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August 2024

Revised Fall 2023 Annual Groundwater Monitoring Report, Former Carborundum Company, Globar Facility
Town of Niagara, Niagara County, NY
NYSDEC Site No. 932036

Submitted to:

New York State Department of Environmental Conservation
Division of Hazardous Waste Remediation
700 Delaware Avenue
Buffalo, NY 14209

On behalf of:

Elm Holdings Inc.

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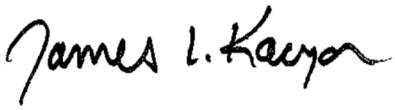

Reviewed By James L. Kaczor, P.G.

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1.0 Introduction

This revised Fall 2023 Annual Groundwater Monitoring Report summarizes the groundwater monitoring activities completed at the Former Carborundum Company, Globar Facility (Site) in the Town of Niagara, New York (see Figure 1 – Project Location Plan). The Fall 2023 Annual Groundwater Monitoring Report was submitted to NYSDEC on June 28, 2024, and comments were received from NYSDEC on June 29, 2024. This report provides the results from the Fall 2023 annual monitoring event conducted from October 3 to 6, 2023, with a comparison to previous results. The annual groundwater monitoring is conducted on an alternating spring (even years)/fall (odd years) schedule and includes the collection of groundwater samples for the analysis of chlorinated volatile organic compounds (CVOCs) and natural attenuation parameters.

This work was completed in accordance with the groundwater monitoring work plan (DE&S 2000) for Operable Unit 2 (OU2), approved by the New York State Department of Environmental Conservation (NYSDEC), correspondence from NYSDEC dated September 28, 2005 (NYSDEC 2005), April 8, 2014 (NYSDEC 2014) and October 6, 2018 (NYSDEC 2018), and letters to NYSDEC dated August 20, 2013 (Parsons 2013) and April 3, 2014 (Parsons 2014).

The scope of the Fall 2023 annual groundwater monitoring program included:

- Collection of water level measurements from overburden and bedrock monitoring wells, injection wells, and performance monitoring wells;
- Purging of select overburden and bedrock monitoring wells and collection of field measurements of pH, temperature, specific conductivity, oxidation/reduction potential (ORP), dissolved oxygen (DO), and turbidity;
- Collection of groundwater samples from select overburden and bedrock monitoring wells for specific CVOC analyses; and,
- Collection of groundwater samples from select overburden and bedrock monitoring wells for analysis of natural attenuation parameters to aid in remedial action optimization (RAO) evaluations.

Figure 2 – Site Plan presents monitoring well locations, injection well locations, performance monitoring well locations, and site features.

2.0 Site Remedial Summary

The following section briefly summarizes the remedial work completed at the Site. Primary tasks included excavation and off-site disposal of impacted soil in 1999 and 2002, emulsified vegetable oil substrate injections in 2008, 2009, 2011 and 2013, and associated performance groundwater monitoring events. Terra Systems, Inc. (TSI) SRS®-SD was used for all overburden injections, SRS®-FR was used for all bedrock injections, and TSI-DC® bioaugmentation culture was used for microorganism bioaugmentation. Additional detail regarding Site background and remedial summaries are presented in event-specific performance reports and Five-Year Review Reports.

The following is a timeline of key remedial actions and associated groundwater monitoring:

Task	Start & Completion Date
1999 On-Site Soil (OU1) Interim Remedial Action	
Borehole Investigation and Test-Pit Pre-characterization of Soils	September 1998 – April 1999
Excavation of contaminated onsite soils and verification sampling.	May – August 1999
2000 Off-Site Soil (OU3) Interim Remedial Action	
OU3 Investigation -Extent of Contamination	August 2001
Excavation of contaminated offsite soils, and some remaining onsite soils and verification sampling.	December 2002
Initial Groundwater Monitoring Program (OU2)	
Post-Excavation Groundwater Sampling.	Year 1: October 1999; October 2000; Year 2: May 2001; November 2001; Year 3: May 2002; October 2002; Year 4: May 2003; November 2003; Year 5: May 2004; October 2004; Fall 2005: November 2005 Spring 2006: May 2006

Task	Start & Completion Date
	Fall 2007: October/November 2007 Spring 2008: April 2008
2008 Injection Event	
Baseline Performance Monitoring	August 2008
Overburden Substrate Injection (INJ-1 and INJ-2)	September 4 – 5, 2008
Overburden Bioaugmentation (INJ-1 and INJ-2)	October 21 – 22, 2008
Performance Groundwater Monitoring	October 2008, December 2008, January 2009, March 2009
2009 Injection Event	
Baseline Groundwater Monitoring	October 2009
Bedrock Substrate Injections (INJ-3 and INJ-4)	November 11 – 12, 2009
Overburden Substrate Injections (INJ-1 and INJ-2)	November 17 – 18, 2009
Overburden and Bedrock Bioaugmentation (INJ-1 through INJ-4)	December 17 – 22, 2009
Performance Groundwater Monitoring	December 2009, February 2010, March-April 2010, May 2010, November 2010
2011 Injection Event	
Overburden Injection Well Installation (INJ-5U, INJ-5L, INJ-6U, INJ-6L, INJ-7, INJ-8, INJ-9, INJ-10)	October 6 – 20, 2011
Baseline Sampling	October 20 – November 7, 2011
Overburden Substrate Injections and Bioaugmentation (INJ-1, INJ-2, INJ-5U, INJ-5L, INJ-6U, INJ-6L, INJ-7, INJ-8, INJ-9, INJ-10)	November 11 – December 13, 2011
3-month Performance Sampling	March 12 – 15, 2012
6-month Performance Sampling	June 11 – 18, 2012

Task	Start & Completion Date
12-month Performance Sampling	November 26 – 30, 2012
2013 Injection Event	
Overburden and Bedrock Substrate Injections and Bioaugmentation (INJ-1, INJ-2, INJ-3, INJ-4, MW-16B, MW-18B, INJ-9, INJ-10)	September 9 – October 1, 2013
Tracer Dye Injections (MW-16B, MW-18B)	September 19 – 24, 2013
Tracer Dye Sampling	September 20, 2013 – January 17, 2014
3-month Performance Sampling	January 13 – 20, 2014
6-month Performance Sampling	March 30 – April 3, 2014
12-month Performance Sampling	October 8 – 14, 2014
Annual Groundwater Monitoring Events (OU2)	
Groundwater Sampling (Alternating Spring/Fall)	November 16 – 20, 2015; April 19 – 22, 2016; September 11–14, 2017; April 23 – 26, 2018; June 14, 2018; December 3 – 5, 2019; March 18 – 20, 2020; December 6 – 8, 2021 May 10 – 12, 2022 October 3 – 6, 2023

3.0 Groundwater Monitoring Program Summary

The Fall 2023 annual groundwater monitoring program included water level measurements, groundwater sampling at 17 well locations, and submission of groundwater samples for analysis of CVOCs and natural attenuation parameters. Quality assurance/quality control (QA/QC) samples, including one field duplicate, one matrix spike/matrix spike duplicate (MS/MSD) sample, and three trip blanks were also collected and submitted for analysis. Table 1 presents a summary of groundwater sample locations and associated QA/QC samples.

3.1 Groundwater Elevation Measurements

Water levels were measured on October 3, 2023 in the monitoring wells, injection wells, and performance monitoring wells relative to the top of the inner well casing using an electronic water level tape accurate to 0.01 foot (ft). The depth to water was measured in each well from a surveyed point on the casing. The water levels were then converted to elevations presented as feet above mean sea level (ft AMSL, NAVD 88 datum). No water level measurement could be made in bedrock well MW-14A because of an obstruction in the well. AECOM was able to remove the obstruction in MW-14A during the Spring 2024 annual groundwater sampling event so a water level measurement could be made. The groundwater elevations were used to construct groundwater elevation contour maps in both the overburden and bedrock zones. Table 2 provides a summary of the groundwater level measurements and calculated groundwater elevations. Figure 3 presents overburden groundwater potentiometric surface contours and Figure 4 presents bedrock groundwater potentiometric contours. Section 4.1 presents a discussion of groundwater elevations and flow directions.

3.2 Groundwater Sampling

The locations of the 17 monitoring wells sampled are shown in Figure 2. Wells were sampled following the methodology outlined in the groundwater monitoring work plan and approved revisions per subsequent correspondence with NYSDEC. Monitoring well MW-15 is typically sampled every five years and was scheduled to be sampled during the Fall 2023 sampling event. MW-15 is located in Hyde Park Boulevard and a New York State Department of Transportation (DOT) Highway Work Permit is required to close a portion of the road during sampling. The DOT permit was not issued until December 2023, so MW-15 was not sampled and will be included in the Spring 2024 annual sampling event. A list of wells, dates sampled, sample IDs, and purge volumes is provided in Table 1. A copy of the groundwater sampling logs is provided in Appendix A.

During purging, groundwater was monitored for temperature, specific conductivity, pH, DO, ORP, and turbidity. An aliquot of the groundwater sample was tested in the field for alkalinity, carbon dioxide, ferrous iron, and hydrogen sulfide using Hach™ test kits. Table 3 presents a summary of the groundwater sampling field parameter results.

The 17 monitoring wells were purged following low-flow procedures with dedicated tubing and a peristaltic pump. MW-12A was found to be destroyed during the Fall 2019 sampling event and therefore was not sampled. All samples for chemical analyses were hand-delivered to Eurofins TestAmerica Laboratories, Inc., (ETAL) in Amherst, New York under secure chain-of-custody (COC). ETAL Amherst transferred the samples to ETAL, Canton, Ohio which performed the analyses. Both

ETAL locations are New York State Department of Health Environmental Laboratory Approval Program certified laboratories.

Table 4 provides a summary of sample collection and analysis specifications for each analysis type including sample containers, preservation methods, analytical methods, and other quality control information.

Table 5 presents a summary of scheduled analyses for each well sampled. Samples from each well were analyzed for select CVOCs, including tetrachloroethene (PCE), trichloroethene (TCE), cis-1,2-dichloroethene (DCE), trans-1,2-DCE, 1,1-DCE, 1,1-dichloroethane (DCA), 1,1,1-trichloroethane (TCA), vinyl chloride (VC), and chloroethane. In addition, samples from 13 wells consisting of six overburden and bedrock well pairs and one bedrock well (MW-12B) were analyzed for natural attenuation evaluation parameters, consisting of:

- dissolved iron;
- methane, ethane, and ethene;
- total chloride, sulfate, and sulfide; and,
- total organic carbon (TOC), biological oxygen demand (BOD), chemical oxygen demand (COD), nitrate, and nitrite.

The six well pairs chosen for these additional analyses are located within, upgradient, downgradient, and side gradient of the source area, and consist of MW-5A and -5B, MW-7A and -7B, MW-10A and -10B, MW-16A and -16B, MW-17A and -17B, and MW-18A and -18B. A seventh well pair, MW-12A and MW-12B, has historically also been sampled; but, in Fall 2019 MW-12A was found destroyed and only MW-12B could be sampled in Fall 2019, Spring 2020, Fall 2021, Spring 2022 and Fall 2023.

Purge water and decontamination water were contained and staged in a secure area onsite in a 300-gallon holding tank for later characterization and proper disposal.

3.3 Data Validation

Analytical results for samples collected from October 4 to 6, 2023 were reviewed by AECOM for usability with respect to the following requirements:

- Work Plan and associated correspondence;
- NYSDEC Analytical Services Protocol (ASP); and,
- USEPA Region II Standard Operating Procedures (SOPs).

The data submitted by the laboratory have been reviewed and validated. The analytical data were found to be acceptable in terms of deliverable completeness, accuracy, precision, representativeness, completeness and comparability. Data validation was performed in accordance with the most current editions of the USEPA Region II SOPs and NYSDEC ASP for organic and inorganic data review.

Analytical holding times, laboratory control sample recoveries, laboratory method blanks, MS/MSD precision and accuracy for designated spiked project samples, and surrogate recoveries associated with project samples, were considered acceptable with the following exceptions:

Due to a laboratory error, the following samples were analyzed outside of the hold time for nitrate and nitrite: MW- 7A, MW- 7B, and MW-12B. Due to a laboratory error, samples MW-7A and MW-7B

were analyzed outside of the hold time for BOD. The results for nitrate, nitrite, and BOD in these samples have been qualified 'UJ' due to the hold time exceedance.

The percent difference (%D) between the initial calibration (ICAL) average relative response factor (RRF) and the RRF in the continuing calibration (CCAL) standards were greater than 20% for the VOC chloroethane and showed a decreasing response (low bias). The non-detect results for this compound in samples MW- 6, MW-16A, MW-17A, MW-18A, MW-18B, MW-19B, and TB-100523 were qualified 'UJ'.

Due to multiple reruns and analyst error, the preservation check VOA vial was used for the diluted analysis of the following samples/analytes: MW- 6 (VC), MW-17A (VC), and MW-18B (cis-1,2-DCE). The results for these compounds have been qualified as estimated 'J' since the analysis was performed on a vial that was previously opened.

Several samples for CVOC analysis were diluted due to the presence of high concentrations of target compounds. All of these samples had detections for one or more of the target compounds. The reporting limits for the non-detect compounds are elevated due to the dilutions utilized.

All sample analyses were found to be compliant with the method criteria, except where previously noted. Those results qualified 'UJ' (estimated quantitation limit), 'J' (estimated result), or 'J-' (estimated, biased low) during the data review are considered conditionally usable. All other sample results are usable as reported.

A copy of the data usability summary report (DUSR) for groundwater samples is included in Appendix B. The laboratory analytical data packages are presented in Appendix C.

4.0 Groundwater Monitoring Program Summary

4.1 Groundwater Elevations and Flow Directions

A summary of groundwater elevation monitoring data for the Fall 2023 annual event is provided in Table 2, including New York State Plane Coordinate System location coordinates, top of casing elevation, depth to water and calculated groundwater elevations for the monitoring wells, injection wells, and performance monitoring wells.

Figure 3 presents an overburden groundwater contour map based on the October 3, 2023 water level data. Overburden groundwater was measured at elevations between 588.44 ft AMSL (MW-19A) in the eastern portion of the Site to 585.79 ft AMSL (MW-11A) in the southwest corner of the Site. In general, groundwater flow is from northeast to southwest. Overall, overburden groundwater in the central portion of the site exhibited little change in gradient. Gradients and flow directions were more defined in both the northeast and southwest corners of the site.

Figure 4 presents a bedrock groundwater potentiometric surface contour map based on the October 3, 2023 water level data. Bedrock groundwater elevations ranged from 587.45 ft AMSL (MW-8) in the northeast corner of the Site to 586.05 ft AMSL (MW-11B and MW-14B) in the southwest corner of the Site. The general bedrock groundwater flow direction is southwesterly towards Hyde Park Boulevard and Rhode Island Avenue, consistent with historical observations of groundwater flow. Overall, the gradient is shallow. MW-15 was not measured on October 3, 2023 because the road closure permit was not obtained until December 2023; MW-15 was last measured during its most recent 5-year sampling event on June 14, 2018 at 587.31 ft AMSL, consistent with the southwesterly gradient observed on October 3, 2023.

Downward vertical gradients were observed more commonly in overburden/bedrock well pairs in the north, east and central portions of the Site; upward vertical gradients were observed more commonly in well pairs in the south/southwest portion of the Site.

4.2 Data Summary

Groundwater samples collected during the Fall 2023 annual groundwater monitoring program were submitted to the analytical laboratory for select CVOC analysis and other parameters as discussed in Section 3.2 and as summarized on Tables 4 and 5. Field measurements for the sampling program are provided in Table 3. A summary of the Fall 2023 analytical laboratory data is provided in Table 6. Figure 5 presents select CVOC concentrations in overburden groundwater for 2000 and 2009 through 2023 and Figure 6 presents select CVOC concentrations in bedrock groundwater for the same period. Analytical data results from monitoring well samples for the period October 2007 through October 2023 are included in Appendix D.

Comments are noted below for wells where concentrations or trends varied from recent and historical monitoring data.

4.2.1 Long-term Bioremediation Results

Bioremediation injections from 2008 to 2013 were implemented to decrease total CVOCs in source area and downgradient wells over time. Figure 7 and Figure 8 illustrate the long-term time-series plots for total CVOCs at source area and downgradient wells, respectively. In Figure 7 and Figure 8, the overburden and bedrock wells are presented on separate plots for clarity. These plots indicate the improvement in groundwater conditions that has occurred as the result of enhanced bioremediation activities.

In overburden source area wells, MW-7A displayed a CVOC concentration decrease of two orders of magnitude as a result of the enhanced bioremediation injections. Concentrations increased somewhat from 2016 through May 2022, but the October 2023 concentrations decreased to near 2016 levels. CVOC concentrations in well MW-16A have fluctuated over time, but have decreased an order of magnitude since Spring 2020. Concentrations in MW-17A have decreased steadily over time.

In bedrock source area wells, concentrations in wells MW-7B, MW-16B and MW-17B, have generally shown decreases following the enhanced bioremediation injections (Figure 7). However, concentrations in source area bedrock wells MW-6, MW-7B, MW-16B, MW-17B and MW-19B have fluctuated since 2020, but are within the historic range at these locations.

