because there appears to be sufficient TOC for ongoing anaerobic biodegradation. The TCA concentrations have decreased by one order of magnitude. The compound 1,1-DCE has been reduced to non-detect. The compound 1,1-DCE was produced from the abiotic degradation of TCA. Trans-1,2-DCE has also been reduced to non-detect, while cis-DCE remains elevated but still reduced by a factor of 3. Cis-DCE continues to be produced from the anaerobic degradation of TCE, which has been reduced to non-detect. Vinyl Chloride has increased due to the anaerobic degradation of DCE as expected. Sulfate remains below 20 ppm, which is sufficient for complete de-chlorination. Results of the groundwater sampling indicated the successful attenuation of chlorinated solvents has occurred and is continuing.

We thank you for the opportunity to be of assistance to you on this project. Please do not hesitate to contact us if you have any questions or require further assistance.

Sincerely,

Peter J. Gorton

Partner, Vice President

Brydges Engineering in Environment & Energy DPC (BE3)

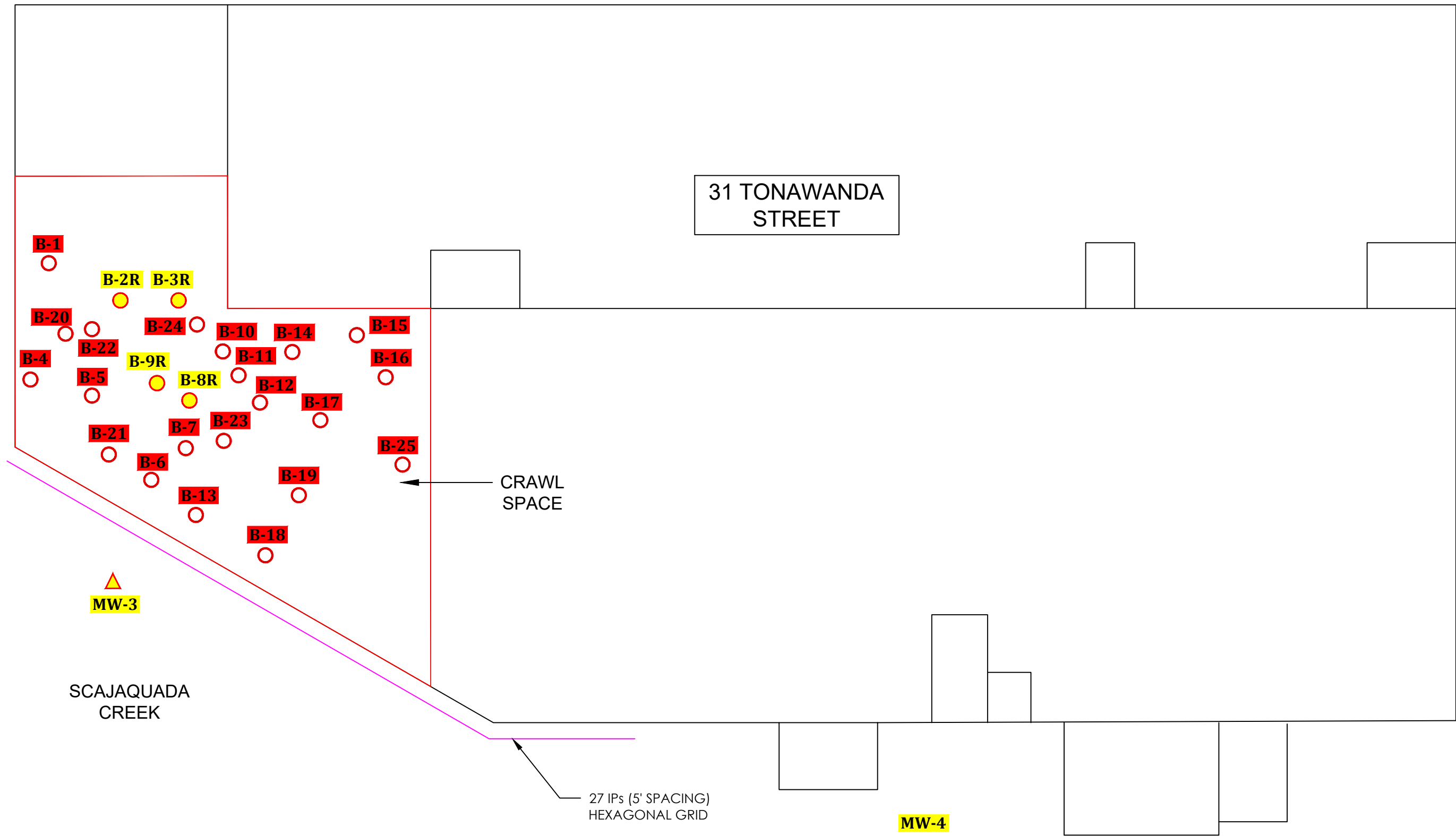
#### Attachments

- A- Low Flow Purging/Field Parameter/Data Log
- B- Summary Groundwater Results Tables
- C- Laboratory Data

TONAWANDA STREET

31 TONAWANDA STREET

WEST AVENUE



**LEGEND**

	<b>B-#</b>	GROUND WATER INJECTION POINT
	<b>B-#R</b>	REFUSAL - NO INJECTION
	<b>MW-#</b>	MONITORING WELL

Note: MW-4 was Removed During BCP Remedial Action

INJECTION POINTS



	Figure 1 - Ground Water Treatment System - As-Built	Revisions
	31 Tonawanda Street Buffalo, New York 14207	
05-29-2020	SCALE: N/A	SHEET 1 OF 1

## ATTACHMENT A

Low Flow Purging/Field Data Forms

# LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 31 Tonawanda St Site: 31 Tonawanda St., Buffalo Well I.D.: MW-2

Date: 8/8/2023 Sampling Personnel: Paul Staub & Alexis Palumbo Company: BE3 Corp

Purging/Sampling Device: Peristaltic Pump Tubing Type: HDPE + Silicone Pump/Tubing Inlet Location: Middle of Screen

Measuring Point: TOR Marking Initial Depth to Water: 5.8' Depth to Well Bottom: 30' Well Diameter: 2 in Screen Length: 10'

Casing Type: PVC Volume in 1 Well Casing (liters): 14.95 L Estimated Purge Volume (liters): 10 L

Sample ID: MW-2 Sample Time: 0000 QA/QC: \_\_\_\_\_

Sample Parameters: Part 375 VOCs & TICs, SVOC & TICs, Metals, Pesticides, PCBs ,PFA's, 1-4 Dioxane, Total Cyanide

\_\_\_\_\_

\_\_\_\_\_

## PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O <sub>2</sub> (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
0910	6.32	18.8	6.49	8.79	11.0	20	-	-
0930	6.68	17.1	3.77	9.38	1.4	55	-	-
0942	6.71	16.7	3.74	9.68	1.3	16	-	-
0951	6.72	16.9	4.00	9.37	2.5	14	-	-
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

**Information:** WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft; 4 inch diameter well = 2470 ml/ft (vol<sub>cyl</sub> = πr<sup>2</sup>h)