Concentrations in downgradient overburden wells MW-10A and MW-18A have remained fairly consistent since 2000, while those in MW-5A have fluctuated. Downgradient bedrock wells MW-12B, MW-14B, and MW-15 exhibited slowly decreasing levels of total CVOC concentrations prior to injections, followed by significant decreases of approximately two orders of magnitude relative to pre-2008 total CVOC concentrations. MW-12B initially showed some rebounding in total CVOCs after the conclusion of the bioremediation injections, driven mainly by 1,2-DCE, and VC, but MW-12B has been steady since 2016. MW-13B total CVOC concentrations continue to slowly decrease. Since 2020, concentrations in downgradient bedrock wells MW-5B, MW-12B, MW-14B and MW-18B have been fairly steady, while those in wells MW-10B and MW-13B have fluctuated (Figure 8).

4.2.2 CVOC Results

Groundwater samples from 17 monitoring wells (6 overburden and 11 bedrock) were collected and analyzed for CVOCs. Overall, concentrations of CVOCs at most of the sample locations have decreased or remained stable since 2000. Over the past few sampling events, there are select locations that have shown a slight increase from post-injection low results for TCE degradation products DCE and/or VC (MW-5B, MW-6, MW-7B, and MW-17A). The overall total CVOC reductions are due to both natural attenuation and enhanced biodegradation that included four rounds of vegetable oil substrate injections in 2008, 2009, 2011, and 2013. The wells cited demonstrate that although the substrate may be depleted, degradation of CVOCs is continuing.

Appendix E presents graphs of long-term trends for overburden and bedrock wells in the current sampling program. The time-series plots typically show gradual decreasing trends in TCE and DCE, and in some cases, stable trends, followed by significant decreases in concentrations following injection events. Most of these plots show stable VC concentrations prior to the injections, followed by significant decreases after the injections, and a slight increase of DCE degradation product VC in the most recent rounds of sampling in the wells mentioned above.

4.2.2.1 Overburden Results

Figure 5 shows a summary of the overburden well CVOC analytical results from the Fall 2023 annual sampling program, the data from the most recent thirteen previous annual sampling programs, and data

from 2000 as a reference point. The results for the six overburden groundwater samples were generally consistent with previous rounds of monitoring and long-term trends. Historical data is presented in tabulated form in Appendix D and trend plots of historical data are presented in Appendix E. Key observations are listed below.

Overburden Source Area Wells:

DCE, VC, DCA and chloroethane were detected in MW-7A above groundwater standards[1] in Spring 2022. In Fall 2023, the concentrations of these compounds decreased, although VC, DCA and chloroethane at MW-7A remained above groundwater standards (Appendices C & D). MW-7A is in an area that exhibited the highest CVOC concentrations in shallow groundwater prior to the first injection and is within the area that was targeted during the emulsified vegetable oil substrate injections in 2008, 2009, 2011 and 2013. MW-7A will continue to be monitored as a part of the annual sampling program.

MW-16A was targeted in the November 2011 injection event to address VC concentrations, but only a negligible amount of substrate was injected due to low permeability of the soils. Concentrations of TCE and DCA have been below groundwater standards since 2007. DCE has been below 10 micrograms per liter (µg/L) since 2012 and remained so in the Fall 2023 results. The current DCE concentration (0.98 µg/L J) is below the groundwater standard of 5 µg/L. The VC concentration from Fall 2023 (37 µg/L) is lower than Spring 2022 (290 µg/L). VC is a degradation product of TCE via DCE. MW-16A will continue to be monitored as a part of the annual sampling program.

MW-17A is an overburden well in the area of targeted bedrock injections in 2009 and 2013. TCE, DCE, VC, and DCA concentrations were consistent with recent historical data. Since 2009, TCE has been reduced to non-detect, DCE has steadily decreased from the 2000 concentration (230 µg/L) to 30 µg/L in Fall 2023, the lowest concentration recorded at this location. The VC concentration (73 µg/L) has increased as compared to its pre-injection concentration (18 µg/L) and has been more stable recently. The DCA concentration remained the same as in the previous year (Spring 2022), at a concentration of 11 µg/L. Reductive dechlorination is likely responsible for the decrease in DCE and accompanying noted production of VC and ethene. MW-17A will continue to be monitored as a part of the annual sampling program.

Overburden Downgradient Wells:

MW-5A, located south of the east end of the former facility building, showed sporadic increases and decreases in DCE and VC before and after substrate injections in 2009, 2011, and 2013 (Figure 9). This trend continued in Fall 2023 where concentrations of DCE increased and VC decreased slightly from Spring 2022 but remained within the mid-range of the historical average (Appendices C & D). There appears to be a direct relationship between degradation product concentrations and water level fluctuations in MW-5A. Furthermore, there is a consistent upward hydraulic gradient between the bedrock and overburden zones at this location. MW-5A will continue to be monitored as a part of the annual sampling program.

MW-10A, located central to and south of the former facility building, showed DCE and VC concentrations similar to the previous few sampling events (Appendices C & D). TCE further decreased

[1] NYSDEC Technical & Operational Guidance Series (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations and revisions

from the Spring 2022 estimated concentration of 8.7 µg/L to an estimated concentration of 7.5 µg/L in Fall 2023. Both DCE and VC increased from Spring 2022 concentrations of 540 µg/L and 85 µg/L, respectively, to the Fall 2023 concentrations of 580 µg/L and 190 µg/L, respectively. These results are within the range of concentrations at these locations over the last 10 years. DCA has been non-detect since 2016. Groundwater elevation measurements indicate an upward hydraulic gradient between MW-10A and MW-10B (from bedrock to overburden), consistent with past results. MW-10A will continue to be monitored as a part of the annual sampling program.

MW-12A, located west of the former facility building along Hyde Park Boulevard, was found destroyed during the Fall 2019 sampling event and no sample has been collected at that location since Spring 2018.

MW-18A, located east of the former facility building, showed DCA below groundwater standards consistent with recent events. TCE (39 µg/L) and DCE (57 µg/L) were at similar concentrations as compared to concentrations observed from 2010 through 2022 (Figure 5 and Appendices C & D). MW-18A will continue to be monitored as a part of the annual sampling program.

4.2.2.2 Bedrock Results

Figure 6 shows a summary of the bedrock well CVOC analytical results from the Fall 2023 annual sampling program, data from the most recent thirteen previous annual sampling events, and data from 2000 as a reference point. Historical data is presented in tabulated form in Appendix D and trend plots of historical data are presented in Appendix E. Key observations are listed below.

Bedrock Source Area Wells:

Significant reductions in DCE and VC concentrations have been observed in MW-6 relative to 2000 concentrations, which were measured prior to bioremediation injections in the area of MW-7A in 2008. Since 2009, DCE has steadily decreased (85 µg/L in 2009 to 12 µg/L in 2022 and 2023) and has remained stable over the last several sampling events, ranging between 10 µg/L and 13 µg/L since 2018. VC (59 µg/L in Fall 2023) decreased from 98 µg/L observed in Fall 2021 and has fluctuated within a narrow range for the past several years. The reduction of DCE to the current result with a generally stable VC concentration indicates natural attenuation is continuing to occur, although the rate of reduction of VC is less than that of DCE. TCE and DCA have consistently been non-detect or detected at an estimated concentration below the groundwater standard since 2000. MW-6 will continue to be monitored as a part of the annual sampling program to monitor progress of attenuation of DCE and VC.

Significant reductions in DCE and VC concentrations have been observed in MW-7B relative to 2000 concentrations, which were measured prior to bioremediation injections in the area of MW-7A in 2008. TCE and DCA concentrations have been below groundwater standards since 2012. The DCE concentration (1.7 µg/L) was also below standard this round. The VC concentration (9.6 µg/L) was below the concentrations of the last two events (Fall 2021 and Spring 2022). VC has fluctuated between 9.6 µg/L and 18 µg/L since 2016. MW-7B will continue to be monitored as a part of the annual sampling program to monitor progress of attenuation of VC.

TCE, DCE, and VC concentrations increased at MW-16B in early 2012 and 2013 after injections were performed at overburden injection wells (INJ-6L, INJ-7 and INJ-8) in the vicinity of MW-16A in October 2011. TCE concentrations decreased in 2013 and have remained below the groundwater standard since that time. DCE and VC concentrations remained elevated through 2015 and then sharply decreased in 2016, with DCE below the groundwater standard and VC only slightly above groundwater

standard since 2016. The Spring 2022 DCE (13 µg/L) and VC (23 µg/L) concentrations were the highest observed at this location since 2015, but are approximately two orders of magnitude below historical high concentrations (Figure 6 and Appendices C & D). During Fall 2023, both DCE (2.5 µg/L) and VC (7.1 µg/L) concentrations decreased, DCE being below the groundwater standard. MW-16B will continue to be monitored as a part of the annual sampling program to monitor progress of attenuation of VC.

The TCE concentration in MW-17B has been non-detect for more than 10 years except for an estimated value in 2017 (0.68 J µg/L). DCE increased to above standard in Fall 2021 (31 µg/L) and decreased slightly in Spring 2022 to 28 µg/L. (Figure 6). The Fall 2023 concentration significantly decreased to an estimated value of 0.90 µg/L. The VC concentration decreased over the course of the bioremediation injections from 69 µg/L in 2000 to 0.88 µg/L in April 2016 but increased to 20 µg/L in Fall 2021 and to 23 µg/L in Spring 2022. Similar to DCE, the Fall 2023 concentration significantly decreased to 2.2 µg/L. DCA slightly increased from to 8.2 µg/L (during Spring 2022) to 11 µg/L (during Fall 2023). MW-17B is located within the area of the bedrock bioremediation injections performed in November 2009 and September 2013 and was the location of the highest CVOCs in bedrock prior to bioremediation activities. MW-17B will continue to be monitored as part of the annual sampling program to monitor progress of attenuation of VC.

MW-19B is located east of the main facility in the area remediated as part of Operable Unit 1. Concentrations of TCE and DCA have been below groundwater standards from 2012 through Spring 2023. Concentrations of DCE and VC showed a decrease relative to Spring 2020 and Fall 2021, and have been relatively stable for the last 5 years. MW-19B will continue to be monitored as a part of the annual sampling program.

Bedrock Downgradient Wells:

At MW-5B, TCE has consistently been non-detect or detected at an estimated concentration near the reporting limit since 2000, indicating this area is not a source area for TCE. Total concentrations of DCE and VC have remained relatively stable since 2009, with a slightly decreasing trend of DCE accompanied by an increasing trend of VC, indicating ongoing reductive dechlorination (Appendices C & D). In Fall 2023 DCE decreased slightly from Spring 2022 (35 µg/L) to 24 µg/L and VC increased from 71 µg/L to 140 µg/L. MW-5B will continue to be monitored as a part of the annual sampling program.

At MW-10B, TCE has consistently been non-detect since 2009, indicating this area is not a source area for TCE. In addition, DCA has consistently been non-detect or detected at a concentration near the reporting limit and below groundwater standard since 2000. DCE and VC concentrations have remained relatively stable since 2009 (Appendices C & D). DCE remained constant at 320 µg/L in Spring 2022 and Fall 2023, while VC increased from 140 µg/L to 260 µg/L over the same period. MW-10B will continue to be monitored as a part of the annual sampling program.

At downgradient location MW-12B, TCE has consistently been non-detect or detected at an estimated concentration near the reporting limit since 2000, indicating this area is not a source area for TCE. In addition, DCA has consistently been non-detect or detected at a concentration near the reporting limit and below groundwater standard since 2000. Significant reductions in DCE and VC concentrations have been observed in MW-12B, relative to concentrations measured prior to bioremediation injections in the vicinity of MW-17B in 2009. Concentrations of DCE and VC increased following injections in the vicinity of MW-17B in 2013 and have remained relatively stable since 2016 (Appendices C & D). DCE has been stable recently (52 µg/l in Spring 2022 and 53 µg/L in Fall 2023), while VC increased from 73 µg/L DJ

to 100 D µg/L over the same period, suggesting active reductive dechlorination. MW-12B will continue to be monitored as a part of the annual sampling program to monitor attenuation of DCE and VC.

TCE, DCE, and VC concentrations in downgradient well MW-13B have steadily decreased since prior to the bioremediation injections (Figure 8 and Appendices C & D). Including Fall 2023 data, DCE concentrations have been fluctuating slightly above the groundwater standard since the injections. In Fall 2023 the DCE concentration of 9.9 µg/L was above the standard (5 µg/L), increasing from 4.1 µg/L in Spring 2022. The VC concentration increased further above the groundwater standard from 5.2 µg/L in Spring 2022 to 18 µg/l in Fall 2023, but remained below pre-injection levels. MW-13B will continue to be monitored as part of the annual sampling program.

Significant reductions in TCE, DCE, and VC concentrations have also been observed in downgradient well MW-14B relative to concentrations measured prior to bioremediation injections (Figure 8 and Appendices C & D). Including Fall 2023 data, TCE, DCE, and DCA concentrations have been below groundwater standards since 2011. Except for a September 2017 VC concentration of 2.9 µg/L, VC concentrations have been below groundwater standards since August 2013; the VC concentration in Fall 2023 (2.2 µg/L) has increased slightly above groundwater standard. It is recommended that MW-14B continue to be monitored as part of the annual sampling program to monitor for perimeter concentrations of constituents of concern.

MW-15 is currently sampled every five years. The well was last sampled on June 14, 2018. Consistent with prior results, TCE and DCA concentrations were below groundwater standard. DCE and VC concentrations increased above groundwater standards (5.2 µg/L for DCE and 16 µg/L for VC), similar to May 2010 concentrations. As described in Section 3.2, monitoring well MW-15 was to be sampled in Fall 2023, but due to a delay in obtaining a road closure permit, it will be sampled in Spring 2024.

At MW-18B, TCE and DCA have consistently been non-detect at the reporting limit since 2009. DCE and VC concentrations have fluctuated since 2009, with historical lows occurring in October 2014 following enhanced bioremediation injections at MW-18B in September 2013. DCE and VC showed increases in April 2016 and September 2017, followed by decreases through Spring 2020 and an increase in Fall 2021. The Fall 2023 results show that both DCE and VC increased (120 µg/L for DCE and 61 µg/L for VC) from the Spring 2022 results (38 µg/l and 59 µg/L, respectively) (Appendices C & D). MW-18B will continue to be monitored as a part of the annual sampling program to monitor progress of attenuation of DCE and VC.

4.2.3 Attenuation Monitoring Results

As part of the ongoing groundwater sampling program, natural attenuation parameters have been sampled during each monitoring event (see Table 5 and Appendix D). The results for Fall 2023 were generally consistent with previous monitoring events, with the following exceptions:

- TOC concentrations maintained a decreasing trend in several wells from 2016 through 2023. These decreases are in areas targeted during the 2013 injections and represent continued depletion of the injected carbon substrate. TOC decreases over this period are observed in overburden wells including MW-7A, and MW-16A, and bedrock wells MW-7B, MW-16B, MW-18B with all values similar to last year's results. TOC concentrations in these wells have decreased to the point where they are near pre-injection concentrations. TOC concentrations greater than 20 mg/L are considered favorable to reductive dechlorination and the highest observed in Fall 2023 was 6.5 mg/L in MW-7A.

- Decreases in BOD and COD levels were observed in wells (MW-5B, MW-7A, MW-7B, MW-10B, MW-12B, MW-16A and MW-16B) following injections. Similar to TOC, this may represent continued depletion of the 2013 injectate. Fall 2023 saw moderate increases of COD in MW-7A, MW-17B and MW-18A and an increase of two orders of magnitude in MW-10A, marking the highest COD value ever in this well. Fall 2023 saw also a slight increase in BOD in MW-17B and MW-18B.
- From 2016 through 2023, chloride concentrations decreased in overburden wells MW-7A, MW-10A, MW-17A, MW-18A, and bedrock well MW-17B. Since chloride is produced during reductive dichlorination of CVOCs, this may indicate that anaerobic biodegradation processes are ongoing, but may be slowing to pre-injection rates in the areas targeted during the 2013 injections. Chloride in these and other wells has remained fairly stable over the last few sampling rounds. The presence of chloride in several other wells suggests biodegradation is ongoing.
- Ethene is the final degradation product of TCE, providing solid evidence of substantial biodegradation. From 2014 to 2015, increases in ethene concentrations at wells MW-10B, MW-16A, and MW-16B were noted. Ethene concentrations for MW-10B and MW-16B in 2016 through 2022 are noted to be lower in each location as compared to 2015 levels. Several wells had ethene concentrations that were either stable or fluctuated somewhat following the injections. The presence of ethene is an indication that biodegradation through VC is continuing. Some fluctuations were observed in recent years for some wells, such as MW-16A where the values from the latest years were 49 µg/L (2019), 270 µg/L (2020), 77 µg/L (2021), and 160 µg/L (2022). In 2023, the value slightly increased to 170 µg/L compared to 2022.
- Elevated methane concentrations (>20 mg/L) were noted in several wells following the site injections, indicating an environment conducive to anaerobic biodegradation. As of 2023, only MW-17B and MW-18B are above 20 mg/L. MW-7A, MW-16B and MW-17A are currently less than 20 mg/L but still elevated since the injections.