**Remarks:**  
 First measurement was before purging well  
 Well purged at 0910  
 Samples taken at 10



## ATTACHMENT B

### Summary Data Tables





**TABLE 1  
31 TONAWANDA STREET - MW-3 GW SAMPLE ANALYTICAL RESULTS SUMMARY**

Contaminants	Sample Identification				NYSDEC TOGS 1.1.1. GA (1)
	MW-3	MW-3 (2)	MW-3 (3)	MW-3 (4)	
Sample Date	9/24/2018	5/22/2020	9/15/2020	8/8/2023	
<b>METALS</b>					
Dissolved Iron (mg/L)	NA	254	887	173	NA
<b>Volatile Organic Compounds</b>					
1,1,1-Trichloroethane	<b>188000 J</b>	<b>20500</b>	<b>26500</b>	<b>18000</b>	5
1,1-Dichloroethane	<b>75700</b>	<b>30500</b>	<b>26100</b>	<b>14000</b>	5
1,1-Dichloroethene	<b>2510 J</b>	<b>495</b>	<b>630</b>	<b>ND</b>	5
Chloroethane	ND	<b>2090</b>	<b>21900</b>	<b>56000</b>	5
cis-1,2-Dichloroethene	<b>37500</b>	<b>24300</b>	<b>28200</b>	<b>15000</b>	5
trans-1,2-Dichloroethene	ND	ND	<b>284 J</b>	<b>ND</b>	5
Trichloroethene	ND	<b>594</b>	<b>1290</b>	<b>ND</b>	5
Vinyl chloride	<b>5980</b>	<b>5080</b>	<b>3770</b>	<b>9200</b>	2
<b>FIELD PARAMETERS</b>					
Turbidity (NTU)	2.3	190	137	6	NA
pH	6.28	6.67	6.92	5.1	NA
Dissolved Oxygen (mg/L)	0	5.24	2.73	4.4	NA
Temp (degrees C)	15.93	22.1	16.1	21.1	NA
Conductivity (mS/cm)	1.47	1.12	4.28	2.01	NA
TOC (mg/L)	NA	2400	1700	190	NA
Sulfate (mg/L)	NA	1.9	11	ND	NA

All values in ppb except where noted

N/A - Not Applicable ND - Non-detect

(1) - TOGs 1.1.1 GA - Technical and Operational Guidance Series (1.1.1) Source of Drinking Water (Groundwater)

(2) - MW-3 sampled 5/22/2020 post injection treatment

(3) - MW-3 sampled 9/15/2020 post injection treatment

(4) - MW-3 sampled 8/8/2023 post injection treatment

**Exceeds TOGs Guidance Value**

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

## ATTACHMENT C

### Laboratory Data

# ANALYTICAL REPORT

## PREPARED FOR

Attn: Jason Brydges  
Brydges Engineering in Environment & Energy DPC  
960 Busti Ave  
Suite B-150  
Buffalo, New York 14213

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## JOB DESCRIPTION

31 Tonawanda Street Project

## JOB NUMBER

480-211648-1

# 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.

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## Authorization



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# Definitions/Glossary

Client: Brydges Engineering in Environment & Energy DPC  
Project/Site: 31 Tonawanda Street Project

Job ID: 480-211648-1

## 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.

### 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.

### General Chemistry

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
HF	Parameter with a holding time of 15 minutes. Test performed by laboratory at client's request. Sample was analyzed outside of hold time.
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
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: Brydges Engineering in Environment & Energy DPC  
Project/Site: 31 Tonawanda Street Project

Job ID: 480-211648-1

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## Job ID: 480-211648-1

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### Laboratory: Eurofins Buffalo

#### Narrative

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#### Job Narrative 480-211648-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 8/8/2023 3:50 PM. 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 was 10.7° C.

#### GC/MS VOA

Method 8260C: The following sample was diluted to bring the concentration of target analytes within the calibration range: MW-23 (480-211648-2). Elevated reporting limits (RLs) are provided.

Method 8260C: The preservative used in the sample containers provided is not compatible with one of the Method 8260 analytes requested. The following samples were received preserved with hydrochloric acid: MW-2 (480-211648-1) and MW-23 (480-211648-2). The requested target analyte list includes 2-Chloroethyl vinyl ether, an acid-labile compound that degrades in an acidic medium.

Method 8260C: The continuing calibration verification (CCV) associated with batch 480-679533 recovered above the upper control limit for Benzyl chloride. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: MW-2 (480-211648-1) and MW-23 (480-211648-2).

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.

#### General Chemistry

Methods 9038, D516-90, 02: The method blank for analytical batch 480-679658 contained sulfate above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Methods 9040C, SM 4500 H+ B: This analysis is normally performed in the field and has a method-defined holding time of 15 minutes. The following samples has been qualified with the "HF" flag to indicate analysis was performed in the laboratory outside the 15 minute timeframe: MW-2 (480-211648-1) and MW-23 (480-211648-2).

Method SM 4500 O G: This analysis is normally performed in the field and has a method-defined holding time of 15 minutes. The following samples has been qualified with the "HF" flag to indicate analysis was performed in the laboratory outside the 15 minute timeframe: MW-2 (480-211648-1) and MW-23 (480-211648-2).

Method SM 2580B: This analysis is normally performed in the field and has a method-defined holding time of 15 minutes. The following samples has been qualified with the "HF" flag to indicate analysis was performed in the laboratory outside the 15 minute timeframe: MW-2 (480-211648-1) and MW-23 (480-211648-2).

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



# Detection Summary

Client: Brydges Engineering in Environment & Energy DPC  
 Project/Site: 31 Tonawanda Street Project

Job ID: 480-211648-1

## Client Sample ID: MW-2

## Lab Sample ID: 480-211648-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethane	1.1		1.0	0.38	ug/L	1		8260C	Total/NA
1,2-Dichloroethene, Total	1.4	J	2.0	0.81	ug/L	1		8260C	Total/NA
cis-1,2-Dichloroethene	1.4		1.0	0.81	ug/L	1		8260C	Total/NA
Methyl tert-butyl ether	2.6		1.0	0.16	ug/L	1		8260C	Total/NA
Trichloroethene	1.5		1.0	0.46	ug/L	1		8260C	Total/NA
1-Chlorohexane	0.21	J	5.0	0.20	ug/L	1		8260C	Total/NA
Iron, Dissolved	0.037	J	0.050	0.019	mg/L	1		6010C	Dissolved
Total Organic Carbon	4.7		1.0	0.43	mg/L	1		9060A	Total/NA
TOC Result 1	4.5		1.0	0.43	mg/L	1		9060A	Total/NA
TOC Result 2	5.0		1.0	0.43	mg/L	1		9060A	Total/NA
TOC Result 3	4.4		1.0	0.43	mg/L	1		9060A	Total/NA
TOC Result 4	4.7		1.0	0.43	mg/L	1		9060A	Total/NA
Sulfate	2210	B	605	182	mg/L	121		D516-90, 02	Total/NA
Oxidation Reduction Potential	348	HF			millivolts	1		SM 2580B	Total/NA
pH	7.1	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Temperature	21.1	HF	0.001	0.001	Degrees C	1		SM 4500 H+ B	Total/NA
Oxygen, Dissolved	8.9	HF	0.050	0.050	mg/L	1		SM 4500 O G	Total/NA

## Client Sample ID: MW-23

## Lab Sample ID: 480-211648-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	18000		1000	820	ug/L	1000		8260C	Total/NA
1,1-Dichloroethane	14000		1000	380	ug/L	1000		8260C	Total/NA
1,2-Dichloroethene, Total	15000		2000	810	ug/L	1000		8260C	Total/NA
Chloroethane	56000		1000	320	ug/L	1000		8260C	Total/NA
cis-1,2-Dichloroethene	15000		1000	810	ug/L	1000		8260C	Total/NA
Vinyl chloride	9200		1000	900	ug/L	1000		8260C	Total/NA
1-Chlorohexane	230	J	5000	200	ug/L	1000		8260C	Total/NA
Iron, Dissolved	173		0.050	0.019	mg/L	1		6010C	Dissolved
Total Organic Carbon	190		10.0	4.3	mg/L	10		9060A	Total/NA
TOC Result 1	184		10.0	4.3	mg/L	10		9060A	Total/NA
TOC Result 2	194		10.0	4.3	mg/L	10		9060A	Total/NA
TOC Result 3	188		10.0	4.3	mg/L	10		9060A	Total/NA
TOC Result 4	193		10.0	4.3	mg/L	10		9060A	Total/NA
Oxidation Reduction Potential	237	HF			millivolts	1		SM 2580B	Total/NA
pH	5.1	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Temperature	21.1	HF	0.001	0.001	Degrees C	1		SM 4500 H+ B	Total/NA
Oxygen, Dissolved	4.4	HF	0.050	0.050	mg/L	1		SM 4500 O G	Total/NA

This Detection Summary does not include radiochemical test results.