Overall, the environmental conditions and Site-wide long-term changes in concentrations indicate that the enhanced biodegradation program has been effective and natural attenuation is an ongoing, active process.

5.0 Conclusions and Recommendations

The following conclusions and recommendations were developed following the Fall 2023 groundwater monitoring event:

Conclusions:

CVOC concentrations have steadily declined in the overburden and bedrock groundwater over the past 23 years, with more recent substantial declines related to the 2008, 2009, 2011, and 2013 bioremediation injections.

MW-7A, located in the area of the vegetable oil substrate injections conducted in September 2008, November 2009, November 2011, and September 2013, continued to show decreased levels of CVOCs compared to pre-injection levels, with some increases in degradation products DCE, and VC this round. VC is also gradually increasing or stable in other wells (i.e., MW-6, MW 10A/B, MW-16A, MW-17A). Fluctuations in concentrations of CVOC degradation products at MW-5A appear to have a direct relationship with water level fluctuations and are consistent with historical concentrations following substrate injections. Overall, overburden groundwater CVOC concentrations in 2023 were generally consistent with the previous sampling program results.

Bedrock groundwater CVOC concentrations generally showed declines in response to the previous substrate injections. Notably, CVOC concentrations decreased substantially in several downgradient bedrock monitoring wells since 2009. TCE was non-detect in all bedrock wells sampled. This trend will continue to be monitored.

Groundwater samples for natural attenuation monitoring have been collected since October 2000 and continue to indicate that natural attenuation processes are active. The results for Fall 2023 were generally consistent with recent monitoring events.

Natural anaerobic biodegradation of TCE, which was occurring at the Site prior to 2008, was substantially enhanced by the bioremediation injection program conducted over multiple years. The enhanced bioremediation injections effectively contributed to the observed decreasing concentration trends, and ongoing natural attenuation processes continue to improve groundwater quality at the Site.

Recommendations:

The annual groundwater monitoring program should be continued as currently configured. At present, CVOCs within the source area and downgradient of that area have decreased as a result of remedial measures including emulsified vegetable oil substrate injections in 2008, 2009, 2011 and 2013. Terra Systems, Inc. (TSI) SRS®-SD was used for all overburden injections, SRS®-FR was used for all bedrock injections, and TSI-DC® bioaugmentation culture was used for microorganism bioaugmentation. The substrate and bioaugmentation injections have been successful in decreasing levels of CVOCs in both overburden and bedrock groundwater in the injection areas. Due largely to flow in bedrock fractures, the CVOC decreases have also been observed downgradient of the injection areas and in offsite wells, and to date, offsite CVOC concentrations have not rebounded.

The remedial goal stated in the OU-2 Record of Decision is to “Reduce, to the extent practicable, off-site migration of groundwater that does not attain NYSDEC Class GA Ambient Water Quality Criteria.” Since off-site VOC concentrations have been reduced to below or near the NYSDEC Class GA Ambient Water Quality Standards, this goal has been attained. If, in the future, downgradient and/or offsite VOC levels show significant increases, appropriate response measures will be re-evaluated. A Draft Site Management Plan (SMP) for the Hyde Park Site was submitted to NYSDEC on March 31, 2022. Following NYSDEC comments, the Revised SMP was submitted to NYSDEC on February 29, 2024, and was accepted by NYSDEC on March 14, 2024.

The next annual groundwater sampling event will occur in Spring 2024. During the Spring 2024 sampling event, monitoring well MW-15 will be sampled. In addition, wells MW-5A, MW-7A, MW-11A, MW-12B, MW-17A and 18A will also be sampled for 1,4-dioxane and per- and polyfluoroalkyl substances (PFAS).

6.0 References

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NYSDEC, 2021. Draft Addendum to June 1998Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1. June 30, 2021.

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Tables

Table 1
Summary of Groundwater Sampling
Fall 2023 Monitoring Event
Former Carborundum Company, Hyde Park Facility
Niagara, New York

Well ID	Date Sampled	Sample ID	Volume Purged (gallons)
MW-5A	4-Oct-23	MW-5A, Field Dup[(2)]	1.5
MW-5B	4-Oct-23	MW-5B	4.7
MW-6	5-Oct-23	MW-6	3.2
MW-7A	6-Oct-23	MW-7A	2.7
MW-7B	6-Oct-23	MW-7B	2.4
MW-10A	4-Oct-23	MW-10A	2.5
MW-10B	4-Oct-23	MW-10B	3.4
MW-12B	4-Oct-23	MW-12B	3.0
MW-13B	4-Oct-23	MW-13B	3.0
MW-14B	4-Oct-23	MW-14B	1.8
MW-15[(1)]	NA	NA	NA
MW-16A	5-Oct-23	MW-16A	1.8
MW-16B	5-Oct-23	MW-16B, MS/MSD	6.3
MW-17A	5-Oct-23	MW-17A	2.8
MW-17B	5-Oct-23	MW-17B	3.0
MW-18A	5-Oct-23	MW-18A	2.0
MW-18B	5-Oct-23	MW-18B	5.0
MW-19B	5-Oct-23	MW-19B	2.3

Note:
(1) MW-15 is to be sampled every 5 years in accordance with NYSDEC approval on April 8, 2014. It was to be sampled in Fall 2023, but due to delays in obtaining a road closure permit, it will be sampled in Spring 2024.
(2) Dup is a field duplicate of MW-5A.
MS - Matrix Spike
MSD - Matrix Spike Duplicate
NA - Not Applicable (see Note 1)

Table 2
Water Level Measurements
Fall 2023 Monitoring Event
Former Carborundum Company, Hyde Park Facility
Niagara, New York

Well ID	Elevation Top of Casing	Easting	Northing	10/3/2023	
				Depth to Water	Groundwater Elevation
PMW-1	596.62	1028372.30	1136886.30	9.3	587.32
PMW-2	595.98	1028371.76	1136875.49	8.45	587.53
PMW-3	596.59	1028379.73	1136882.30	8.58	588.01
PMW-4	597.05	1028384.66	1136909.84	9.43	587.62
PMW-5	592.65	1028308.62	1136764.72	5.89	586.76
PMW-6	592.44	1028310.46	1136747.77	6.08	586.36
PMW-7	592.93	1028325.51	1136758.05	6.42	586.51
PMW-8	593.11	1028352.65	1136824.51	6.32	586.79
PMW-9	592.45	1028282.58	1136689.24	5.74	586.71
INJ-1	596.66	1028382.45	1136887.25	9.03	587.63
INJ-2	595.89	1028374.60	1136890.69	8.85	587.04
INJ-3	592.87	1028313.28	1136774.48	6.17	586.70
INJ-4	593.26	1028332.65	1136771.29	6.31	586.95
INJ-5U	596.08	1028365.66	1136878.92	8.23	587.85
INJ-5L	596.00	1028365.66	1136878.92	9.14	586.86
INJ-6U	596.96	1028376.98	1136868.99	8.2	588.76
INJ-6L	595.97	1028376.98	1136868.99	9	586.97
INJ-7	592.76	1028409.44	1136837.46	3.35	589.41
INJ-8	592.98	1028418.16	1136832.59	5.63	587.35
INJ-9	591.62	1028023.50	1136898.15	5.12	586.50
INJ-10	591.49	1028032.17	1136890.90	4.87	586.62
MW-1A	597.56	1028606.44	1136554.99	10.24	587.32
MW-1B	597.64	1028611.01	1136554.66	10.39	587.25
MW-2A	595.73	1028335.27	1136881.61	7.76	587.97
MW-2B	595.80	1028337.09	1136888.34	8.93	586.87
MW-3A	599.94	1028627.22	1136895.86	13.24	586.70
MW-3B	599.70	1028624.57	1136899.80	12.46	587.24
MW-4A	591.60	1028027.77	1136890.77	4.83	586.77
MW-4B	591.49	1028023.72	1136890.65	4.79	586.70
MW-5A	597.91	1028256.93	1136567.66	11.61	586.30
MW-5B	597.79	1028256.86	1136562.36	11.16	586.63
MW-6	595.51	1028293.24	1136889.98	8.74	586.77
MW-7A	596.59	1028379.67	1136889.32	8.94	587.65
MW-7B	596.66	1028377.01	1136884.33	9.5	587.16
MW-8	599.63	1028584.29	1136897.91	12.18	587.45
MW-10A	596.87	1028134.19	1136571.96	10.68	586.19
MW-10B	596.71	1028129.79	1136571.87	10.03	586.68

Table 2
Water Level Measurements
Fall 2023 Monitoring Event
Former Carborundum Company, Hyde Park Facility
Niagara, New York

Well ID	Elevation Top of Casing	Easting	Northing	10/3/2023	
				Depth to Water	Groundwater Elevation
MW-11A	595.48	1027992.43	1136576.28	9.69	585.79
MW-11B	595.57	1027996.44	1136575.71	9.52	586.05
MW-12A[1]	590.79	1027887.31	1136654.88	N/A	NA
MW-12B	590.89	1027886.62	1136658.22	4.22	586.67
MW-13A	595.18	1028202.92	1136517.75	9.07	586.11
MW-13B	594.73	1028199.59	1136517.64	8.53	586.20
MW-14A	592.97	1027954.11	1136524.76	obstruction	NA
MW-14B	592.85	1027951.17	1136524.55	6.8	586.05
MW-15[2,3]	591.44	1027851.99	1136475.97	N/A	NA
MW-16A	591.64	1028415.02	1136829.41	3.33	588.31
MW-16B	592.38	1028414.66	1136826.44	5.03	587.35
MW-17A	593.13	1028319.92	1136765.00	5.21	587.92
MW-17B	592.92	1028319.47	1136763.41	6.18	586.74
MW-18A	593.78	1028377.39	1136661.13	6.96	586.82
MW-18B	593.43	1028375.07	1136659.79	6.68	586.75
MW-19A	594.95	1028610.90	1136747.48	6.51	588.44
MW-19B	594.65	1028611.64	1136749.89	7.3	587.35

Note:
NA - Not Available.
1. Well MW-12A discovered destroyed during Fall 2019 sampling event.
2. MW-15 is to be sampled every 5 years in accordance with NYSDEC approval on April 8, 2014, and was to be sampled in 2023. Due to a delay on obtaining a road closure permit, it will be sampled in Spring 2024. A water level will be obtained at that time.
3. MW-15 is loacated in Hyde Park Boulevard.

Table 3
Groundwater Sampling Field Parameter Results
Fall 2023 Sampling Event
Former Carborundum Company, Hyde Park Facility
Niagara, New York

Monitoring Well ID	Sample Date	Temperature (deg C)	Specific Conductivity (mS/cm)	Dissolved Oxygen + (mg/L)	pH (standard units)	ORP (mV)	Turbidity (NTU)	Alkalinity (mg/L)	Carbon Dioxide (mg/L)	Ferrous Iron (mg/L)	Hydrogen Sulfide (mg/L)
MW-5A	10/4/2023	16.5	0.770	0.56	6.76	-103.0	0.00	210	25	0.04	0.0
MW-5B	10/4/2023	19.2	1.160	1.07	7.34	-86.0	42.1	450	50	0.09	0.0
MW-6	10/5/2023	13.4	1.170	0.49	6.62	-339.0	0.00	380	35	0.05	2.0
MW-7A	10/6/2023	13.2	0.919	0.48	6.20	-353.0	0.00	600	50	0.86	2.0
MW-7B	10/6/2023	15.1	1.550	0.00	7.17	-274.0	0.00	300	25	0.02	1.5
MW-10A	10/4/2023	16.7	1.210	0.00	7.09	-134.0	0.00	360	45	1.12	0.0
MW-10B	10/4/2023	15.7	1.430	0.00	6.81	-55.0	0.00	215	70	0.11	0.1
MW-12B	10/4/2023	14.3	1.250	0.00	6.94	-26.0	1.40	310	55	0.05	0.1
MW-13B	10/4/2023	15.6	2.320	0.00	7.28	-125.0	0.0	240	50	0.98	0.0
MW-14B	10/4/2023	16.2	1.250	0.38	6.48	-265.0	6.00	320	60	0.15	1.0
MW-16A	10/5/2023	17.6	1.230	1.32	6.35	-178.0	0.00	380	40	0.35	0.0
MW-16B	10/5/2023	13.5	1.050	0.35	6.33	-420.0	0.00	400	75	0.11	>5.0
MW-17A	10/5/2023	21.1	0.860	1.53	7.49	-256.0	0.00	550	25	0.23	0.0
MW-17B	10/5/2023	19.2	1.390	0.84	6.68	-334.0	0.00	560	125	0.21	5.0
MW-18A	10/5/2023	19.4	0.907	0.00	7.13	-184.0	0.00	500	35	1.88	0.0
MW-18B	10/5/2023	16.4	1.500	0.88	6.72	-333.0	0.00	420	90	0.12	4.0
MW-19B	10/5/2023	15.5	1.380	0.48	6.32	-325.0	0.00	300.0	70	0.03	3.0

Notes:

- Not Measured
+ Elevated dissolved oxygen readings in some cases conflict with negative oxidation/reduction potential readings.
mS/cm - milliSiemen per centimeter
mg/L - milligram per liter
mV - millivolt
NTU - nephelometric turbidity unit
ORP - oxidation-reduction potential

Table 4
Summary of Analytical Specifications
Fall 2023 Monitoring Event
Former Carborundum Company, Hyde Park Facility
Niagara, New York

Sample Type	Container Type	Sample Volume	Preservation Method	Max. Holding Time	Analytical Method
Constituents of Concern					
Select VOCs	40 mL glass vial with septum top	3x40 mL	Hydrochloric acid, Cool 4◦C	14 days	SW846 Method 8260C
Natural Attenuation Parameters					
Methane, Ethene, Ethane, Propane	40 mL glass vial with septum top	3x40 mL	Hydrochloric acid, Cool 4◦C	14 days	USEPA RSK175
TOC	40 mL glass vial with septum top	2x40 mL	Sulfuric acid, Cool 4°C	28 days	USEPA 5310C
BOD	1000 mL plastic	1000 mL	None, Cool 4◦C	48 hours	USEPA 5120B
COD	250 mL plastic	250 mL	Sulfuric Acid,Cool 4◦C	28 days	USEPA 410.4
Dissolved Iron	500 mL plastic	500 mL	Nitric Acid, Cool 4◦C	6 months	USEPA 6010C
Chloride, Sulfate; Nitrate, Nitrite	500 mL plastic	500 mL	None, Cool 4◦C	28 days; 48 hours	USEPA 300.0 USEPA 353.2
Sulfide	500 mL plastic	500 mL	Sodium hydroxide and zinc acetate, Cool 4◦C	7 days	Standard Method (SM) 4500-S2

Notes:

VOC - volatile organic compound
TOC - total organic carbon
BOD - biological oxygen demand
COD - chemical oxygen demand
mL - milliliter
Alkalinity, carbon dioxide, ferrous iron and hydrogen sulfide were analyzed for in the field using Hach™ test kits.

Table 5
Sample Matrix
Fall 2023 Monitoring Event
Former Carborundum Company, Hyde Park Facility
Niagara, New York

Location	Unit	VOCs[A/] (SW8260C)	Methane, Ethane, Ethene (RSKSOP-175mod) [B/]	Chloride, Sulfate (300.0)	Total Organic Carbon (5310C)	BOD (5120B), COD (410.4)	Dissolved Iron (6010C)	Nitrate (353.2), Nitrite (353.2)	Sulfide (SM 4500-S2)	Well Head Analysis [C/]	Field Analyses (Hach kits) [D/]
Existing Site Investigation Monitoring Wells											
MW-5A	overburden	1	1	1	1	1	1	1	1	1	1
MW-5B	bedrock	1	1	1	1	1	1	1	1	1	1
MW-6	bedrock	1								1	1
MW-7A	overburden	1	1	1	1	1	1	1	1	1	1
MW-7B	bedrock	1	1	1	1	1	1	1	1	1	1
MW-10A	overburden	1	1	1	1	1	1	1	1	1	1
MW-10B	bedrock	1	1	1	1	1	1	1	1	1	1
MW-12A	overburden	Well Destroyed									
MW-12B	bedrock	1	1	1	1	1	1	1	1	1	1
MW-13B	bedrock	1								1	1
MW-14B	bedrock	1								1	1
MW-15[(1)]	bedrock										
MW-16A	overburden	1	1	1	1	1	1	1	1	1	1
MW-16B	bedrock	1	1	1	1	1	1	1	1	1	1
MW-17A	overburden	1	1	1	1	1	1	1	1	1	1
MW-17B	bedrock	1	1	1	1	1	1	1	1	1	1
MW-18A	overburden	1	1	1	1	1	1	1	1	1	1
MW-18B	bedrock	1	1	1	1	1	1	1	1	1	1
MW-19B	bedrock	1								1	1

QA/QC

Matrix spike/matrix spike duplicate pairs and field duplicates were collected at a rate of 5%.

Name field duplicates blind, using FD followed by the date followed by the matrix and a numerical identifier in sequence for each duplicate sample collected for that day (e.g., FD-GW-060322).

Notes:

(1) MW-15 to be sampled every 5 years as approved by DEC in April 2014. Next sample event is in 2023.

Sampling for MW-15 requires permit from the Department of Transportation (DOT), Niagara County Residency (716) 438-2396.

[A/] VOCs (volatile organic compounds): tetrachloroethene, trichloroethene, cis-1,2-dichloroethene, trans-1,2- dichloroethene, 1,1-dichloroethene, 1,1-dichloroethane, 1-1-1-,trichloroethane, vinyl chloride, and chloroethane.

[B/] Analytical method for dissolved gases will be a laboratory-specific standard operating procedure (RSK-175).

[C/] Well head analyses include dissolved oxygen, oxidation-reduction potential, pH, temperature, electrical conductivity, turbidity and visual appearance.

[D/] Field analyses include alkalinity, carbon dioxide, hydrogen sulfide, and ferrous iron.

BOD - biological oxygen demand

COD - chemical oxygen demand

Table 6
Monitoring Well Groundwater Analytical Result Summary - Fall 2023
Former Carborundum Company, Hyde Park Facility
Niagara, New York

Parameter	Criteria[1,2]	MW- 5A	MW- 5A Duplicate	MW- 5B	MW- 6	MW- 7A	MW- 7B	MW-10A	MW-10B	MW-12B
Valatile Organic Compounds										
PCE (µg/L)	5	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	5.0 U	1.0 U
TCE (µg/L)	5	0.49 J	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	7.5 J	5.0 U	1.0 U
Cis-1,2-DCE (µg/L)	5	67	81	24	12	3.5	1.7	580	320	53
Trans-1,2-DCE (µg/L)	5	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	5.0 U	1.0 U
1,1-DCE (µg/L)	5	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	5.0 U	1.0 U
Vinyl Chloride (µg/L)	2	150 D	160	140 D	59 DJ	8.5	9.6	190	260	100 D
1,1,1-Trichloroethane (µg/L)	5	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	5.0 U	1.0 U
1,1-Dichloroethane (µg/L)	5	1.7	5.0 U	1.0 U	1.0 U	26	1.0 U	10 U	5.0 U	1.0 U
Chloroethane (µg/L)	5	1.0 U	5.0 U	1.0 U	1.0 UJ	7	1.0 U	10 U	5.0 U	1.0 U
Dissolved Metals										
Dissolved Iron (mg/L)	--	0.200 U	0.200 U	0.200 U	NA	1.2	0.200 U	1.2	0.120 J	0.200 U
Dissolved Gases										
Ethane (µg/L)	--	29	28	0.37 J	NA	26	1.0 U	5.3	1.3	0.81 J
Ethene (µg/L)	--	35	34	2.6	NA	6.1	1.9	37	40	6.9
Methane (µg/L)	--	2100	2100	210	NA	7800	170	3500	3400	240
Propane (µg/L)	--	1.1	1.1	0.73 J	NA	1.0 U	1.0 U	1.0 U	3.8	1
Miscellaneous Parameters										
BOD (mg/L)	--	2.0 U	2.0 U	2.0 U	NA	3.8 J	2.0 UJ	2.2	2.0 U	2.0 U
COD (mg/L)	--	10 U	10 U	2.8 J	NA	32	13	200	2.4 J	10 U
TOC (mg/L)	--	0.97 J	0.98 J	3.2	NA	6.5	3.6	2.8	3.5	3.1
Chloride (mg/L)	250	110	110	140	NA	14	250	150	160	170
Sulfate (mg/L)	250	66	67	240	NA	140	160	130	230	240
Sulfide (mg/L)	0.05	1.0 U	1.0 U	1.0 U	NA	2.9	2.3	1.0 U	0.27 J	1.0 U
Nitrate (mg/L)	10	0.25 U	0.25 U	0.25 U	NA	0.25 UJ	0.25 UJ	0.25 U	0.25 U	0.25 UJ
Nitrite (mg/L)	1	0.25 U	0.25 U	0.25 U	NA	0.25 UJ	0.58 J	0.25 U	0.25 U	0.25 UJ
Nitrate-Nitrite (mg/L)	--	NA	NA	NA	NA	0.050 U	0.050 U	NA	NA	NA

See Page 2 of 2 for notes.

Table 6
Monitoring Well Groundwater Analytical Result Summary - Fall 2023
Former Carborundum Company, Hyde Park Facility
Niagara, New York

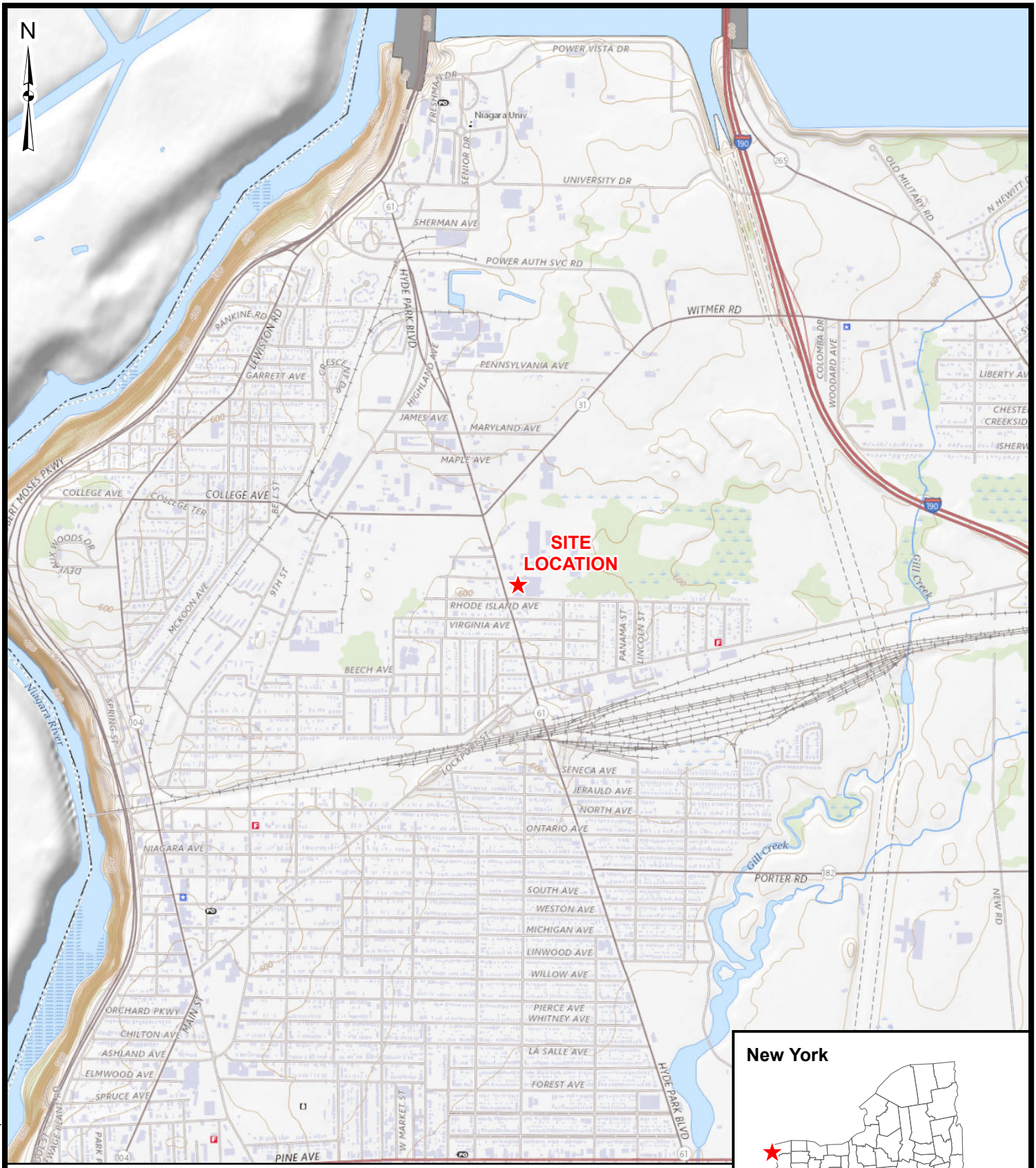
Parameter	Criteria[1,2]	MW-13B	MW-14B	MW-16A	MW-16B	MW-17A	MW-17B	MW-18A	MW-18B	MW-19B
Valatile Organic Compounds										
PCE (µg/L)	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
TCE (µg/L)	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	39	1.0 U	1.0 U
Cis-1,2-DCE (µg/L)	5	9.9	0.60 J	0.98 J	2.5	30	0.90 J	57	120 DJ	1.5
Trans-1,2-DCE (µg/L)	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.86 J	0.53 J	1.0 U
1,1-DCE (µg/L)	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4	1.0 U	1.0 U
Vinyl Chloride (µg/L)	2	18	2.2	37	7.1	73 DJ	2.2	3.5	61	1.4
1,1,1-Trichloroethane (µg/L)	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane (µg/L)	5	1.0 U	1.0 U	1.0 U	1.0 U	11	11	4	1.0 U	1.0 U
Chloroethane (µg/L)	5	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ	2.7	1.0 UJ	1.0 UJ	1.0 UJ
Dissolved Metals										
Dissolved Iron (mg/L)	--	NA	NA	0.49	0.200 U	0.54	0.160 J	1.9	0.170 J	NA
Dissolved Gases										
Ethane (µg/L)	--	NA	NA	1.8	1.3	8.9	34	0.79 J	2.3	NA
Ethene (µg/L)	--	NA	NA	170	4.4	21	5.5	0.66 J	5	NA
Methane (µg/L)	--	NA	NA	370	12000	13000	26000	3400	22000	NA
Propane (µg/L)	--	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA
Miscellaneous Parameters										
BOD (mg/L)	--	NA	NA	2.0 U	8.1	4.4	11	2.0 U	17	NA
COD (mg/L)	--	NA	NA	18	32	9.5 J	16	7.2 J	35	NA
TOC (mg/L)	--	NA	NA	5	4.2	2.8	3.6	1.4	5	NA
Chloride (mg/L)	250	NA	NA	40	140	16	88	37	100	NA
Sulfate (mg/L)	250	NA	NA	190	230	41	69	120	180	NA
Sulfide (mg/L)	0.05	NA	NA	1.0 U	7.9	1.0 U	4.5	1.0 U	7.7	NA
Nitrate (mg/L)	10	NA	NA	1.3	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	NA
Nitrite (mg/L)	1	NA	NA	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	NA
Nitrate-Nitrite (mg/L)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
(1) NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, April 2000, Glass GA.
(2) Bold concentrations exceed criteria.
J = The reported concentration is an estimated value.
J- = The reported concentration is an estmated value biased low.
D = Result reported from a secondary dilution analysis.
U = Not detected above the reporting limit.
UJ = Not detected. The reporting limit is an estimated value.
NA - Not Analyzed

µg/L - micrograms per liter
mg/L - milligrams per liter
PCE - tetrachlorethene
TCE- trichloroethene
DCE - dichloroethene

BOD - biological oxygen demand
COD - chemical oxygen demand
TOC - total organic carbon

Figures



New York

Source: USGS The National Map Service;
1:24,000-scale USGS Topographic Map,
Lewiston, 2019
Niagara Falls, 2019

2,000 0 2,000 Feet

AECOM

FORMER CARBORUNDUM COMPANY
TOWN OF NIAGARA, NEW YORK
SITE LOCATION

FIGURE 1

J:\Projects\60481767_BPIP\MISC\GIS\Hyde Park\Maps\SITE LOCATION.mxd 3/3/2022

Legend

- Injection Well
- Monitoring Well
- Monitoring Well in the Monitoring Program
- Monitoring Well (Destroyed/Abandoned)
- Performance Monitoring Well
- Fence Line
- Approximate Site Boundary

Notes: MW-9 was abandoned on May 28, 1999 by Earth Dimensions, Inc.;
MW-12A was discovered destroyed in December 2019
Source: ESRI World Imagery

60 0 60 Feet

FORMER CARBORUNDUM COMPANY
TOWN OF NIAGARA, NEW YORK
SITE PLAN

AECOM

FIGURE 2

J:\Projects\60481767_BPIPO\MSC\GIS\Hyde Park\Maps\SMP 2022\02 SITE PLAN.mxd 3/25/2022

N

INJ- 9, 586.50
MW- 4A, 586.77
INJ-10, 586.62
INJ- 2, 587.04
PMW- 4, 587.62
PMW- 1, 587.32
MW- 7A, 587.65
MW- 2A, 587.97
INJ- 1, 587.63
PMW- 3, 588.01
INJ- 5L, 586.86
INJ- 6U, 588.76
INJ- 5U, 587.85
INJ- 6L, 586.97
PMW- 2, 587.53
MW- 3A, 586.70
INJ- 7, 589.41
INJ- 8, 587.35
MW-16A, 588.31
KANTHAL-GLOBAR BUILDING
MW-17A, 587.92
MW-19A, 588.44
BRICK BLDG
MW-18A, 586.82
HYDE PARK BOULEVARD
MW-11A, 585.79
MW-10A, 586.19
MW- 5A, 586.30
MW- 1A, 587.32
RHODE ISLAND AVENUE
MW-13A, 586.11

587 588 587 586 587 588 586

Legend

- Injection Well
- Monitoring Well
- Performance Monitoring Well
- Groundwater Flow Direction
- Groundwater Elevation Contour
- Fence Line

Source: ESRI World Imagery

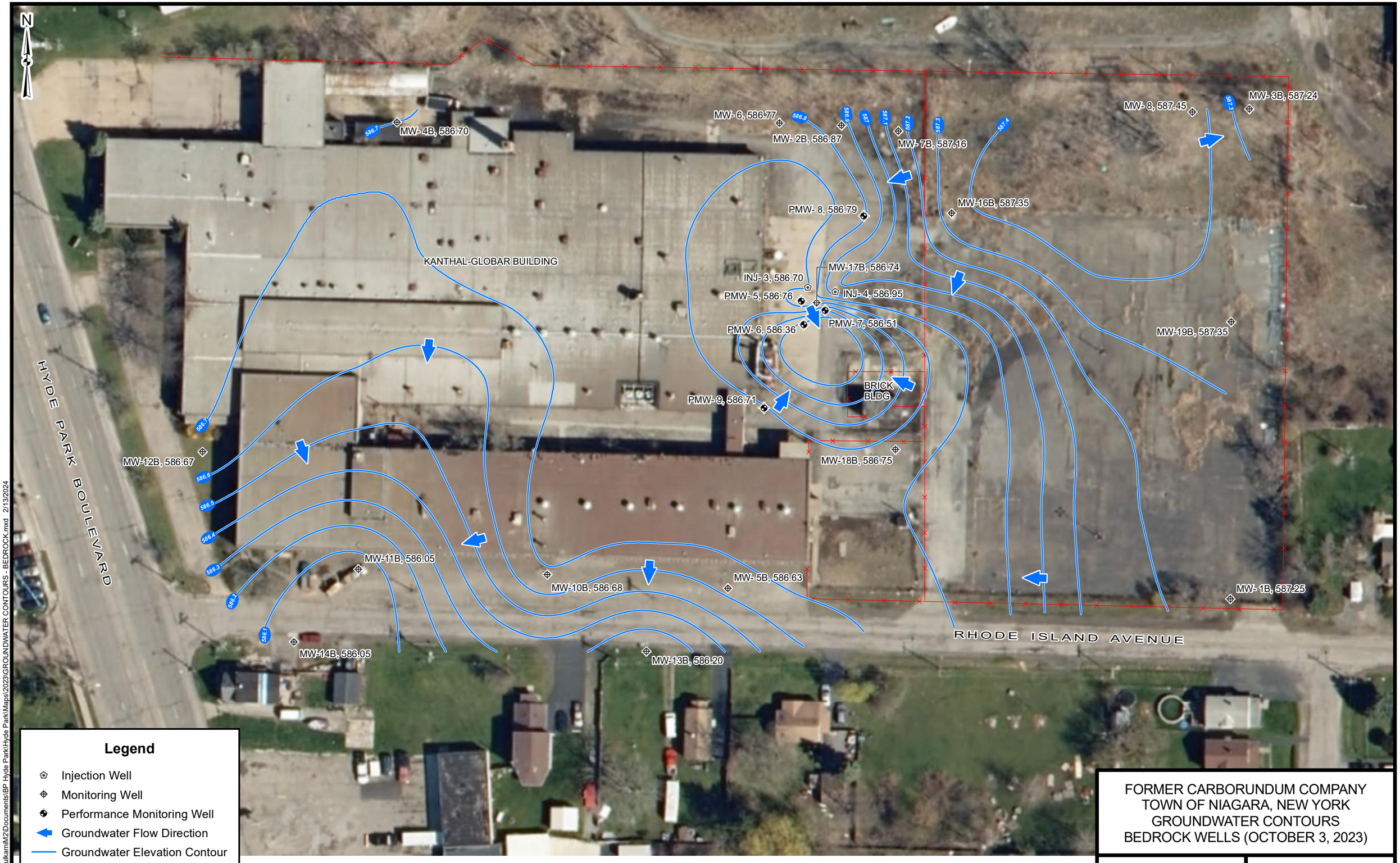
60 0 60 Feet

FORMER CARBORUNDUM COMPANY
TOWN OF NIAGARA, NEW YORK
GROUNDWATER CONTOURS
OVERBURDEN WELLS (OCTOBER 3, 2023)