# Client Sample Results

Client: Brydges Engineering in Environment & Energy DPC  
 Project/Site: 31 Tonawanda Street Project

Job ID: 480-211648-1

**Client Sample ID: MW-2**

**Lab Sample ID: 480-211648-1**

**Date Collected: 08/08/23 09:00**

**Matrix: Water**

**Date Received: 08/08/23 15:50**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			08/10/23 11:42	1
1,1,1,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			08/10/23 11:42	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			08/10/23 11:42	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			08/10/23 11:42	1
<b>1,1-Dichloroethane</b>	<b>1.1</b>		1.0	0.38	ug/L			08/10/23 11:42	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			08/10/23 11:42	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			08/10/23 11:42	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			08/10/23 11:42	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			08/10/23 11:42	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			08/10/23 11:42	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			08/10/23 11:42	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			08/10/23 11:42	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			08/10/23 11:42	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			08/10/23 11:42	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			08/10/23 11:42	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			08/10/23 11:42	1
Acetone	10	U	10	3.0	ug/L			08/10/23 11:42	1
Benzene	1.0	U	1.0	0.41	ug/L			08/10/23 11:42	1
<b>1,2-Dichloroethene, Total</b>	<b>1.4</b>	<b>J</b>	2.0	0.81	ug/L			08/10/23 11:42	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			08/10/23 11:42	1
Bromoform	1.0	U	1.0	0.26	ug/L			08/10/23 11:42	1
1,3,5-Trichlorobenzene	1.0	U	1.0	0.23	ug/L			08/10/23 11:42	1
Bromomethane	1.0	U	1.0	0.69	ug/L			08/10/23 11:42	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			08/10/23 11:42	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			08/10/23 11:42	1
1,3-Dichloropropane	1.0	U	1.0	0.75	ug/L			08/10/23 11:42	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			08/10/23 11:42	1
1,3-Dichloropropene, Total	2.0	U	2.0	0.72	ug/L			08/10/23 11:42	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			08/10/23 11:42	1
Chloroethane	1.0	U	1.0	0.32	ug/L			08/10/23 11:42	1
Chloroform	1.0	U	1.0	0.34	ug/L			08/10/23 11:42	1
Chloromethane	1.0	U	1.0	0.35	ug/L			08/10/23 11:42	1
<b>cis-1,2-Dichloroethene</b>	<b>1.4</b>		1.0	0.81	ug/L			08/10/23 11:42	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			08/10/23 11:42	1
2,2-Dichloropropane	1.0	U	1.0	0.40	ug/L			08/10/23 11:42	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			08/10/23 11:42	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			08/10/23 11:42	1
Chloroprene	1.0	U	1.0	0.49	ug/L			08/10/23 11:42	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			08/10/23 11:42	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			08/10/23 11:42	1
2-Chlorobenzotrifluoride	1.0	U	1.0	0.50	ug/L			08/10/23 11:42	1
2-Chloroethyl vinyl ether	5.0	U	5.0	0.96	ug/L			08/10/23 11:42	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			08/10/23 11:42	1
2-Chlorotoluene	1.0	U	1.0	0.86	ug/L			08/10/23 11:42	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			08/10/23 11:42	1
<b>Methyl tert-butyl ether</b>	<b>2.6</b>		1.0	0.16	ug/L			08/10/23 11:42	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			08/10/23 11:42	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			08/10/23 11:42	1
Styrene	1.0	U	1.0	0.73	ug/L			08/10/23 11:42	1

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# Client Sample Results

Client: Brydges Engineering in Environment & Energy DPC  
 Project/Site: 31 Tonawanda Street Project

Job ID: 480-211648-1

**Client Sample ID: MW-2**

**Lab Sample ID: 480-211648-1**

**Date Collected: 08/08/23 09:00**

**Matrix: Water**

**Date Received: 08/08/23 15:50**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	1.0	U	1.0	0.84	ug/L			08/10/23 11:42	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			08/10/23 11:42	1
Toluene	1.0	U	1.0	0.51	ug/L			08/10/23 11:42	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			08/10/23 11:42	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			08/10/23 11:42	1
<b>Trichloroethene</b>	<b>1.5</b>		1.0	0.46	ug/L			08/10/23 11:42	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			08/10/23 11:42	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			08/10/23 11:42	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			08/10/23 11:42	1
Chlorobromomethane	1.0	U	1.0	0.87	ug/L			08/10/23 11:42	1
Chlorodifluoromethane	1.0	U	1.0	0.26	ug/L			08/10/23 11:42	1
Dichlorofluoromethane	1.0	U	1.0	0.34	ug/L			08/10/23 11:42	1
Hexachlorobutadiene	2.0	U	2.0	0.28	ug/L			08/10/23 11:42	1
Allyl chloride	1.0	U	1.0	0.44	ug/L			08/10/23 11:42	1
3-Chlorobenzotrifluoride	1.0	U	1.0	0.49	ug/L			08/10/23 11:42	1
3-Chlorotoluene	1.0	U	1.0	0.45	ug/L			08/10/23 11:42	1
4-Chlorobenzotrifluoride	1.0	U	1.0	0.21	ug/L			08/10/23 11:42	1
<b>1-Chlorohexane</b>	<b>0.21</b>	<b>J</b>	5.0	0.20	ug/L			08/10/23 11:42	1
Benzyl chloride	5.0	U	5.0	0.43	ug/L			08/10/23 11:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	99		80 - 120		08/10/23 11:42	1
1,2-Dichloroethane-d4 (Surr)	103		77 - 120		08/10/23 11:42	1
4-Bromofluorobenzene (Surr)	99		73 - 120		08/10/23 11:42	1
Dibromofluoromethane (Surr)	103		75 - 123		08/10/23 11:42	1

## Method: SW846 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Iron, Dissolved</b>	<b>0.037</b>	<b>J</b>	0.050	0.019	mg/L		08/15/23 08:03	08/16/23 00:08	1

## General Chemistry

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
<b>Oxidation Reduction Potential (SM 2580B)</b>	<b>348</b>	<b>HF</b>			millivolts			08/22/23 21:09	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Organic Carbon (SW846 9060A)</b>	<b>4.7</b>		1.0	0.43	mg/L			08/15/23 05:24	1
<b>TOC Result 1 (SW846 9060A)</b>	<b>4.5</b>		1.0	0.43	mg/L			08/15/23 05:24	1
<b>TOC Result 2 (SW846 9060A)</b>	<b>5.0</b>		1.0	0.43	mg/L			08/15/23 05:24	1
<b>TOC Result 3 (SW846 9060A)</b>	<b>4.4</b>		1.0	0.43	mg/L			08/15/23 05:24	1
<b>TOC Result 4 (SW846 9060A)</b>	<b>4.7</b>		1.0	0.43	mg/L			08/15/23 05:24	1
<b>Sulfate (ASTM D516-90, 02)</b>	<b>2210</b>	<b>B</b>	605	182	mg/L			08/10/23 13:04	121

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH (SM 4500 H+ B)</b>	<b>7.1</b>	<b>HF</b>	0.1	0.1	SU			08/11/23 15:50	1
<b>Temperature (SM 4500 H+ B)</b>	<b>21.1</b>	<b>HF</b>	0.001	0.001	Degrees C			08/11/23 15:50	1
<b>Oxygen, Dissolved (SM 4500 O G)</b>	<b>8.9</b>	<b>HF</b>	0.050	0.050	mg/L			08/16/23 11:30	1

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# Client Sample Results

Client: Brydges Engineering in Environment & Energy DPC  
 Project/Site: 31 Tonawanda Street Project

Job ID: 480-211648-1

**Client Sample ID: MW-23**

**Lab Sample ID: 480-211648-2**

**Date Collected: 08/08/23 10:00**

**Matrix: Water**

**Date Received: 08/08/23 15:50**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>1,1,1-Trichloroethane</b>	<b>18000</b>		1000	820	ug/L			08/10/23 12:04	1000
1,1,1,2-Tetrachloroethane	1000	U	1000	210	ug/L			08/10/23 12:04	1000
1,1,2-Trichloroethane	1000	U	1000	230	ug/L			08/10/23 12:04	1000
1,1,2-Trichloro-1,2,2-trifluoroethane	1000	U	1000	310	ug/L			08/10/23 12:04	1000
<b>1,1-Dichloroethane</b>	<b>14000</b>		1000	380	ug/L			08/10/23 12:04	1000
1,1-Dichloroethene	1000	U	1000	290	ug/L			08/10/23 12:04	1000
1,2,4-Trichlorobenzene	1000	U	1000	410	ug/L			08/10/23 12:04	1000
1,2-Dibromo-3-Chloropropane	1000	U	1000	390	ug/L			08/10/23 12:04	1000
1,2-Dichlorobenzene	1000	U	1000	790	ug/L			08/10/23 12:04	1000
1,2-Dichloroethane	1000	U	1000	210	ug/L			08/10/23 12:04	1000
1,2-Dichloropropane	1000	U	1000	720	ug/L			08/10/23 12:04	1000
1,3-Dichlorobenzene	1000	U	1000	780	ug/L			08/10/23 12:04	1000
1,4-Dichlorobenzene	1000	U	1000	840	ug/L			08/10/23 12:04	1000
2-Butanone (MEK)	10000	U	10000	1300	ug/L			08/10/23 12:04	1000
2-Hexanone	5000	U	5000	1200	ug/L			08/10/23 12:04	1000
4-Methyl-2-pentanone (MIBK)	5000	U	5000	2100	ug/L			08/10/23 12:04	1000
Acetone	10000	U	10000	3000	ug/L			08/10/23 12:04	1000
Benzene	1000	U	1000	410	ug/L			08/10/23 12:04	1000
<b>1,2-Dichloroethene, Total</b>	<b>15000</b>		2000	810	ug/L			08/10/23 12:04	1000
Bromodichloromethane	1000	U	1000	390	ug/L			08/10/23 12:04	1000
Bromoform	1000	U	1000	260	ug/L			08/10/23 12:04	1000
1,3,5-Trichlorobenzene	1000	U	1000	230	ug/L			08/10/23 12:04	1000
Bromomethane	1000	U	1000	690	ug/L			08/10/23 12:04	1000
Carbon disulfide	1000	U	1000	190	ug/L			08/10/23 12:04	1000
Carbon tetrachloride	1000	U	1000	270	ug/L			08/10/23 12:04	1000
1,3-Dichloropropane	1000	U	1000	750	ug/L			08/10/23 12:04	1000
Chlorobenzene	1000	U	1000	750	ug/L			08/10/23 12:04	1000
1,3-Dichloropropene, Total	2000	U	2000	720	ug/L			08/10/23 12:04	1000
Dibromochloromethane	1000	U	1000	320	ug/L			08/10/23 12:04	1000
<b>Chloroethane</b>	<b>56000</b>		1000	320	ug/L			08/10/23 12:04	1000
Chloroform	1000	U	1000	340	ug/L			08/10/23 12:04	1000
Chloromethane	1000	U	1000	350	ug/L			08/10/23 12:04	1000
<b>cis-1,2-Dichloroethene</b>	<b>15000</b>		1000	810	ug/L			08/10/23 12:04	1000
cis-1,3-Dichloropropene	1000	U	1000	360	ug/L			08/10/23 12:04	1000
2,2-Dichloropropane	1000	U	1000	400	ug/L			08/10/23 12:04	1000
Cyclohexane	1000	U	1000	180	ug/L			08/10/23 12:04	1000
Dichlorodifluoromethane	1000	U	1000	680	ug/L			08/10/23 12:04	1000
Chloroprene	1000	U	1000	490	ug/L			08/10/23 12:04	1000
Ethylbenzene	1000	U	1000	740	ug/L			08/10/23 12:04	1000
1,2-Dibromoethane	1000	U	1000	730	ug/L			08/10/23 12:04	1000
2-Chlorobenzotrifluoride	1000	U	1000	500	ug/L			08/10/23 12:04	1000
2-Chloroethyl vinyl ether	5000	U	5000	960	ug/L			08/10/23 12:04	1000
Isopropylbenzene	1000	U	1000	790	ug/L			08/10/23 12:04	1000
2-Chlorotoluene	1000	U	1000	860	ug/L			08/10/23 12:04	1000
Methyl acetate	2500	U	2500	1300	ug/L			08/10/23 12:04	1000
Methyl tert-butyl ether	1000	U	1000	160	ug/L			08/10/23 12:04	1000
Methylcyclohexane	1000	U	1000	160	ug/L			08/10/23 12:04	1000
Methylene Chloride	1000	U	1000	440	ug/L			08/10/23 12:04	1000
Styrene	1000	U	1000	730	ug/L			08/10/23 12:04	1000

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# Client Sample Results

Client: Brydges Engineering in Environment & Energy DPC  
 Project/Site: 31 Tonawanda Street Project

Job ID: 480-211648-1

**Client Sample ID: MW-23**

**Lab Sample ID: 480-211648-2**

**Date Collected: 08/08/23 10:00**

**Matrix: Water**

**Date Received: 08/08/23 15:50**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	1000	U	1000	840	ug/L			08/10/23 12:04	1000
Tetrachloroethene	1000	U	1000	360	ug/L			08/10/23 12:04	1000
Toluene	1000	U	1000	510	ug/L			08/10/23 12:04	1000
trans-1,2-Dichloroethene	1000	U	1000	900	ug/L			08/10/23 12:04	1000
trans-1,3-Dichloropropene	1000	U	1000	370	ug/L			08/10/23 12:04	1000
Trichloroethene	1000	U	1000	460	ug/L			08/10/23 12:04	1000
Trichlorofluoromethane	1000	U	1000	880	ug/L			08/10/23 12:04	1000
<b>Vinyl chloride</b>	<b>9200</b>		1000	900	ug/L			08/10/23 12:04	1000
Xylenes, Total	2000	U	2000	660	ug/L			08/10/23 12:04	1000
Chlorobromomethane	1000	U	1000	870	ug/L			08/10/23 12:04	1000
Chlorodifluoromethane	1000	U	1000	260	ug/L			08/10/23 12:04	1000
Dichlorofluoromethane	1000	U	1000	340	ug/L			08/10/23 12:04	1000
Hexachlorobutadiene	2000	U	2000	280	ug/L			08/10/23 12:04	1000
Allyl chloride	1000	U	1000	440	ug/L			08/10/23 12:04	1000
3-Chlorobenzotrifluoride	1000	U	1000	490	ug/L			08/10/23 12:04	1000
3-Chlorotoluene	1000	U	1000	450	ug/L			08/10/23 12:04	1000
4-Chlorobenzotrifluoride	1000	U	1000	210	ug/L			08/10/23 12:04	1000
<b>1-Chlorohexane</b>	<b>230</b>	<b>J</b>	5000	200	ug/L			08/10/23 12:04	1000
Benzyl chloride	5000	U	5000	430	ug/L			08/10/23 12:04	1000

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Toluene-d8 (Surr)</i>	99		80 - 120		08/10/23 12:04	1000
<i>1,2-Dichloroethane-d4 (Surr)</i>	102		77 - 120		08/10/23 12:04	1000
<i>4-Bromofluorobenzene (Surr)</i>	103		73 - 120		08/10/23 12:04	1000
<i>Dibromofluoromethane (Surr)</i>	105		75 - 123		08/10/23 12:04	1000

## Method: SW846 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Iron, Dissolved</b>	<b>173</b>		0.050	0.019	mg/L		08/15/23 08:03	08/16/23 00:12	1