AECOM

FIGURE 3

C:\Users\KulkarniM2\Documents\BP Hyde Park\Hyde Park\Maps\2023\GROUNDWATER CONTOURS - OVERBURDEN.mxd 2/13/2024


N
MW- 4B, 586.70
MW- 6, 586.77
MW- 2B, 586.87
MW- 7B, 587.16
MW- 8, 587.45
MW- 3B, 587.24
MW-16B, 587.35
PMW- 8, 586.79
KANTHAL-GLOBAR BUILDING
MW-17B, 586.74
INJ- 3, 586.70
INJ- 4, 586.95
PMW- 5, 586.76
PMW- 7, 586.51
PMW- 6, 586.36
MW-19B, 587.35
BRICK BLDG
PMW- 9, 586.71
MW-18B, 586.75
HYDE PARK BOULEVARD
MW-12B, 586.67
MW-11B, 586.05
MW-10B, 586.68
MW- 5B, 586.63
MW- 1B, 587.25
RHODE ISLAND AVENUE
MW-14B, 586.05
MW-13B, 586.20
586.7
586.8
586.9
587
587.1
587.2
587.3
587.4
587.5
586.7
586.6
586.5
586.4
586.3
586.2
586.1
Legend
Injection Well
Monitoring Well
Performance Monitoring Well
Groundwater Flow Direction
Groundwater Elevation Contour
Fence Line
Source: ESRI World Imagery
60
0
60 Feet
FORMER CARBORUNDUM COMPANY
TOWN OF NIAGARA, NEW YORK
GROUNDWATER CONTOURS
BEDROCK WELLS (OCTOBER 3, 2023)
AECOM
FIGURE 4
C:\Users\KulkarniM2\Documents\BP Hyde Park\Hyde Park\Maps\2023\GROUNDWATER CONTOURS - BEDROCK.mxd 2/13/2024

MW-3A	2000	Oct-09	May-10	Oct-11	Jun-12	Aug-13	Apr-14	Nov-15	Apr-16	Sep-17	Apr-18	Dec-19	Mar-20	Dec-21	May-22	Oct-23
TCE	0.43 J	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
DCE	1.5 J	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
VC	2 U	2 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
DCA	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

MW-2A	2000	Oct-09	May-10	Oct-11	Jun-12	Aug-13	Apr-14	Nov-15	Apr-16	Sep-17	Apr-18	Dec-19	Mar-20	Dec-21	May-22	Oct-23
TCE	5 U	5 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
DCE	1.2 J	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
VC	2 U	1.3 J	1.2 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
DCA	13 J	26	18	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

MW-4A	2000	Oct-09	May-10	Oct-11	Jun-12	Aug-13	Apr-14	Nov-15	Apr-16	Sep-17	Apr-18	Dec-19	Mar-20	Dec-21	May-22	Oct-23
TCE	2.8 J	130	94	160	7.5	4.2 J	1.2	1.2	3.4	1.3	0.44 J	NS	NS	NS	NS	NS
DCE	74	115.7	254.9	150	140	31	3.7	1.3	2.8	0.68 J	1.1	NS	NS	NS	NS	NS
VC	45	41	45	73	20	11	4.1	1.1	1.1	2.6	0.96 J	NS	NS	NS	NS	NS
DCA	4.6 J	17	21	18	5.4	1.3 J	0.5 U	1	1.4	1.4	1.8	NS	NS	NS	NS	NS

MW-7A	2000	Oct-09	May-10	Oct-11	Jun-12	Aug-13	Apr-14	Nov-15	Apr-16	Sep-17	Apr-18	Dec-19	Mar-20	Dec-21	May-22	Oct-23
TCE	1200	1.8 J	1 U	1 U	1.2 J	1 U	0.5 U	0.5 U	0.5 U	0.66 U	1.7 U	0.25 U	0.20 U	7.3	1 U	1.0 U
DCE	4800	210	65	20	3.8 J	3.9 J	3	1.5	1.9	26	46	21 J	50	150	17	3.5
VC	220	150	50	19	1 U	2.2 J	1	3.1	3.7	33	42	35 J	45	150	33	8.5
DCA	1000	49	33	22	9.1	15	12	11	12	61 J	140	69	59	90	76 D	26

MW-16A	2000	Oct-09	May-10	Oct-11	Jun-12	Aug-13	Apr-14	Nov-15	Apr-16	Sep-17	Apr-18	Dec-19	Mar-20	Dec-21	May-22	Oct-23
TCE	NS	5 U	1 U	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U	3.3 U	0.33 U	0.6 J	1.3 U	2.3 U	1 U	1.0 U
DCE	NS	8.2	10	11	8.4	8.5	5.9	9.1	6.5	7.3 J	1.4	3.6 J	8.7 J	8.2	8.1	0.98 J
VC	NS	75	180	340	110	300	140	250	18	190	33	120	560	260	290 D	37
DCA	NS	5 U	1 U	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U	2.5 U	0.25 U	0.68 U	2.1 U	1.9 U	1 U	1.0 U

MW-17A	2000	Oct-09	May-10	Oct-11	Jun-12	Aug-13	Apr-14	Nov-15	Apr-16	Sep-17	Apr-18	Dec-19	Mar-20	Dec-21	May-22	Oct-23
TCE	115	22	15	11	5.3	3.1 J	0.62 J	0.5 U	0.5 U	1.7 U	1.7 U	0.20 U	0.20 U	1.8 U	1 U	1.0 U
DCE	230	180	210	160	140	180	150	160	110	120	59	50	38	48	36	30
VC	18	25	27	30	25	45	49	86	89	120	91	83	78	110	83 D	73 DJ
DCA	59	30	20	26	21	22	16	18	15	17	11	13	12	13	11	11

MW-19A	2000	Oct-09	May-10	Oct-11	Jun-12	Aug-13	Apr-14	Nov-15	Apr-16	Sep-17	Apr-18	Dec-19	Mar-20	Dec-21	May-22	Oct-23
TCE	1.7 J	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
DCE	33	3.7	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
VC	2 U	2.8	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
DCA	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

MW-12A	2000	Oct-09	May-10	Oct-11	Jun-12	Aug-13	Apr-14	Nov-15	Apr-16	Sep-17	Apr-18	Dec-19	Mar-20	Dec-21	May-22	Oct-23
TCE	2.6 J	5 U	1 U	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U	0.33 U	0.33 U	NS	NS	NS	NS	NS
DCE	540	64	16	19	19	22	8.9	1.6	9.5	21	16	NS	NS	NS	NS	NS
VC	49	38	16	16	13	14	6.8	9.6	8.8	13	9.2	NS	NS	NS	NS	NS
DCA	5.9	2.7	1.6 J	1.8 J	1.8 J	1.9 J	0.89 J	0.7 J	1.1	1.6	0.91 J	NS	NS	NS	NS	NS

MW-11A	2000	Oct-09	May-10	Oct-11	Jun-12	Aug-13	Apr-14	Nov-15	Apr-16	Sep-17	Apr-18	Dec-19	Mar-20	Dec-21	May-22	Oct-23
TCE	5 U	5 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
DCE	1.3 J	5 U	1.9 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
VC	2 U	2 U	3.2 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
DCA	5 U	5 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

MW-18A	2000	Oct-09	May-10	Oct-11	Jun-12	Aug-13	Apr-14	Nov-15	Apr-16	Sep-17	Apr-18	Dec-19	Mar-20	Dec-21	May-22	Oct-23
TCE	36	25	25	23	21	25	27	38	37	29	36	32	34	0.92 U	34	39
DCE	47	43	51	42	56	58	43	53	51	58	42	43	46	47	54	57
VC	4.4	7	2.6 J	8.4	2.4 J	3.4 J	0.86 J	2.3	0.62 J	1.8 J	1.1	0.97 J	1.1 J	80	5.7	3.5
DCA	5.6	4.7 J	4.2 J	4.7 J	4.2 J	4.9 J	3.6	4.7	4.3	5.0	3.7	3.6	3.7	0.76 U	4.1	4

MW-10A	2000	Oct-09	May-10	Oct-11	Jun-12	Aug-13	Apr-14	Nov-15	Apr-16	Sep-17	Apr-18	Dec-19	Mar-20	Dec-21	May-22	Oct-23
TCE	5 U	5 U	1 U	1 U	1 U	1 U	0.5 U	0.5 U	0.57 J	6.6 U	6.6 U	5 J	7.6	13 J	8.7 J	7.5 J
DCE	1200	409.4	397.6	630	620	580	560	710	960 D	590	540	500	570	650	540	580
VC	86	140	140	250	170	130	95	130	83	130	94	130	130	180	85	190
DCA	25	6.4	5.7	7.7	7	5.6	4.4	5.3	5.4	5.0 UJ	5.0 U	4.3 U	3.4 U	9.5 U	13 U	10 U

MW-5A	2000	Oct-09	May-10	Oct-11	Jun-12	Aug-13	Apr-14	Nov-15	Apr-16	Sep-17	Apr-18	Dec-19	Mar-20	Dec-21	May-22	Oct-23
TCE	1.3 J	5 U	1 U	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U	0.66 U	4.1 U	0.47 J	0.52 J	0.46 U	1 U	0.49 J
DCE	320	5.9	110.97	5.7	88	110	240	150	340 D	61	250	10	130	52	78	67
VC	42	1.8	84	3.3 J	82	190	300	140	340 D	68	310	13	180	62	70 D	150 D
DCA	2.1 J	5 U	1 U	1 U	1 U	1.3 U	3.3	1.4	4.2	0.88 J	3.3 J	0.17 J	2.5 J	1.0	1.9	1.7

MW-1A	2000	Oct-09	May-10	Oct-11	Jun-12	Aug-13	Apr-14	Nov-15	Apr-16	Sep-17	Apr-18	Dec-19	Mar-20	Dec-21	May-22	Oct-23
TCE	5 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
DCE	2.4 J	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
VC	0.44 J	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
DCA	5 UJ	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

MW-13A	2000	Oct-09	May-10	Oct-11	Jun-12	Aug-13	Apr-14	Nov-15	Apr-16	Sep-17	Apr-18	Dec-19	Mar-20	Dec-21	May-22	Oct-23
TCE	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
DCE	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
VC	2 U	2 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
DCA	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

MW-14A	2000	Oct-09	May-10	Oct-11	Jun-12	Aug-13	Apr-14	Nov-15	Apr-16	Sep-17	Apr-18	Dec-19	Mar-20	Dec-21	May-22	Oct-23
TCE	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
DCE	1.6 J	1.4	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
VC	0.37 J	2.7	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
DCA	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Legend

- Monitoring Well
- Fence Line

LOCATION ID — MW-1A | DATE — 2000

TRICHLOROETHENE	TCE	5 U
CIS 1,2-DICHLOROETHENE	DCE	2.4 J
VINYL CHLORIDE	VC	0.44 J
1,1-DICHLOROETHANE	DCA	5 UJ

RESULT

Notes:
1. Units are shown in µg/L
2. NS = Not Sampled
3. D = Result reported from a secondary dilution analysis.
4. J = The reported concentration is an estimated value.
5. U = Not detected above the reported method detection limit.
6. UJ = Not detected. The reported method detection limit is an estimated value.
7. Monitoring well MW-12A was found destroyed in December 2019.

Source: ESRI World Imagery

60 0 60 Feet

FORMER CARBORUNDUM COMPANY TOWN OF NIAGARA, NEW YORK VOC CONCENTRATIONS IN OVERBURDEN GROUNDWATER (2000 - 2023)

AECOM

FIGURE 5

C:\Users\Kulkarni\M2\Documents\BP Hyde Park\GIS\Maps\2023\GROUNDWATER VOC - OVERBURDEN.mxd 3/14/2024

MW-3B	2000	Oct-09	May-10	Oct-11	Jun-12	Aug-13	Apr-14	Nov-15	Apr-16	Sep-17	Apr-18	Dec-19	Mar-20	Dec-21	May-22	Oct-23
TCE	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
DCE	4.8 J	1.5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
VC	2.3	2.9	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
DCA	5	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

MW-8	2000	Oct-09	May-10	Oct-11	Jun-12	Aug-13	Apr-14	Nov-15	Apr-16	Sep-17	Apr-18	Dec-19	Mar-20	Dec-21	May-22	Oct-23
TCE	5 U	5 U	1 U	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U	0.33 U	0.33 U	NS	NS	NS	NS	NS
DCE	5.55	2.1	2.3	1.9 J	1.6 J	1.7 J	1.6	1.7	1.9	1.7	1.9	NS	NS	NS	NS	NS
VC	1.9 J	2.6	2.2	2.1 J	1.1 J	1.8 J	1.5	1.9	1.8	1.4	1.6	NS	NS	NS	NS	NS
DCA	5 U	5 U	1 U	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U	0.25 U	0.25 U	NS	NS	NS	NS	NS

MW-4B	2000	Oct-09	May-10	Oct-11	Jun-12	Aug-13	Apr-14	Nov-15	Apr-16	Sep-17	Apr-18	Dec-19	Mar-20	Dec-21	May-22	Oct-23
TCE	3.2 J	5 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
DCE	39	9.7	2.8	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
VC	35	9.5	12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
DCA	3.2 J	5 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

MW-7B	2000	Oct-09	May-10	Oct-11	Jun-12	Aug-13	Apr-14	Nov-15	Apr-16	Sep-17	Apr-17	Dec-19	Mar-20	Dec-21	May-22	Oct-23
TCE	5 U	1 U	1 U	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U	0.33 U	0.33 U	0.10 U	0.10 U	0.46 U	1 U	1.0 U
DCE	84	7.3	4.5 J	6	1.6 J	1.2 J	0.5 U	1.2	0.82 J	2.2	2.2	1.3	5.4	1.5	1.9	1.7
VC	39	24	31	25	9.2	75	5.5	6.1	10	18	17	10	18	18	12	9.6
DCA	5 U	1 U	1 U	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U	0.25 U	0.25 U	0.17 U	0.17 U	0.38 U	1 U	1.0 U

MW-6	2000	Oct-09	May-10	Oct-11	Jun-12	Aug-13	Apr-14	Nov-15	Apr-16	Sep-17	Apr-18	Dec-19	Mar-20	Dec-21	May-22	Oct-23
TCE	5 U	5 U	1 U	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U	1.7 U	0.33 U	0.10 U	0.10 U	0.92 U	1 U	1.0 U
DCE	560	85	39	33	30	24	18	20	18	16	12	10	11	13	12	12
VC	91	69	48	57	47	42	39	57	59	79	48	78	72	98	61 DJ	59 DJ
DCA	0.28 J	5 U	1 U	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U	1.3 U	0.25 U	0.17 U	0.17 U	0.76 U	1 U	1.0 U

MW-2B	2000	Oct-09	May-10	Oct-11	Jun-12	Aug-13	Apr-14	Nov-15	Apr-16	Sep-17	Apr-18	Dec-19	Mar-20	Dec-21	May-22	Oct-23
TCE	0.44 J	5 U	1 U	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U	0.33 U	0.33 U	NS	NS	NS	NS	NS
DCE	260	9.1	3.7 J	1.8 J	2.7 J	2.3 J	1	0.87 J	0.95 J	0.77 J	1.3	NS	NS	NS	NS	NS
VC	92	16	7.6 J	2.6 J	8.6	4 J	2.2	3.4	2.2	1.8	2.6	NS	NS	NS	NS	NS
DCA	5 UJ	5 U	1 U	1 U	1 U	1 U	0.92 J	0.65 J	0.96 J	0.50 J	0.25 U	NS	NS	NS	NS	NS

MW-16B	2000	Oct-09	May-10	Oct-11	Jun-12	Aug-13	Apr-14	Nov-15	Apr-16	Sep-17	Apr-18	Dec-19	Mar-20	Dec-21	May-22	Oct-23
TCE	0.97 J	5 U	1 U	1 U	74	2.2 J	2.5 U	4.8	0.5 U	0.33 U	0.33 U	0.10 U	0.10 U	0.46 U	1 U	1.0 U
DCE	130	511.8	81	27	4700	600	2300	1100	0.5 U	0.30 U	0.63 J	1	0.60 J	2.1	13	2.5
VC	35	130	48	43	600	610	2000	780	4.3	2.6	4.6	6.7	2.9	6.5	23	7.1
DCA	5 U	5 U	1 U	1 U	4 J	1 J	3.4 J	6.6	2	0.39 J	0.25 U	0.17 U	0.17 U	0.38 U	1 U	1.0 U

MW-17B	2000	Oct-09	May-10	Oct-11	Jun-12	Aug-13	Apr-14	Nov-15	Apr-16	Sep-17	Apr-18	Dec-19	Mar-20	Dec-21	May-22	Oct-23
TCE	22	3.1 J	1 U	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U	0.68 J	0.33 U	0.10 U	0.10 U	1.7 U	1 U	1.0 U
DCE	1000	280	8.5	19	20	35	1.3	0.5 U	0.5 U	10	4.9	11	1.4	31	28	0.90 J
VC	69	69	9.6	27	18	40	2.1	0.8 J	0.88 J	12	7.9	14	2.6	20	23	2.2
DCA	5.4	26	45	48	43	38	8.2	1.5	1.7	6.3 J	4.5	4.3	4.5	7.3	8.2	11

MW-19B	2000	Oct-09	May-10	Oct-11	Jun-12	Aug-13	Apr-14	Nov-15	Apr-16	Sep-17	Apr-18	Dec-19	Mar-20	Dec-21	May-22	Oct-23
TCE	2.4 J	5 U	1 U	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U	0.33 U	0.33 U	0.10 U	0.10 U	0.46 U	1 U	1.0 U
DCE	41	68	2.1	8.7	2.3 J	2.1 J	2.9	1.8	1.1	1.6	24	1.4	11	1.8	1.5	1.5
VC	6.3	7.2	2.1 J	3.3 J	1.6 J	1.2 J	0.65 J	1	1.1	1.5	5.0	1.2	2.3	1.5	1.1	1.4
DCA	5 U	5 U	1 U	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U	0.25 UJ	0.25 U	0.17 U	0.17 U	0.38 U	1 U	1.0 U

MW-12B	2000	Oct-09	May-10	Oct-11	Jun-12	Aug-13	Apr-14	Nov-15	Apr-16	Sep-17	Apr-18	Dec-19	Mar-20	Dec-21	May-22	Oct-23
TCE	5 U	5 U	1 U	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U	0.66 U	0.83 U	0.25 U	0.20 U	0.46 UJ	1 U	1.0 U
DCE	210	2.6	11	0.98 J	5.6	43	57	13	73	52	62	65	51	73 J-	52	53
VC	77	2 U	1 U	1 U	10	73	75	9.1	59	110	73	94	85	49 DJ-	73 DJ	100 D
DCA	2.3 J	5 U	1 U	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U	0.66 J	0.63 U	0.43 U	0.41 J	0.40 J-	0.48 J	1.0 U

MW-18B	2000	Oct-09	May-10	Oct-11	Jun-12	Aug-13	Apr-14	Nov-15	Apr-16	Sep-17	Apr-18	Dec-19	Mar-20	Dec-21	May-22	Oct-23
TCE	7.7	5 U	1 U	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U	6.6 U	0.83 U	0.20 U	0.20 U	0.92 U	1 U	1.0 U
DCE	690	62	69	150	110	120	43	35	90	380	69	56	32	47	38	120 DJ
VC	90	220	190	220	140	190	71	40	120	210	92	70	51	80	59	61
DCA	5 U	5 U	1 U	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U	5.0 UJ	0.63 U	0.34 U	0.34 U	0.76 U	1 U	1.0 U

MW-11B	2000	Oct-09	May-10	Oct-11	Jun-12	Aug-13	Apr-14	Nov-15	Apr-16	Sep-17	Apr-18	Dec-19	Mar-20	Dec-21	May-22	Oct-23
TCE	5 U	1 U	1 U	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U	0.33 U	0.33 U	NS	NS	NS	NS	NS
DCE	590	56	1.9 J	2.2 J	1 U	0.8 U	0.5 U	0.56 J	0.54 J	1.1	0.65 J	NS	NS	NS	NS	NS
VC	81	48	7.4	4.6 J	6.1	1.4 J	1.2	1.7	9.7	6.5	1.9	NS	NS	NS	NS	NS
DCA	3.5 J	U	1.3 J	1.8 J	1.4 J	1.9 J	2	1	1.7	0.95 J	1.9	NS	NS	NS	NS	NS

MW-10B	2000	Oct-09	May-10	Oct-11	Jun-12	Aug-13	Apr-14	Nov-15	Apr-16	Sep-17	Apr-18	Dec-19	Mar-20	Dec-21	May-22	Oct-23
TCE	68	1 U	1 U	2 U	1 U	1 U	0.5 U	0.5 U	0.5 U	3.3 U	2.6 U	2.0 U	0.50 U	4.6 U	6.3 U	5.0 U
DCE	1800	370	220	960	280	230	190	190	220	360	210	420	210	220	320	320
VC	95	150	83	180	110	120	22	190	6.1	270	12	180	23	370	140	260
DCA	1.2 J	1 U	1 U	2 U	1 U	1 U	0.5 U	0.9 J	0.59 J	2.5 UJ	2.0 U	3.4 U	0.85 U	3.8 U	6.3 U	5.0 U

MW-5B	2000	Oct-09	May-10	Oct-11	Jun-12	Aug-13	Apr-14	Nov-15	Apr-16	Sep-17	Apr-18	Dec-19	Mar-20	Dec-21	May-22	Oct-23
TCE	2.6 J	5 U	1.1 J	1 U	1 U	1 U	0.97 J	0.58 J	0.5 U	1.7 U	0.33 U	0.20 U	0.20 U	0.92 U	1 U	1.0 U
DCE	420	39	36	48	33	32	19	34	32	36	32	32	26	40	35	24
VC	45	37	39	63	34	44	33	63	71	91	78	90	68	140	71 D	140 D
DCA	1.1 J	5 U	1 U	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U	1.3 U	0.30 J	0.34 U	0.34 U	0.76 U	1 U	1.0 U

MW-1B	2000	Oct-09	May-10	Oct-11	Jun-12	Aug-13	Apr-14	Nov-15	Apr-16	Sep-17	Apr-18	Dec-19	Mar-20	Dec-21	May-22	Oct-23
TCE	5 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
DCE	4.7 J	0.8	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
VC	3.8	1.7	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
DCA	1.5 J	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

MW-13B	2000	Oct-09	May-10	Oct-11	Jun-12	Aug-13	Apr-14	Nov-15	Apr-16	Sep-17	Apr-18	Dec-19	Mar-20	Dec-21	May-22	Oct-23
TCE	12	5 U	1 U	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U	0.33 U	0.33 U	0.19 J	0.10 U	0.92 U	1 U	1.0 U
DCE	310	88	46	17	27	8.6	19	18	9.9	22	7.8	16	1.6	3.7	4.1	9.9
VC	40	68	47	24	57	48	15	21	12	38	9.7	21	2.0	6.4	5.2	18
DCA	0.91 J	5 U	1 U	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U	0.25 UJ	0.25 U	0.17 J	0.17 U	0.76 U	1 U	1.0 U

MW-14B	2000	Oct-09	May-10	Oct-11	Jun-12	Aug-13	Apr-14	Nov-15	Apr-16	Sep-17	Apr-18	Dec-19	Mar-20	Dec-21	May-22	Oct-23
TCE	5 U	5 U	1 U	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U	0.33 U	0.33 U	0.10 U	0.10 U	0.46 U	1 U	1.0 U
DCE	300	64	16	4.1 J	1.5 J	0.8 U	0.67 J	0.95 J	0.94 J	0.92 J	0.72 J	0.37 J	1.0 U	0.81 U	1 U	0.60 J
VC	110	86	33	5.4	5.4	1.5 J	1.2	1.5	1.2	2.9	1.3	0.7 J	1.0	1.9	1.1	2.2
DCA	0.61 J	5 U	1 U	1 U	1 U	1 U	0.5 U	0.53 J	0.5 U	0.43 J	0.34 J	0.19 J	0.24 J	0.38 U	1 U	1.0 U

MW-15	2000	Oct-09	May-10	Oct-11	Jun-12	Aug-13	Apr-14	Nov-15	Apr-16	Sep-17	Apr-18	Dec-19	Mar-20	Dec-21	May-22	Oct-23
TCE	5 U	5 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	0.10 UJ	NS	NS	NS	NS	NS
DCE	400	57.1	5.9	32	0.8 U	0.8 U	NS	NS	NS	NS	5.2	NS	NS	NS	NS	NS
VC	120	82	17	52	1.8 J	2 J	NS	NS	NS	NS	16	NS	NS	NS	NS	NS
DCA	0.95 J	2	1.3 J	1.4 J	1.2 J	1 U	NS	NS	NS	NS	1.1	NS	NS	NS	NS	NS

Legend

- Monitoring Well
- Fence Line

LOCATION ID — DATE

MW-1B	2000
TRICHLOROETHENE — TCE	5 U
CIS 1,2-DICHLOROETHENE — DCE	4.7 J
VINYL CHLORIDE — VC	3.8
1,1-DICHLOROETHANE — DCA	1.5 J

RESULT

Notes:
1. Units are shown in µg/L
2. NS = Not Sampled
3. D = Result reported from a secondary dilution analysis.
4. J = The reported concentration is an estimated value.
5. J- = The reported concentration is an estimated value with low bias.
6. U = Not detected above the reported method detection limit.
7. UJ = Not detected. The reported method detection limit is an estimated value.

Source: ESRI World Imagery

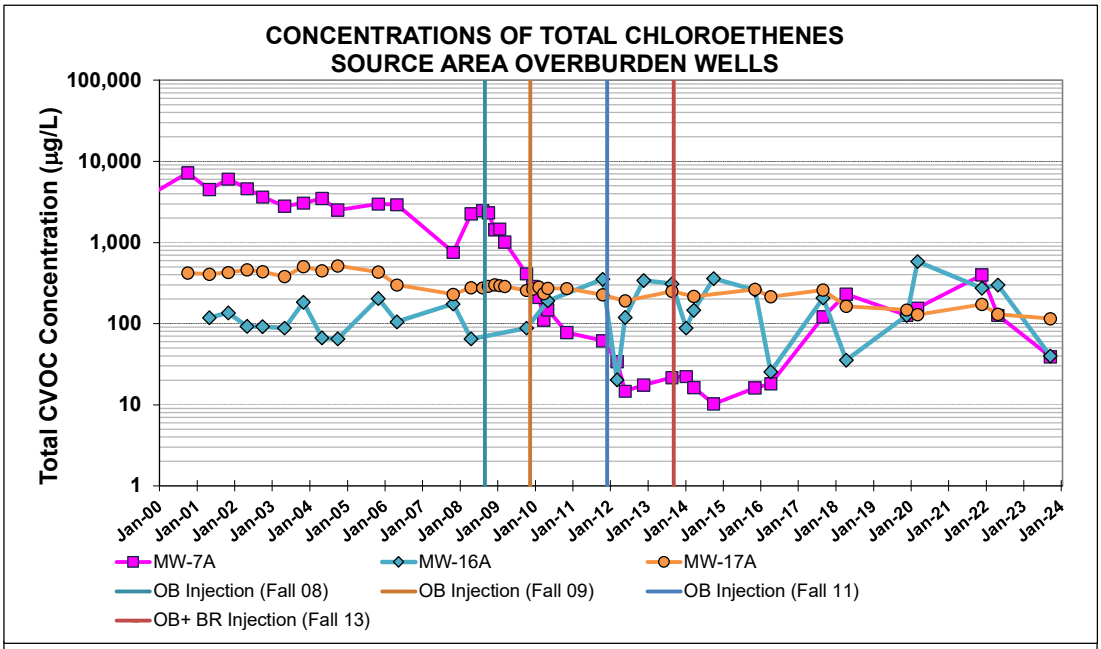
60 0 60 Feet

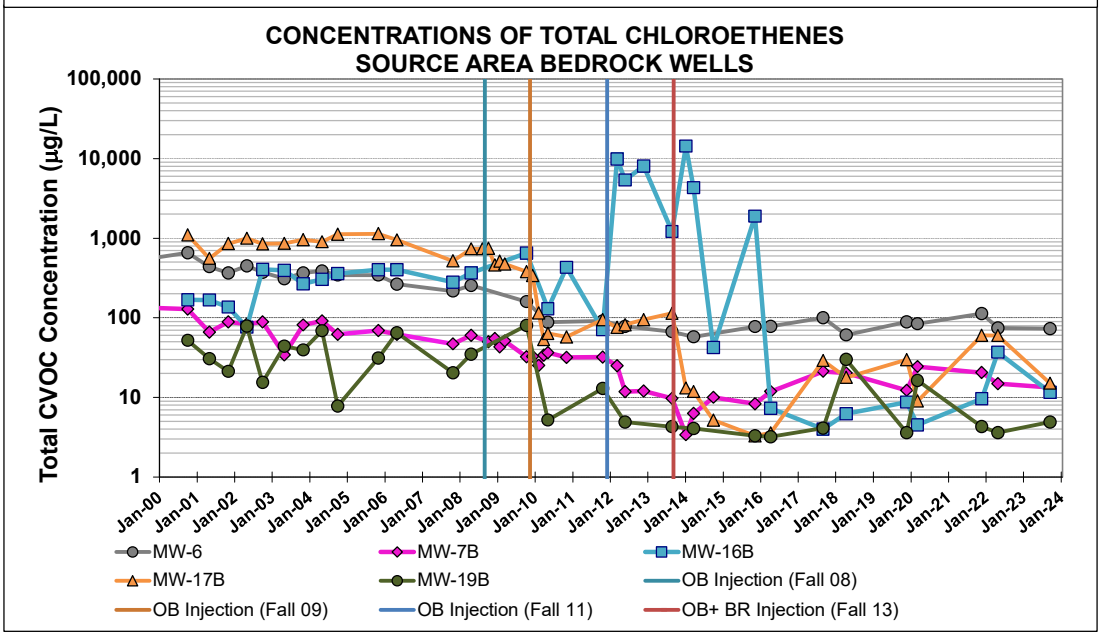
FORMER CARBORUNDUM COMPANY TOWN OF NIAGARA, NEW YORK VOC CONCENTRATIONS IN BEDROCK GROUNDWATER (2000 - 2023)

AECOM

FIGURE 6

C:\Users\Kulkarni\M2\Documents\BP Hyde Park\GIS\Maps\2023\GROUNDWATER VOC - BEDROCK.mxd 3/14/2024





Note:
Total CVOC Concentration is the sum of TCE, cis-1,2-DCE, VC, and DCA concentrations.

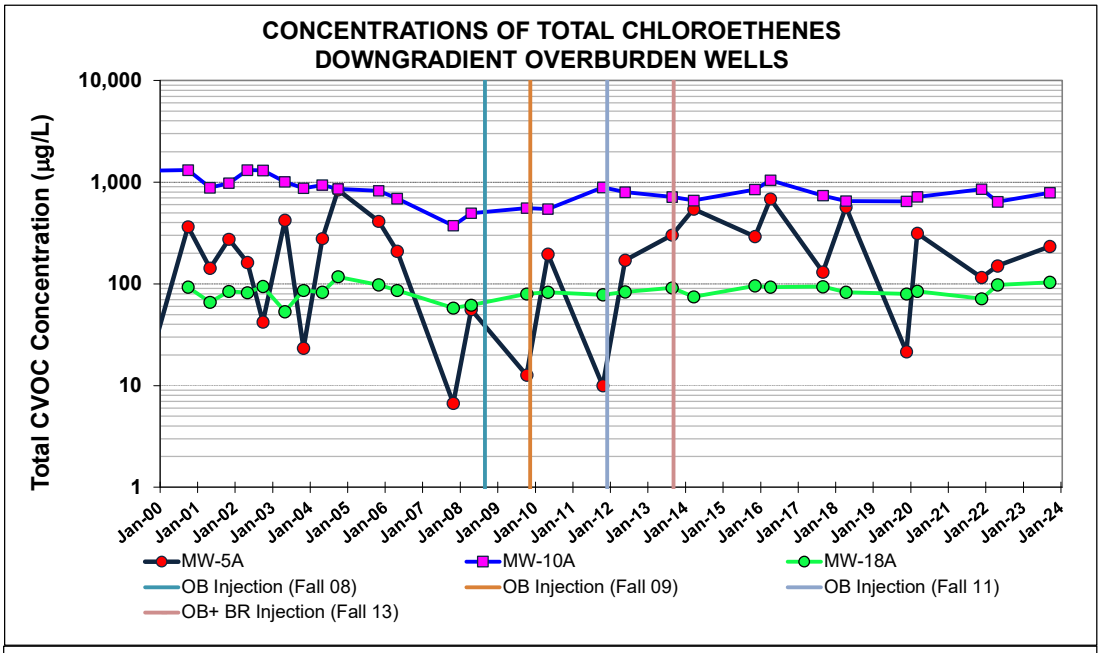
FIGURE 7

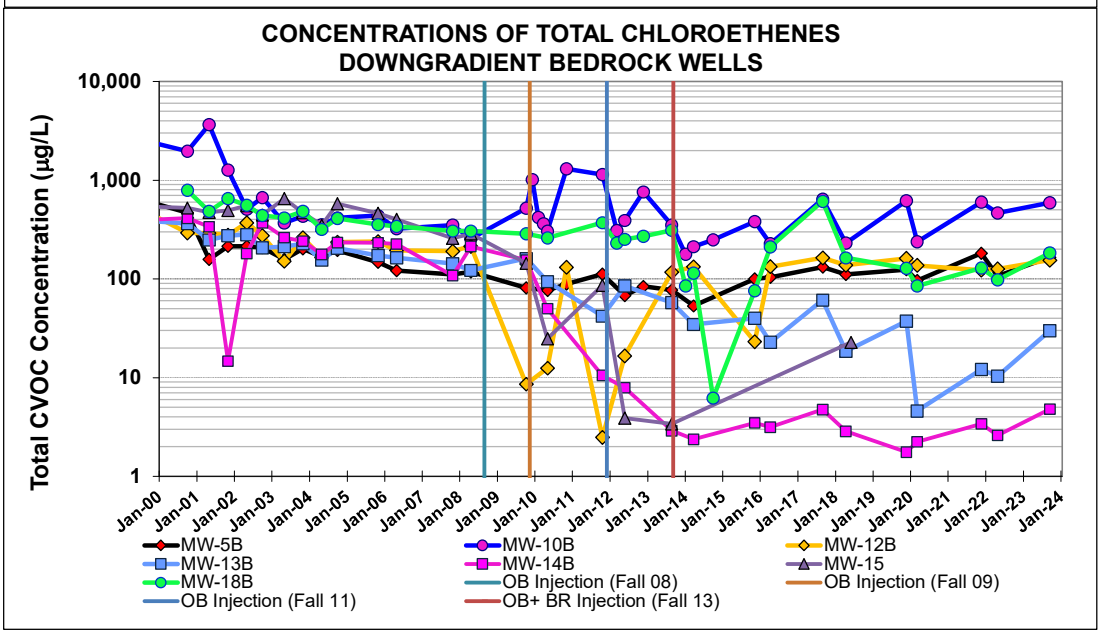
FORMER CARBORUNDUM COMPANY

LONG TERM TRENDS OF TOTAL CHLORINATED ETHENES IN SOURCE AREA OVERBURDEN AND BEDROCK WELLS

AECOM

50 Lakefront Boulevard, Suite 111, Buffalo, New York 14202.





Note:
Total CVOC Concentration is the sum of TCE, cis-1,2-DCE, VC, and DCA concentrations.