## General Chemistry

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
<b>Oxidation Reduction Potential (SM 2580B)</b>	<b>237</b>	<b>HF</b>			millivolts			08/22/23 21:11	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Organic Carbon (SW846 9060A)</b>	<b>190</b>		10.0	4.3	mg/L			08/15/23 05:53	10
<b>TOC Result 1 (SW846 9060A)</b>	<b>184</b>		10.0	4.3	mg/L			08/15/23 05:53	10
<b>TOC Result 2 (SW846 9060A)</b>	<b>194</b>		10.0	4.3	mg/L			08/15/23 05:53	10
<b>TOC Result 3 (SW846 9060A)</b>	<b>188</b>		10.0	4.3	mg/L			08/15/23 05:53	10
<b>TOC Result 4 (SW846 9060A)</b>	<b>193</b>		10.0	4.3	mg/L			08/15/23 05:53	10
Sulfate (ASTM D516-90, 02)	5.0	U	5.0	1.5	mg/L			08/10/23 12:13	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH (SM 4500 H+ B)</b>	<b>5.1</b>	<b>HF</b>	0.1	0.1	SU			08/11/23 15:51	1
<b>Temperature (SM 4500 H+ B)</b>	<b>21.1</b>	<b>HF</b>	0.001	0.001	Degrees C			08/11/23 15:51	1
<b>Oxygen, Dissolved (SM 4500 O G)</b>	<b>4.4</b>	<b>HF</b>	0.050	0.050	mg/L			08/16/23 11:30	1

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# Surrogate Summary

Client: Brydges Engineering in Environment & Energy DPC  
Project/Site: 31 Tonawanda Street Project

Job ID: 480-211648-1

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

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TOL	DCA	BFB	DBFM
		(80-120)	(77-120)	(73-120)	(75-123)
480-211648-1	MW-2	99	103	99	103
480-211648-2	MW-23	99	102	103	105
LCS 480-679533/6	Lab Control Sample	100	100	99	99
MB 480-679533/9	Method Blank	99	103	100	101

### Surrogate Legend

TOL = Toluene-d8 (Surr)

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

# QC Sample Results

Client: Brydges Engineering in Environment & Energy DPC  
 Project/Site: 31 Tonawanda Street Project

Job ID: 480-211648-1

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

**Lab Sample ID: MB 480-679533/9**

**Matrix: Water**

**Analysis Batch: 679533**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			08/10/23 11:07	1
1,1,1,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			08/10/23 11:07	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			08/10/23 11:07	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			08/10/23 11:07	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			08/10/23 11:07	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			08/10/23 11:07	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			08/10/23 11:07	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			08/10/23 11:07	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			08/10/23 11:07	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			08/10/23 11:07	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			08/10/23 11:07	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			08/10/23 11:07	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			08/10/23 11:07	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			08/10/23 11:07	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			08/10/23 11:07	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			08/10/23 11:07	1
Acetone	10	U	10	3.0	ug/L			08/10/23 11:07	1
Benzene	1.0	U	1.0	0.41	ug/L			08/10/23 11:07	1
1,2-Dichloroethene, Total	2.0	U	2.0	0.81	ug/L			08/10/23 11:07	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			08/10/23 11:07	1
Bromoform	1.0	U	1.0	0.26	ug/L			08/10/23 11:07	1
1,3,5-Trichlorobenzene	1.0	U	1.0	0.23	ug/L			08/10/23 11:07	1
Bromomethane	1.0	U	1.0	0.69	ug/L			08/10/23 11:07	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			08/10/23 11:07	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			08/10/23 11:07	1
1,3-Dichloropropane	1.0	U	1.0	0.75	ug/L			08/10/23 11:07	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			08/10/23 11:07	1
1,3-Dichloropropene, Total	2.0	U	2.0	0.72	ug/L			08/10/23 11:07	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			08/10/23 11:07	1
Chloroethane	1.0	U	1.0	0.32	ug/L			08/10/23 11:07	1
Chloroform	1.0	U	1.0	0.34	ug/L			08/10/23 11:07	1
Chloromethane	1.0	U	1.0	0.35	ug/L			08/10/23 11:07	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			08/10/23 11:07	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			08/10/23 11:07	1
2,2-Dichloropropane	1.0	U	1.0	0.40	ug/L			08/10/23 11:07	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			08/10/23 11:07	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			08/10/23 11:07	1
Chloroprene	1.0	U	1.0	0.49	ug/L			08/10/23 11:07	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			08/10/23 11:07	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			08/10/23 11:07	1
2-Chlorobenzotrifluoride	1.0	U	1.0	0.50	ug/L			08/10/23 11:07	1
2-Chloroethyl vinyl ether	5.0	U	5.0	0.96	ug/L			08/10/23 11:07	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			08/10/23 11:07	1
2-Chlorotoluene	1.0	U	1.0	0.86	ug/L			08/10/23 11:07	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			08/10/23 11:07	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			08/10/23 11:07	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			08/10/23 11:07	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			08/10/23 11:07	1

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# QC Sample Results

Client: Brydges Engineering in Environment & Energy DPC  
 Project/Site: 31 Tonawanda Street Project

Job ID: 480-211648-1

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

**Lab Sample ID: MB 480-679533/9**  
**Matrix: Water**  
**Analysis Batch: 679533**

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

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Styrene	1.0	U	1.0	0.73	ug/L			08/10/23 11:07	1
4-Chlorotoluene	1.0	U	1.0	0.84	ug/L			08/10/23 11:07	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			08/10/23 11:07	1
Toluene	1.0	U	1.0	0.51	ug/L			08/10/23 11:07	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			08/10/23 11:07	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			08/10/23 11:07	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			08/10/23 11:07	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			08/10/23 11:07	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			08/10/23 11:07	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			08/10/23 11:07	1
Chlorobromomethane	1.0	U	1.0	0.87	ug/L			08/10/23 11:07	1
Chlorodifluoromethane	1.0	U	1.0	0.26	ug/L			08/10/23 11:07	1
Dichlorofluoromethane	1.0	U	1.0	0.34	ug/L			08/10/23 11:07	1
Hexachlorobutadiene	2.0	U	2.0	0.28	ug/L			08/10/23 11:07	1
Allyl chloride	1.0	U	1.0	0.44	ug/L			08/10/23 11:07	1
3-Chlorobenzotrifluoride	1.0	U	1.0	0.49	ug/L			08/10/23 11:07	1
3-Chlorotoluene	1.0	U	1.0	0.45	ug/L			08/10/23 11:07	1
4-Chlorobenzotrifluoride	1.0	U	1.0	0.21	ug/L			08/10/23 11:07	1
1-Chlorohexane	5.0	U	5.0	0.20	ug/L			08/10/23 11:07	1
Benzyl chloride	5.0	U	5.0	0.43	ug/L			08/10/23 11:07	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Toluene-d8 (Surr)	99		80 - 120		08/10/23 11:07	1
1,2-Dichloroethane-d4 (Surr)	103		77 - 120		08/10/23 11:07	1
4-Bromofluorobenzene (Surr)	100		73 - 120		08/10/23 11:07	1
Dibromofluoromethane (Surr)	101		75 - 123		08/10/23 11:07	1

**Lab Sample ID: LCS 480-679533/6**  
**Matrix: Water**  
**Analysis Batch: 679533**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,2,2-Tetrachloroethane	25.0	22.6		ug/L		90	76 - 120
1,1,2-Trichloroethane	25.0	23.5		ug/L		94	76 - 122
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	23.2		ug/L		93	61 - 148
1,1-Dichloroethane	25.0	22.7		ug/L		91	77 - 120
1,1-Dichloroethene	25.0	23.5		ug/L		94	66 - 127
1,2,4-Trichlorobenzene	25.0	22.6		ug/L		90	79 - 122
1,2-Dibromo-3-Chloropropane	25.0	19.8		ug/L		79	56 - 134
1,2-Dichlorobenzene	25.0	22.4		ug/L		90	80 - 124
1,2-Dichloroethane	25.0	22.6		ug/L		90	75 - 120
1,2-Dichloropropane	25.0	23.6		ug/L		95	76 - 120
1,3-Dichlorobenzene	25.0	22.5		ug/L		90	77 - 120
1,4-Dichlorobenzene	25.0	22.6		ug/L		90	80 - 120
2-Butanone (MEK)	125	112		ug/L		90	57 - 140
2-Hexanone	125	121		ug/L		96	65 - 127
4-Methyl-2-pentanone (MIBK)	125	114		ug/L		91	71 - 125

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# QC Sample Results

Client: Brydges Engineering in Environment & Energy DPC  
 Project/Site: 31 Tonawanda Street Project

Job ID: 480-211648-1

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

**Lab Sample ID: LCS 480-679533/6**  
**Matrix: Water**  
**Analysis Batch: 679533**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	125	120		ug/L		96	56 - 142
Benzene	25.0	22.8		ug/L		91	71 - 124
Bromodichloromethane	25.0	24.1		ug/L		96	80 - 122
Bromoform	25.0	23.5		ug/L		94	61 - 132
Bromomethane	25.0	26.0		ug/L		104	55 - 144
Carbon disulfide	25.0	23.9		ug/L		95	59 - 134
Carbon tetrachloride	25.0	23.3		ug/L		93	72 - 134
1,3-Dichloropropane	25.0	23.1		ug/L		92	75 - 120
Chlorobenzene	25.0	22.3		ug/L		89	80 - 120
1,3-Dichloropropene, Total	50.0	50.3		ug/L		101	80 - 124
Dibromochloromethane	25.0	23.6		ug/L		94	75 - 125
Chloroethane	25.0	26.4		ug/L		106	69 - 136
Chloroform	25.0	22.5		ug/L		90	73 - 127
Chloromethane	25.0	23.5		ug/L		94	68 - 124
cis-1,2-Dichloroethene	25.0	23.1		ug/L		92	74 - 124
cis-1,3-Dichloropropene	25.0	25.1		ug/L		100	74 - 124
2,2-Dichloropropane	25.0	24.9		ug/L		100	63 - 136
Cyclohexane	25.0	23.0		ug/L		92	59 - 135
Dichlorodifluoromethane	25.0	20.8		ug/L		83	59 - 135
Ethylbenzene	25.0	22.7		ug/L		91	77 - 123
1,2-Dibromoethane	25.0	23.1		ug/L		92	77 - 120
2-Chloroethyl vinyl ether	25.0	24.5		ug/L		98	70 - 129
Isopropylbenzene	25.0	23.5		ug/L		94	77 - 122
2-Chlorotoluene	25.0	22.9		ug/L		92	76 - 121
Methyl acetate	50.0	44.6		ug/L		89	74 - 133
Methyl tert-butyl ether	25.0	23.7		ug/L		95	77 - 120
Methylcyclohexane	25.0	22.9		ug/L		92	68 - 134
Methylene Chloride	25.0	22.9		ug/L		91	75 - 124
Styrene	25.0	23.3		ug/L		93	80 - 120
4-Chlorotoluene	25.0	23.1		ug/L		92	77 - 121
Tetrachloroethene	25.0	22.3		ug/L		89	74 - 122
Toluene	25.0	22.7		ug/L		91	80 - 122
trans-1,2-Dichloroethene	25.0	23.4		ug/L		94	73 - 127
trans-1,3-Dichloropropene	25.0	25.2		ug/L		101	80 - 120
Trichloroethene	25.0	23.2		ug/L		93	74 - 123
Trichlorofluoromethane	25.0	25.8		ug/L		103	62 - 150
Vinyl chloride	25.0	25.7		ug/L		103	65 - 133
Chlorobromomethane	25.0	23.4		ug/L		94	72 - 130
Dichlorofluoromethane	25.0	26.4		ug/L		106	76 - 127
Hexachlorobutadiene	25.0	23.1		ug/L		93	68 - 131
Allyl chloride	25.0	23.6		ug/L		95	60 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	100		80 - 120
1,2-Dichloroethane-d4 (Surr)	100		77 - 120
4-Bromofluorobenzene (Surr)	99		73 - 120
Dibromofluoromethane (Surr)	99		75 - 123

# QC Sample Results

Client: Brydges Engineering in Environment & Energy DPC  
 Project/Site: 31 Tonawanda Street Project

Job ID: 480-211648-1

## Method: 6010C - Metals (ICP)

**Lab Sample ID: MB 480-679890/1-B**  
**Matrix: Water**  
**Analysis Batch: 680215**

**Client Sample ID: Method Blank**  
**Prep Type: Dissolved**  
**Prep Batch: 679917**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Dissolved	0.050	U	0.050	0.019	mg/L		08/15/23 08:03	08/15/23 23:23	1

**Lab Sample ID: LCS 480-679890/2-B**  
**Matrix: Water**  
**Analysis Batch: 680215**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Dissolved**  
**Prep Batch: 679917**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Iron, Dissolved	10.0	10.14		mg/L		101	80 - 120

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

**Lab Sample ID: MB 480-680172/28**  
**Matrix: Water**  
**Analysis Batch: 680172**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	1.0	U	1.0	0.43	mg/L			08/15/23 01:29	1
TOC Result 1	1.0	U	1.0	0.43	mg/L			08/15/23 01:29	1
TOC Result 2	1.0	U	1.0	0.43	mg/L			08/15/23 01:29	1
TOC Result 3	1.0	U	1.0	0.43	mg/L			08/15/23 01:29	1
TOC Result 4	1.0	U	1.0	0.43	mg/L			08/15/23 01:29	1

**Lab Sample ID: LCS 480-680172/29**  
**Matrix: Water**  
**Analysis Batch: 680172**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon	60.0	60.55		mg/L		101	90 - 110
TOC Result 1	60.0	58.79		mg/L		98	90 - 110
TOC Result 2	60.0	61.65		mg/L		103	90 - 110
TOC Result 3	60.0	59.64		mg/L		99	90 - 110
TOC Result 4	60.0	62.13		mg/L		104	90 - 110

## Method: D516-90, 02 - Sulfate

**Lab Sample ID: MB 480-679658/105**  
**Matrix: Water**  
**Analysis Batch: 679658**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	5.0	U	5.0	1.5	mg/L			08/10/23 11:06	1

**Lab Sample ID: MB 480-679658/117**  
**Matrix: Water**  
**Analysis Batch: 679658**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	5.0	U	5.0	1.5	mg/L			08/10/23 11:14	1

# QC Sample Results

Client: Brydges Engineering in Environment & Energy DPC  
 Project/Site: 31 Tonawanda Street Project

Job ID: 480-211648-1

## Method: D516-90, 02 - Sulfate (Continued)

**Lab Sample ID: MB 480-679658/176**  
**Matrix: Water**  
**Analysis Batch: 679658**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	5.0	U	5.0	1.5	mg/L			08/10/23 12:03	1

**Lab Sample ID: MB 480-679658/184**  
**Matrix: Water**  
**Analysis Batch: 679658**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	5.0	U	5.0	1.5	mg/L			08/10/23 12:12	1

**Lab Sample ID: MB 480-679658/207**  
**Matrix: Water**  
**Analysis Batch: 679658**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	1.75	J	5.0	1.5	mg/L			08/10/23 12:31	1

**Lab Sample ID: MB 480-679658/213**  
**Matrix: Water**  
**Analysis Batch: 679658**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	2.17	J	5.0	1.5	mg/L			08/10/23 12:32	1

**Lab Sample ID: MB 480-679658/221**  
**Matrix: Water**  
**Analysis Batch: 679658**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	1.72	J	5.0	1.5	mg/L			08/10/23 12:36	1

**Lab Sample ID: LCS 480-679658/116**  
**Matrix: Water**  
**Analysis Batch: 679658**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfate	30.0	30.42		mg/L		101	90 - 110

**Lab Sample ID: LCS 480-679658/183**  
**Matrix: Water**  
**Analysis Batch: 679658**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfate	30.0	29.77		mg/L		99	90 - 110

**Lab Sample ID: LCS 480-679658/212**  
**Matrix: Water**  
**Analysis Batch: 679658**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfate	30.0	31.00		mg/L		103	90 - 110

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# QC Sample Results

Client: Brydges Engineering in Environment & Energy DPC  
 Project/Site: 31 Tonawanda Street Project

Job ID: 480-211648-1

## Method: D516-90, 02 - Sulfate

Lab Sample ID: LCS 480-679658/220  
 Matrix: Water  
 Analysis Batch: 679658

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfate	30.0	31.73		mg/L		106	90 - 110