FIGURE 8

FORMER CARBORUNDUM COMPANY

LONG TERM TRENDS OF TOTAL CHLORINATED ETHENES IN DOWNGRADIENT OVERBURDEN AND BEDROCK WELLS

AECOM

50 Lakefront Boulevard, Suite 111, Buffalo, New York 14202.

Appendix A

Groundwater Sampling Logs

AECOM

GROUNDWATER SAMPLING LOG

Low Flow Sampling Record

bp

Site Name	Well ID:	Well Diameter:
IP-BP Hyde Park	MW-5A	2"

Samplers:
C. Horrocks
T. Urban

Weather:
75F, Sunny

Water Volume Calculation

1 inch= 0.041	6 inch= 1.4
1.5 inch= 0.092	8 inch= 2.5
2 inch= 0.163	10 inch= 4
4 inch= 0.64	

= (Total Depth of Well - Depth to Water) × Casing volume per foot

Acceptance Criteria:

Temp	3%
pH	± 0.1 unit
Sp. Cond.	3%
ORP	± 10mV
DO	10%
Turbidity	<50 NTU
Drawdown	<0.3'

Purging Data: feet below top of PVC

Method: Low Flow | Date: 10/4/23 | Time: 1056 (hhmm)

Initial Depth to Water	Depth to Bottom
11.61	21.50

Time (hhmm)	DTW (ft)	Pump Rate (ml/min)	Volume (gal.)	Temp (C˚)	Sp. Cond (ms/cm)	DO (mg/L)	pH	ORP (mV)	Turb (NTU)	Comments:
1100	11.98	200	0.00	18.73	0.835	1.83	7.10	-103	16.0	
1105	11.82	200	0.26	18.66	0.831	0.93	6.79	-168	10.5	
1110	11.91	200	0.53	17.77	0.991	0.76	6.79	-175	33.8	
1115	12.06	200	0.79	17.00	0.797	0.71	6.78	-172	36.0	
1120	12.08	200	1.06	16.49	0.788	0.55	6.72	-172	6.7	
1125	12.08	200	1.32	16.53	0.771	0.58	6.76	-166	0.2	
1130	12.08	200	1.59	16.53	0.770	0.56	6.76	-163	0.0	

Sample Collection Method: Peristaltic Pump | **Date:** 10/4/23 | **Time:** 1130 | **Total Volume of Water Purged:** 1.5 gallons

Hach Test Kits

Alkalinity (mg/L)	210
Carbon Dioxide (mg/L)	25
Ferrous Iron (mg/L)	0.04
Hydrogen Sulfide (mg/L)	0.0
1 Well Volume	1.6

Field Dup taken from this well with ID MW-55A @ 1120

Sample Set

Parameter		Bottle	Pres.	Method
VOCs	☑	3-40 mL glass vial	HCL	EPA 8260C
Dissolved Iron	☑	1-250 mL plastic (field filtered)	HNO3	6010C
TOC	☑	2-40mL glass vial	H2SO4	5310C
M.E.E.P.	☑	3-40 mL glass vial	HCL	RSK-175 mod
Nitrate/Nitrite/ Chloride/Sulfate	☑	1-500mL plastic	unpreserved	300, 353.2 300.0_28D
BOD	☑	1-1000 mL plastic	unpreserved	5210B
COD	☑	1-250 mL plastic	H2SO4	410.4
Sulfide	☑	1-500mL plastic	NaOH/Zn Acetate	4500-S2-F

AECOM

GROUNDWATER SAMPLING LOG

Low Flow Sampling Record

bp

Site Name IP-BP Hyde Park	**Well ID:** MW-5B	**Well Diameter:** 2"

Samplers:
C. Horrocks
T. Urban

Weather:
79F, Sunny

Water Volume Calculation

1 inch= 0.041	6 inch= 1.4
1.5 inch= 0.092	8 inch= 2.5
2 inch= 0.163	10 inch= 4
4 inch= 0.64	

= (Total Depth of Well - Depth to Water) × Casing volume per foot

Acceptance Criteria:

Temp	3%
pH	± 0.1 unit
Sp. Cond.	3%
ORP	± 10mV
DO	10%
Turbidity	<50 NTU
Drawdown	<0.3'

Purging Data: feet below top of PVC

Method: Low Flow | **Date:** 10/4/23 | **Time:** 1223 (hhmm)

Initial Depth to Water: 11.14 | **Depth to Bottom:** 39.50

Time (hhmm)	DTW (ft)	Pump Rate (ml/min)	Volume (gal.)	Temp (C˚)	Sp. Cond (ms/cm)	DO (mg/L)	pH	ORP (mV)	Turb (NTU)	Comments:
1225	11.81	250	0.00	31.98	1.83	5.24	6.75	-44	541	
1230	12.58	250	0.33	24.96	2.52	4.18	11.07	-193	395	
1235	13.00	250	0.66	23.69	1.72	2.98	10.89	-181	114	
1240	13.03	250	0.99	23.65	1.06	2.31	10.11	-163	132	
1245	13.04	250	1.32	23.54	1.06	2.09	9.10	-115	190	
1250	13.04	250	1.65	20.94	1.10	1.98	8.55	-94	87.3	
1255	13.04	250	1.98	20.95	1.11	1.82	8.33	-91	67.1	
1300	13.04	250	2.31	20.63	1.13	1.73	8.15	-90	60.7	
1305	13.04	250	2.64	20.61	1.14	1.57	7.95	-86	54.1	
1310	13.04	250	2.97	20.50	1.15	1.45	7.76	-82	62.3	
1315	13.04	250	3.30	20.29	1.16	1.36	7.62	-82	66.1	
1320	13.04	250	3.63	19.39	1.16	1.36	7.58	-87	68.4	
1325	13.04	250	3.96	19.64	1.16	1.08	7.40	-85	40.4	
1330	13.04	250	4.29	19.30	1.16	1.06	7.35	-86	41.3	
1335	13.04	250	4.62	19.20	1.16	1.07	7.34	-86	42.2	

Sample Collection Method: Peristaltic Pump | **Date:** 10/4/23 | **Time:** 1130 | **Total Volume of Water Purged:** 4.66 gallons

Hach Test Kits

Alkalinity (mg/L)	450
Carbon Dioxide (mg/L)	50
Ferrous Iron (mg/L)	0.09
Hydrogen Sulfide (mg/L)	0.0
1 Well Volume	4.62

Sample Set

Parameter		Bottle	Pres.	Method
VOCs	☑	3-40 mL glass vial	HCL	EPA 8260C
Dissolved Iron	☑	1-250 mL plastic (field filtered)	HNO3	6010C
TOC	☑	2-40mL glass vial	H2SO4	5310C
M.E.E.P.	☑	3-40 mL glass vial	HCL	RSK-175 mod
Nitrate/Nitrite/ Chloride/Sulfate	☑	1-500mL plastic	unpreserved	300, 353.2 300.0_28D
BOD	☑	1-1000 mL plastic	unpreserved	5210B
COD	☑	1-250 mL plastic	H2SO4	410.4
Sulfide	☑	1-500mL plastic	NaOH/Zn Acetate	4500-S2-F

AECOM

GROUNDWATER SAMPLING LOG

Low Flow Sampling Record

bp

Site Name	Well ID:	Well Diameter:
IP-BP Hyde Park	MW-6	2"

Samplers:
C. Horrocks
T. Urban

Weather:
80F, Sunny

Water Volume Calculation

1 inch= 0.041	6 inch= 1.4
1.5 inch= 0.092	8 inch= 2.5
2 inch= 0.163	10 inch= 4
4 inch= 0.64	

= (Total Depth of Well - Depth to Water) × Casing volume per foot

Acceptance Criteria:

Temp	3%
pH	± 0.1 unit
Sp. Cond.	3%
ORP	± 10mV
DO	10%
Turbidity	<50 NTU
Drawdown	<0.3'

Purging Data: feet below top of PVC

Method: Low Flow | Date: 10/5/23 | Time: 1342 (hhmm) | Initial Depth to Water: 8.53 | Depth to Bottom: 43.00

Time (hhmm)	DTW (ft)	Pump Rate (ml/min)	Volume (gal.)	Temp (C˚)	Sp. Cond (ms/cm)	DO (mg/L)	pH	ORP (mV)	Turb (NTU)	Comments:
1345	8.84	300	0.00	24.06	1.26	1.50	6.93	-256	0.0	
1350	8.85	300	0.40	14.30	1.19	0.74	6.74	-328	0.0	
1355	8.86	300	0.79	14.28	1.19	0.66	6.73	-336	0.0	
1400	8.86	300	1.19	14.26	1.19	0.58	6.69	-335	0.0	
1405	8.86	300	1.59	14.10	1.18	0.54	6.61	-331	0.0	
1410	8.86	300	1.98	14.69	1.17	0.49	6.61	-333	0.0	
1415	8.86	300	2.38	13.35	1.17	0.52	6.59	-333	0.0	
1420	8.86	300	2.77	13.54	1.17	0.49	6.62	-337	0.0	
1425	8.86	300	3.17	13.43	1.17	0.49	6.62	-339	0.0	

Sample Collection Method: Peristaltic Pump | **Date:** 10/5/23 | **Time:** 1425 | **Total Volume of Water Purged:** 3.20 gallons

Hach Test Kits

Alkalinity (mg/L)	380
Carbon Dioxide (mg/L)	35
Ferrous Iron (mg/L)	0.05
Hydrogen Sulfide (mg/L)	2.0
1 Well Volume	5.62

Sample Set

Parameter		Bottle	Pres.	Method
VOCs	☑	3-40 mL glass vial	HCL	EPA 8260C
Dissolved Iron	☐	1-250 mL plastic (field filtered)	HNO3	6010C
TOC	☐	2-40mL glass vial	H2SO4	5310C
M.E.E.P.	☐	3-40 mL glass vial	HCL	RSK-175 mod
Nitrate/Nitrite/ Chloride/Sulfate	☐	1-500mL plastic	unpreserved	300, 353.2 300.0_28D
BOD	☐	1-1000 mL plastic	unpreserved	5210B
COD	☐	1-250 mL plastic	H2SO4	410.4
Sulfide	☐	1-500mL plastic	NaOH/Zn Acetate	4500-S2-F

AECOM

GROUNDWATER SAMPLING LOG

Low Flow Sampling Record

bp

Site Name	Well ID:	Well Diameter:
IP-BP Hyde Park	MW-7A	2"

Samplers:
C. Horrocks
T. Urban

Weather:
62F, Cloudy

Water Volume Calculation

1 inch= 0.041	6 inch= 1.4
1.5 inch= 0.092	8 inch= 2.5
2 inch= 0.163	10 inch= 4
4 inch= 0.64	

= (Total Depth of Well - Depth to Water) × Casing volume per foot

Acceptance Criteria:

Temp	3%
pH	± 0.1 unit
Sp. Cond.	3%
ORP	± 10mV
DO	10%
Turbidity	<50 NTU
Drawdown	<0.3'

Purging Data: feet below top of PVC

Method: Low Flow | Date: 10/6/23 | Time: 0847 (hhmm)

Initial Depth to Water	Depth to Bottom
8.96	21.85

Time (hhmm)	DTW (ft)	Pump Rate (ml/min)	Volume (gal.)	Temp (C˚)	Sp. Cond (ms/cm)	DO (mg/L)	pH	ORP (mV)	Turb (NTU)	Comments:
0850	10.81	250	0.00	14.34	0.975	1.64	6.14	-336	0.0	
0855	11.70	250	0.33	13.95	0.968	4.08	6.15	-339	0.0	
0900	12.42	250	0.66	13.71	0.952	0.88	6.22	-342	0.0	
0905	12.98	250	0.99	13.65	0.944	0.80	6.20	-342	0.0	
0910	13.41	250	1.32	13.40	0.922	0.85	6.21	-341	0.0	
0915	13.98	250	1.65	13.32	0.921	0.82	6.21	-343	0.0	
0920	14.41	250	1.98	13.23	0.920	0.53	6.20	-349	0.0	
0925	14.73	250	2.31	13.17	0.918	0.49	6.20	-351	0.0	
0930	15.00	250	2.64	13.16	0.919	0.48	6.20	-353	0.0	

Sample Collection Method: Peristaltic Pump | **Date:** 10/6/23 | **Time:** 0930 | **Total Volume of Water Purged:** 2.66 gallons

Hach Test Kits

Alkalinity (mg/L)	600
Carbon Dioxide (mg/L)	50
Ferrous Iron (mg/L)	0.86
Hydrogen Sulfide (mg/L)	2.0
1 Well Volume	2.10

Stable except drawdown, sampling.