## Method: SM 4500 H+ B - pH

Lab Sample ID: LCS 480-679806/1  
 Matrix: Water  
 Analysis Batch: 679806

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.1		SU		101	99 - 101

## Method: SM 4500 O G - Oxygen, Dissolved

Lab Sample ID: 480-211648-2 DU  
 Matrix: Water  
 Analysis Batch: 680243

Client Sample ID: MW-23  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Oxygen, Dissolved	4.4	HF	4.39		mg/L		0.9	20

# QC Association Summary

Client: Brydges Engineering in Environment & Energy DPC  
Project/Site: 31 Tonawanda Street Project

Job ID: 480-211648-1

## GC/MS VOA

### Analysis Batch: 679533

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-211648-1	MW-2	Total/NA	Water	8260C	
480-211648-2	MW-23	Total/NA	Water	8260C	
MB 480-679533/9	Method Blank	Total/NA	Water	8260C	
LCS 480-679533/6	Lab Control Sample	Total/NA	Water	8260C	

## Metals

### Filtration Batch: 679890

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-211648-1	MW-2	Dissolved	Water	FILTRATION	
480-211648-2	MW-23	Dissolved	Water	FILTRATION	
MB 480-679890/1-B	Method Blank	Dissolved	Water	FILTRATION	
LCS 480-679890/2-B	Lab Control Sample	Dissolved	Water	FILTRATION	

### Prep Batch: 679917

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-211648-1	MW-2	Dissolved	Water	3005A	679890
480-211648-2	MW-23	Dissolved	Water	3005A	679890
MB 480-679890/1-B	Method Blank	Dissolved	Water	3005A	679890
LCS 480-679890/2-B	Lab Control Sample	Dissolved	Water	3005A	679890

### Analysis Batch: 680215

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-211648-1	MW-2	Dissolved	Water	6010C	679917
480-211648-2	MW-23	Dissolved	Water	6010C	679917
MB 480-679890/1-B	Method Blank	Dissolved	Water	6010C	679917
LCS 480-679890/2-B	Lab Control Sample	Dissolved	Water	6010C	679917

## General Chemistry

### Analysis Batch: 679658

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-211648-1	MW-2	Total/NA	Water	D516-90, 02	
480-211648-2	MW-23	Total/NA	Water	D516-90, 02	
MB 480-679658/105	Method Blank	Total/NA	Water	D516-90, 02	
MB 480-679658/117	Method Blank	Total/NA	Water	D516-90, 02	
MB 480-679658/176	Method Blank	Total/NA	Water	D516-90, 02	
MB 480-679658/184	Method Blank	Total/NA	Water	D516-90, 02	
MB 480-679658/207	Method Blank	Total/NA	Water	D516-90, 02	
MB 480-679658/213	Method Blank	Total/NA	Water	D516-90, 02	
MB 480-679658/221	Method Blank	Total/NA	Water	D516-90, 02	
LCS 480-679658/116	Lab Control Sample	Total/NA	Water	D516-90, 02	
LCS 480-679658/183	Lab Control Sample	Total/NA	Water	D516-90, 02	
LCS 480-679658/212	Lab Control Sample	Total/NA	Water	D516-90, 02	
LCS 480-679658/220	Lab Control Sample	Total/NA	Water	D516-90, 02	

### Analysis Batch: 679806

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-211648-1	MW-2	Total/NA	Water	SM 4500 H+ B	
480-211648-2	MW-23	Total/NA	Water	SM 4500 H+ B	
LCS 480-679806/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	

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# QC Association Summary

Client: Brydges Engineering in Environment & Energy DPC  
Project/Site: 31 Tonawanda Street Project

Job ID: 480-211648-1

## General Chemistry

### Analysis Batch: 680172

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-211648-1	MW-2	Total/NA	Water	9060A	
480-211648-2	MW-23	Total/NA	Water	9060A	
MB 480-680172/28	Method Blank	Total/NA	Water	9060A	
LCS 480-680172/29	Lab Control Sample	Total/NA	Water	9060A	

### Analysis Batch: 680243

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-211648-1	MW-2	Total/NA	Water	SM 4500 O G	
480-211648-2	MW-23	Total/NA	Water	SM 4500 O G	
480-211648-2 DU	MW-23	Total/NA	Water	SM 4500 O G	

### Analysis Batch: 927997

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-211648-1	MW-2	Total/NA	Water	SM 2580B	
480-211648-2	MW-23	Total/NA	Water	SM 2580B	

# Lab Chronicle

Client: Brydges Engineering in Environment & Energy DPC  
Project/Site: 31 Tonawanda Street Project

Job ID: 480-211648-1

**Client Sample ID: MW-2**

**Date Collected: 08/08/23 09:00**

**Date Received: 08/08/23 15:50**

**Lab Sample ID: 480-211648-1**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260C		1	679533	LCH	EET BUF	08/10/23 11:42
Dissolved	Filtration	FILTRATION			679890	VAK	EET BUF	08/14/23 10:10
Dissolved	Prep	3005A			679917	VAK	EET BUF	08/15/23 08:03
Dissolved	Analysis	6010C		1	680215	LMH	EET BUF	08/16/23 00:08
Total/NA	Analysis	9060A		1	680172	AF	EET BUF	08/15/23 05:24
Total/NA	Analysis	D516-90, 02		121	679658	CG	EET BUF	08/10/23 13:04
Total/NA	Analysis	SM 2580B		1	927997	HTV	EET EDI	08/22/23 21:09
Total/NA	Analysis	SM 4500 H+ B		1	679806	KB	EET BUF	08/11/23 15:50
Total/NA	Analysis	SM 4500 O G		1	680243	CG	EET BUF	08/16/23 11:30

**Client Sample ID: MW-23**

**Date Collected: 08/08/23 10:00**

**Date Received: 08/08/23 15:50**

**Lab Sample ID: 480-211648-2**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260C		1000	679533	LCH	EET BUF	08/10/23 12:04
Dissolved	Filtration	FILTRATION			679890	VAK	EET BUF	08/14/23 10:10
Dissolved	Prep	3005A			679917	VAK	EET BUF	08/15/23 08:03
Dissolved	Analysis	6010C		1	680215	LMH	EET BUF	08/16/23 00:12
Total/NA	Analysis	9060A		10	680172	AF	EET BUF	08/15/23 05:53
Total/NA	Analysis	D516-90, 02		1	679658	CG	EET BUF	08/10/23 12:13
Total/NA	Analysis	SM 2580B		1	927997	HTV	EET EDI	08/22/23 21:11
Total/NA	Analysis	SM 4500 H+ B		1	679806	KB	EET BUF	08/11/23 15:51
Total/NA	Analysis	SM 4500 O G		1	680243	CG	EET BUF	08/16/23 11:30

**Laboratory References:**

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

EET EDI = Eurofins Edison, 777 New Durham Road, Edison, NJ 08817, TEL (732)549-3900

# Accreditation/Certification Summary

Client: Brydges Engineering in Environment & Energy DPC  
 Project/Site: 31 Tonawanda Street Project

Job ID: 480-211648-1

## Laboratory: Eurofins Buffalo

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
New York	NELAP	10026	03-31-24

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8260C		Water	1,2-Dichloroethene, Total
8260C		Water	1,3,5-Trichlorobenzene
8260C		Water	1,3-Dichloropropene, Total
8260C		Water	1-Chlorohexane
8260C		Water	2-Chlorobenzotrifluoride
8260C		Water	3-Chlorobenzotrifluoride
8260C		Water	3-Chlorotoluene
8260C		Water	4-Chlorobenzotrifluoride
8260C		Water	Chlorodifluoromethane
8260C		Water	Dichlorofluoromethane
9060A		Water	TOC Result 1
9060A		Water	TOC Result 2
9060A		Water	TOC Result 3
9060A		Water	TOC Result 4
SM 4500 H+ B		Water	pH
SM 4500 H+ B		Water	Temperature
SM 4500 O G		Water	Oxygen, Dissolved

## Laboratory: Eurofins Edison

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Connecticut	State	PH-0818	01-30-24
DE Haz. Subst. Cleanup Act (HSCA)	State	N/A	01-01-24
Georgia	State	12028 (NJ)	06-30-24
Massachusetts	State	M-NJ312	06-30-24
New Jersey	NELAP	12028	06-30-24
New York	NELAP	11452	04-01-24
Pennsylvania	NELAP	68-00522	03-01-24
Rhode Island	State	LAO00376	12-30-23
USDA	US Federal Programs	P330-20-00244	11-03-23



# Method Summary

Client: Brydges Engineering in Environment & Energy DPC  
Project/Site: 31 Tonawanda Street Project

Job ID: 480-211648-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	EET BUF
6010C	Metals (ICP)	SW846	EET BUF
9060A	Organic Carbon, Total (TOC)	SW846	EET BUF
D516-90, 02	Sulfate	ASTM	EET BUF
SM 2580B	Reduction-Oxidation (REDOX) Potential	SM	EET EDI
SM 4500 H+ B	pH	SM	EET BUF
SM 4500 O G	Oxygen, Dissolved	SM	EET BUF
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	EET BUF
5030C	Purge and Trap	SW846	EET BUF
FILTRATION	Sample Filtration	None	EET BUF

#### Protocol References:

ASTM = ASTM International

None = None

SM = "Standard Methods For The Examination Of Water And Wastewater"

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

#### Laboratory References:

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

EET EDI = Eurofins Edison, 777 New Durham Road, Edison, NJ 08817, TEL (732)549-3900

# Sample Summary

Client: Brydges Engineering in Environment & Energy DPC  
Project/Site: 31 Tonawanda Street Project

Job ID: 480-211648-1

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<u>Lab Sample ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Collected</u>	<u>Received</u>
480-211648-1	MW-2	Water	08/08/23 09:00	08/08/23 15:50
480-211648-2	MW-23	Water	08/08/23 10:00	08/08/23 15:50

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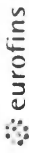
12

13

14

15

# Chain of Custody Record



<b>Client Information</b>	Lab PM: Beninati, John E-Mail: John.Beninati@et.eurofins.com	Camer Tracking No(s): 480-186893-39443.1 State of Origin: Page 1 of 1 Job #:	COC No: 480-186893-39443.1																											
Company: Brydges Engineering in Environment & Energy DPC Address: 960 Busti Ave Suite B-150 City: Buffalo State/Zip: NY, 14213 Phone: 716-362-6533(Tel) PO #: 716-362-6533(Tel) Email: pstaub@be3corp.com Project Name: 31 Tonawanda Street Project Site:	PWSID: Due Date Requested: TAT Requested (days): Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No PO #: Purchase Order not required WO #: Project #: 48026706 SSOW#:	<b>Analysis Requested</b> <table border="1" style="width: 100%; text-align: center;"> <tr> <th>Test Name</th> <th>Field Filtered Sample (Yes or No)</th> <th>Perform M3MSD (Yes or No)</th> <th>2580B - ORP</th> <th>8260C - TCL VOCs + Extended Chlora List</th> <th>9060A - Organic Carbon, Total (TOC)</th> <th>SM4500_O_G - Oxygen, Dissolved</th> <th>DS16_SM4500_H+</th> <th>6010C - Metals (ICP) Iron, Dissolved</th> </tr> <tr> <td> </td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> </tr> <tr> <td> </td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> </tr> </table>	Test Name	Field Filtered Sample (Yes or No)	Perform M3MSD (Yes or No)	2580B - ORP	8260C - TCL VOCs + Extended Chlora List	9060A - Organic Carbon, Total (TOC)	SM4500_O_G - Oxygen, Dissolved	DS16_SM4500_H+	6010C - Metals (ICP) Iron, Dissolved		X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	Preservation Codes: A - HCl B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma Z - other (specify)
Test Name	Field Filtered Sample (Yes or No)	Perform M3MSD (Yes or No)	2580B - ORP	8260C - TCL VOCs + Extended Chlora List	9060A - Organic Carbon, Total (TOC)	SM4500_O_G - Oxygen, Dissolved	DS16_SM4500_H+	6010C - Metals (ICP) Iron, Dissolved																						
	X	X	X	X	X	X	X	X																						
	X	X	X	X	X	X	X	X																						
<b>Sample Identification</b> MW-2 MW-3	Sample Date 4/16/23 4/16/23	Sample Time 9:00 10:00	Sample Type G G	Matrix Water Water	Total Number of Containers:	Special Instructions/Note: <div style="text-align: center;">             480-211648 Chain of Custody         </div>																								
<b>Possible Hazard Identification</b> <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological																														
<b>Deliverable Requested</b> I, II, III, IV, Other (specify)																														
<b>Empty Kit Relinquished by:</b>																														
Relinquished by: Paul Staub	Date: 4/16/23	Time: 3:50 PM	Company: BE3																											
Relinquished by:	Date/Time:		Company:																											
Relinquished by:	Date/Time:		Company:																											
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No	Custody Seal No.:																													
Special Instructions/QC Requirements: CAT B, EDDs																														
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months																														
Method of Shipment:																														
Received by: Paul Staub	Date/Time: 4/16/23	Time: 3:50 PM	Company: BE3																											
Received by:	Date/Time:		Company:																											
Received by:	Date/Time:		Company:																											
Cooler Temperature(s) °C and Status-Remarks:	8-8-23 15:50 10:17 #1 FCK																													



# Chain of Custody Record



<b>Client Information (Sub Contract Lab)</b>		Lab Pk#: Beninati, John		Carrier Tracking No(s):		COC No: 480-82026.1	
Shipping/Receiving		E-Mail: John.Beninati@et.eurofins.com		State of Origin: New York		Page: Page 1 of 1	
Company: Eurofins Environment Testing Northeast		Accreditations Required (See note): NELAP New York		Job #:		480-211648-1	
Address: 777 New Durham Road,		Due Date Requested: 8/21/2023		Analysis Requested		Preservation Codes:	
City: Edison		TAT Requested (days):		Field Filled Sample (Yes or No)		M Hexane N None O AsHAc2 P Na2O4S Q Na2SO3 R Na2SO4 S H2SO4 T TSP Dodecahydrate U Acetone V MCAA W pH 4-5 Y Trizma Z other (specify)	
State, Zip: NJ 08817		PO #:		Performs MS/MSD (Yes or No)		A HCL B NaOH C Zn Acetate D Nitric Acid E NaHSO4 F MeOH G Amchlor H Ascorbic Acid I Ice J DI Water K EDTA L EDA Other:	
Phone: 732-549-3900(Tel) 732-549-3679(Fax)		WO #:		Sample Date		Total Number of Containers	
Email:		Project #:		Sample Time		Special Instructions/Note:	
Project Name: 31 Tonawanda Street Project		SSOW#:		Sample Date			
Site:		Sample Date		Sample Time			
Sample Identification - Client ID (Lab ID)		Sample Date		Sample Time			
MW-2 (480-211648-1)		8/8/23		09:00 Eastern			
MW-23 (480-211648-2)		8/8/23		10:00 Eastern			

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Northeast, LLC.

**Possible Hazard Identification**

Unconfirmed  
 Deliverable Requested: I, II, III, IV Other (specify) Primary Deliverable Rank: 2

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:

Empty Kit Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_  
 Relinquished by: \_\_\_\_\_ Date: 8/23/2023 Time: 10:00  
 Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_  
 Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Received by: \_\_\_\_\_ Date/Time: 8/23/2023 11:10  
 Received by: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Received by: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Company: TAB Company  
 Company: \_\_\_\_\_  
 Company: \_\_\_\_\_

Cooler: Temperature(s) °C and Other Remarks:



# Login Sample Receipt Checklist

Client: Brydges Engineering in Environment & Energy DPC

Job Number: 480-211648-1

**Login Number: 211648**

**List Number: 1**

**Creator: Sabuda, Brendan D**

**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	10.7 #1
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	
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	True	



## Login Sample Receipt Checklist

Client: Brydges Engineering in Environment & Energy DPC

Job Number: 480-211648-1

**Login Number: 211648**

**List Number: 2**

**Creator: Armbruster, Chris**

**List Source: Eurofins Edison**

**List Creation: 08/10/23 12:07 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
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 containers received 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	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