Sample Set

Parameter		Bottle	Pres.	Method
VOCs	☑	3-40 mL glass vial	HCL	EPA 8260C
Dissolved Iron	☑	1-250 mL plastic (field filtered)	HNO3	6010C
TOC	☑	2-40mL glass vial	H2SO4	5310C
M.E.E.P.	☑	3-40 mL glass vial	HCL	RSK-175 mod
Nitrate/Nitrite/ Chloride/Sulfate	☑	1-500mL plastic	unpreserved	300, 353.2 300.0_28D
BOD	☑	1-1000 mL plastic	unpreserved	5210B
COD	☑	1-250 mL plastic	H2SO4	410.4
Sulfide	☑	1-500mL plastic	NaOH/Zn Acetate	4500-S2-F

AECOM

GROUNDWATER SAMPLING LOG

Low Flow Sampling Record

bp

Site Name	Well ID:	Well Diameter:
IP-BP Hyde Park	MW-7B	2"

Samplers:
A. Sands
T. Urban

Weather:
62F, Cloudy

Water Volume Calculation

1 inch= 0.041	6 inch= 1.4
1.5 inch= 0.092	8 inch= 2.5
2 inch= 0.163	10 inch= 4
4 inch= 0.64	

= (Total Depth of Well - Depth to Water) × Casing volume per foot

Acceptance Criteria:

Temp	3%
pH	± 0.1 unit
Sp. Cond.	3%
ORP	± 10mV
DO	10%
Turbidity	<50 NTU
Drawdown	<0.3'

Purging Data: feet below top of PVC

Method: Low Flow | Date: 10/6/23 | Time: 0850 (hhmm) | Initial Depth to Water: 9.42 | Depth to Bottom: 43.43

Time (hhmm)	DTW (ft)	Pump Rate (ml/min)	Volume (gal.)	Temp (C˚)	Sp. Cond (ms/cm)	DO (mg/L)	pH	ORP (mV)	Turb (NTU)	Comments:
0850	9.42	300	0.00	15.26	1.54	1.20	7.00	-266	0.0	
0855	9.61	290	0.38	15.09	1.55	0.00	7.16	-269	0.0	
0900	9.59	240	0.70	15.29	1.56	0.00	7.17	-269	0.0	
0905	9.57	250	1.03	15.09	1.56	0.00	7.18	-270	0.0	
0910	9.59	250	1.36	15.15	1.55	0.00	7.18	-272	0.0	
0915	9.59	250	1.69	15.12	1.55	0.00	7.18	-272	0.0	
0920	9.59	250	2.02	15.18	1.55	0.00	7.17	-273	0.0	
0925	9.59	250	2.35	15.05	1.55	0.00	7.17	-274	0.0	

Sample Collection Method: Peristaltic Pump | **Date:** 10/6/23 | **Time:** 0930 | **Total Volume of Water Purged:** 2.35 gallons

Hach Test Kits

Alkalinity (mg/L)	300
Carbon Dioxide (mg/L)	25
Ferrous Iron (mg/L)	0.02
Hydrogen Sulfide (mg/L)	1.5
1 Well Volume	5.54

Sample Set

Parameter		Bottle	Pres.	Method
VOCs	☑	3-40 mL glass vial	HCL	EPA 8260C
Dissolved Iron	☑	1-250 mL plastic (field filtered)	HNO3	6010C
TOC	☑	2-40mL glass vial	H2SO4	5310C
M.E.E.P.	☑	3-40 mL glass vial	HCL	RSK-175 mod
Nitrate/Nitrite/ Chloride/Sulfate	☑	1-500mL plastic	unpreserved	300, 353.2 300.0_28D
BOD	☑	1-1000 mL plastic	unpreserved	5210B
COD	☑	1-250 mL plastic	H2SO4	410.4
Sulfide	☑	1-500mL plastic	NaOH/Zn Acetate	4500-S2-F

AECOM

GROUNDWATER SAMPLING LOG

Low Flow Sampling Record

bp

Site Name	Well ID:	Well Diameter:
IP-BP Hyde Park	MW-10A	2"

Samplers:
A. Sands
T. Urban

Weather:

Water Volume Calculation

1 inch= 0.041	6 inch= 1.4
1.5 inch= 0.092	8 inch= 2.5
2 inch= 0.163	10 inch= 4
4 inch= 0.64	

= (Total Depth of Well - Depth to Water) × Casing volume per foot

Acceptance Criteria:

Temp	3%
pH	± 0.1 unit
Sp. Cond.	3%
ORP	± 10mV
DO	10%
Turbidity	<50 NTU
Drawdown	<0.3'

Purging Data: feet below top of PVC

Method: Low Flow | Date: 10/4/23 | Time: 1215 (hhmm) | Initial Depth to Water: 10.70 | Depth to Bottom: 20.82

Time (hhmm)	DTW (ft)	Pump Rate (ml/min)	Volume (gal.)	Temp (C˚)	Sp. Cond (ms/cm)	DO (mg/L)	pH	ORP (mV)	Turb (NTU)	Comments:
1215	10.70	260	0.00	16.91	1.23	0.00	7.14	-150	219	Rust color
1220	10.91	260	0.34	16.87	1.22	0.00	7.13	-144	68.9	
1225	10.91	260	0.69	16.85	1.21	0.00	7.11	-139	33.3	
1230	10.91	260	1.03	16.57	1.21	0.00	7.11	-137	26.6	
1235	10.91	260	1.37	16.79	1.21	0.00	7.09	-135	2.4	
1240	10.91	260	1.72	16.69	1.21	0.00	7.09	-135	0.0	
1245	10.91	260	2.06	16.68	1.21	0.00	7.09	-134	0.0	

Sample Collection Method: Peristaltic Pump | **Date:** 10/4/23 | **Time:** 1250 | **Total Volume of Water Purged:** 2.50 gallons

Hach Test Kits

Alkalinity (mg/L)	360
Carbon Dioxide (mg/L)	45
Ferrous Iron (mg/L)	1.12
Hydrogen Sulfide (mg/L)	0.0
1 Well Volume	1.65

Sample Set

Parameter		Bottle	Pres.	Method
VOCs	☑	3-40 mL glass vial	HCL	EPA 8260C
Dissolved Iron	☑	1-250 mL plastic (field filtered)	HNO3	6010C
TOC	☑	2-40mL glass vial	H2SO4	5310C
M.E.E.P.	☑	3-40 mL glass vial	HCL	RSK-175 mod
Nitrate/Nitrite/ Chloride/Sulfate	☑	1-500mL plastic	unpreserved	300, 353.2 300.0_28D
BOD	☑	1-1000 mL plastic	unpreserved	5210B
COD	☑	1-250 mL plastic	H2SO4	410.4
Sulfide	☑	1-500mL plastic	NaOH/Zn Acetate	4500-S2-F

AECOM

GROUNDWATER SAMPLING LOG

Low Flow Sampling Record

bp

Site Name	Well ID:	Well Diameter:
IP-BP Hyde Park	MW-10B	4"

Samplers:
A. Sands
T. Urban

Weather:

Water Volume Calculation

1 inch= 0.041	6 inch= 1.4
1.5 inch= 0.092	8 inch= 2.5
2 inch= 0.163	10 inch= 4
4 inch= 0.64	

= (Total Depth of Well - Depth to Water) × Casing volume per foot

Acceptance Criteria:

Temp	3%
pH	± 0.1 unit
Sp. Cond.	3%
ORP	± 10mV
DO	10%
Turbidity	<50 NTU
Drawdown	<0.3'

Purging Data: feet below top of PVC

Method: Low Flow | Date: 10/4/23 | Time: 1054 (hhmm)

Initial Depth to Water	Depth to Bottom
10.10	38.80

Time (hhmm)	DTW (ft)	Pump Rate (ml/min)	Volume (gal.)	Temp (C˚)	Sp. Cond (ms/cm)	DO (mg/L)	pH	ORP (mV)	Turb (NTU)	Comments:
1105	10.10	350	0.00	19.61	1.38	0.44	7.03	-28	0.0	
1110	10.12	450	0.59	17.03	1.44	0.00	6.88	-48	0.0	
1115	10.12	420	1.15	16.63	1.43	0.00	6.84	-52	0.0	
1120	10.12	420	1.70	15.64	1.46	0.00	6.82	-53	0.0	
1125	10.13	420	2.26	15.77	1.46	0.00	6.81	-54	0.0	
1130	10.13	420	2.81	15.65	1.44	0.00	6.81	-54	0.0	
1135	10.13	420	3.37	15.71	1.43	0.00	6.81	-55	0.0	

Sample Collection Method: Peristaltic Pump | **Date:** 10/4/23 | **Time:** 1140 | **Total Volume of Water Purged:** 3.37 gallons

Hach Test Kits

Alkalinity (mg/L)	215
Carbon Dioxide (mg/L)	60
Ferrous Iron (mg/L)	0.11
Hydrogen Sulfide (mg/L)	0.1
1 Well Volume	18.37

Sample Set

Parameter		Bottle	Pres.	Method
VOCs	☑	3-40 mL glass vial	HCL	EPA 8260C
Dissolved Iron	☑	1-250 mL plastic (field filtered)	HNO3	6010C
TOC	☑	2-40mL glass vial	H2SO4	5310C
M.E.E.P.	☑	3-40 mL glass vial	HCL	RSK-175 mod
Nitrate/Nitrite/ Chloride/Sulfate	☑	1-500mL plastic	unpreserved	300, 353.2 300.0_28D
BOD	☑	1-1000 mL plastic	unpreserved	5210B
COD	☑	1-250 mL plastic	H2SO4	410.4
Sulfide	☑	1-500mL plastic	NaOH/Zn Acetate	4500-S2-F

AECOM

GROUNDWATER SAMPLING LOG

Low Flow Sampling Record

bp

Site Name	Well ID:	Well Diameter:
IP-BP Hyde Park	MW-12B	4"

Samplers:
A. Sands
T. Urban

Weather:
70F, Sunny

Water Volume Calculation

1 inch= 0.041	6 inch= 1.4
1.5 inch= 0.092	8 inch= 2.5
2 inch= 0.163	10 inch= 4
4 inch= 0.64	

= (Total Depth of Well - Depth to Water) × Casing volume per foot

Acceptance Criteria:

Temp	3%
pH	± 0.1 unit
Sp. Cond.	3%
ORP	± 10mV
DO	10%
Turbidity	<50 NTU
Drawdown	<0.3'

Purging Data: feet below top of PVC

Method: Low Flow | Date: 10/4/23 | Time: 0925 (hhmm)

Initial Depth to Water: 4.24 | Depth to Bottom: 30.40

Time (hhmm)	DTW (ft)	Pump Rate (ml/min)	Volume (gal.)	Temp (C˚)	Sp. Cond (ms/cm)	DO (mg/L)	pH	ORP (mV)	Turb (NTU)	Comments:
0925	4.24	320	0.00	20.94	0.712	0.37	6.09	201	0.0	Clear
0930	4.24	320	0.42	15.04	1.19	0.00	6.67	53	1.1	Clear
0935	4.24	320	0.85	14.65	1.24	0.00	6.84	-7	1.6	Clear
0940	4.24	320	1.27	14.54	1.24	0.00	6.89	-9	1.5	Clear
0945	4.24	320	1.69	14.32	1.24	0.00	6.92	-17	1.4	Clear
0950	4.24	320	2.11	14.21	1.24	0.00	6.92	-19	1.6	Clear
0955	4.24	320	2.54	14.29	1.24	0.00	6.93	-23	1.2	Clear
1000	4.24	320	2.96	14.27	1.25	0.00	6.94	-26	1.4	Clear

Sample Collection Method: Peristaltic Pump | **Date:** 10/4/23 | **Time:** 1000 | **Total Volume of Water Purged:** 3.00 gallons

Hach Test Kits

Alkalinity (mg/L)	310
Carbon Dioxide (mg/L)	55
Ferrous Iron (mg/L)	0.05
Hydrogen Sulfide (mg/L)	0.1
1 Well Volume	16.74

Sample Set

Parameter		Bottle	Pres.	Method
VOCs	☑	3-40 mL glass vial	HCL	EPA 8260C
Dissolved Iron	☑	1-250 mL plastic (field filtered)	HNO3	6010C
TOC	☑	2-40mL glass vial	H2SO4	5310C
M.E.E.P.	☑	3-40 mL glass vial	HCL	RSK-175 mod
Nitrate/Nitrite/ Chloride/Sulfate	☑	1-500mL plastic	unpreserved	300, 353.2 300.0_28D
BOD	☑	1-1000 mL plastic	unpreserved	5210B
COD	☑	1-250 mL plastic	H2SO4	410.4
Sulfide	☑	1-500mL plastic	NaOH/Zn Acetate	4500-S2-F

AECOM

GROUNDWATER SAMPLING LOG

Low Flow Sampling Record

bp

Site Name	Well ID:	Well Diameter:
IP-BP Hyde Park	MW-13B	2"

Samplers:
A. Sands
T. Urban

Weather:
80F, Sunny

Water Volume Calculation

1 inch= 0.041	6 inch= 1.4
1.5 inch= 0.092	8 inch= 2.5
2 inch= 0.163	10 inch= 4
4 inch= 0.64	

= (Total Depth of Well - Depth to Water) × Casing volume per foot

Acceptance Criteria:

Temp	3%
pH	± 0.1 unit
Sp. Cond.	3%
ORP	± 10mV
DO	10%
Turbidity	<50 NTU
Drawdown	<0.3'

Purging Data: feet below top of PVC

Method: Low Flow | Date: 10/4/23 | Time: 1334 (hhmm) | Initial Depth to Water: 8.60 | Depth to Bottom: 36.55

Time (hhmm)	DTW (ft)	Pump Rate (ml/min)	Volume (gal.)	Temp (C˚)	Sp. Cond (ms/cm)	DO (mg/L)	pH	ORP (mV)	Turb (NTU)	Comments:
1335	8.60	380	0.00	17.68	3.72	0.12	6.99	-135	141	
1340	9.06	360	0.48	16.60	3.36	0.00	7.22	-151	0.0	
1345	9.06	360	0.95	15.96	2.82	0.00	7.24	-151	1000	Innacurate turbidity reading
1350	9.06	360	1.43	15.80	2.65	0.00	7.17	-144	0.0	
1355	9.06	360	1.90	15.68	2.54	0.00	7.12	-139	0.0	
1400	9.06	360	2.38	15.56	2.48	0.00	7.09	-134	0.0	
1405	9.06	360	2.85	15.56	2.34	0.00	7.08	-129	0.0	
1410	9.06	360	3.33	15.57	2.32	0.00	7.08	-125	0.0	

Sample Collection Method: Peristaltic Pump | **Date:** 10/4/23 | **Time:** 1415 | **Total Volume of Water Purged:** 3.33 gallons

Hach Test Kits

Alkalinity (mg/L)	240
Carbon Dioxide (mg/L)	50
Ferrous Iron (mg/L)	0.98
Hydrogen Sulfide (mg/L)	0.0
1 Well Volume	4.56

Sample Set

Parameter		Bottle	Pres.	Method
VOCs	☑	3-40 mL glass vial	HCL	EPA 8260C
Dissolved Iron	☐	1-250 mL plastic (field filtered)	HNO3	6010C
TOC	☐	2-40mL glass vial	H2SO4	5310C
M.E.E.P.	☐	3-40 mL glass vial	HCL	RSK-175 mod
Nitrate/Nitrite/ Chloride/Sulfate	☐	1-500mL plastic	unpreserved	300, 353.2 300.0_28D
BOD	☐	1-1000 mL plastic	unpreserved	5210B
COD	☐	1-250 mL plastic	H2SO4	410.4
Sulfide	☐	1-500mL plastic	NaOH/Zn Acetate	4500-S2-F

AECOM

GROUNDWATER SAMPLING LOG

Low Flow Sampling Record

bp

Site Name	Well ID:	Well Diameter:
IP-BP Hyde Park	MW-14B	2"

Samplers:
C. Horrocks
T. Urban

Weather:
67F, Sunny

Water Volume Calculation

1 inch= 0.041	6 inch= 1.4
1.5 inch= 0.092	8 inch= 2.5
2 inch= 0.163	10 inch= 4
4 inch= 0.64	

= (Total Depth of Well - Depth to Water) × Casing volume per foot

Acceptance Criteria:

Temp	3%
pH	± 0.1 unit
Sp. Cond.	3%
ORP	± 10mV
DO	10%
Turbidity	<50 NTU
Drawdown	<0.3'

Purging Data: feet below top of PVC

Method: Low Flow | Date: 10/4/23 | Time: 0923 (hhmm)

Initial Depth to Water	Depth to Bottom
6.81	31.10

Time (hhmm)	DTW (ft)	Pump Rate (ml/min)	Volume (gal.)	Temp (C˚)	Sp. Cond (ms/cm)	DO (mg/L)	pH	ORP (mV)	Turb (NTU)	Comments:
0925	7.32	200	0.00	19.94	1.23	0.93	5.75	-78	14.2	
0930	7.44	200	0.26	19.78	1.28	0.53	6.14	-184	25.1	
0935	7.46	200	0.53	18.71	1.27	0.55	6.37	-234	19.4	
0940	7.46	200	0.79	18.10	1.26	0.52	6.46	-255	18.6	
0945	7.46	200	1.06	17.29	1.26	0.48	6.47	-252	18.8	
0950	7.48	200	1.32	16.32	1.25	0.38	6.47	-263	10.7	
0955	7.50	200	1.59	16.21	2.26	0.39	6.49	-267	6.4	
1000	7.52	200	1.85	16.17	1.25	0.38	6.48	-265	6,0	

Sample Collection Method: Peristaltic Pump | **Date:** 10/4/23 | **Time:** 1000 | **Total Volume of Water Purged:** 1.75 gallons

Hach Test Kits

Alkalinity (mg/L)	320
Carbon Dioxide (mg/L)	60
Ferrous Iron (mg/L)	0.15
Hydrogen Sulfide (mg/L)	1.0
1 Well Volume	3.96

Sample Set

Parameter		Bottle	Pres.	Method
VOCs	☑	3-40 mL glass vial	HCL	EPA 8260C
Dissolved Iron	☐	1-250 mL plastic (field filtered)	HNO3	6010C
TOC	☐	2-40mL glass vial	H2SO4	5310C
M.E.E.P.	☐	3-40 mL glass vial	HCL	RSK-175 mod
Nitrate/Nitrite/ Chloride/Sulfate	☐	1-500mL plastic	unpreserved	300, 353.2 300.0_28D
BOD	☐	1-1000 mL plastic	unpreserved	5210B
COD	☐	1-250 mL plastic	H2SO4	410.4
Sulfide	☐	1-500mL plastic	NaOH/Zn Acetate	4500-S2-F

AECOM

GROUNDWATER SAMPLING LOG

Low Flow Sampling Record

bp

Site Name	Well ID:	Well Diameter:
IP-BP Hyde Park	MW-16A	2"

Samplers:
C. Horrocks
T. Urban

Weather:
77F, Cloudy

Water Volume Calculation

1 inch= 0.041	6 inch= 1.4
1.5 inch= 0.092	8 inch= 2.5
2 inch= 0.163	10 inch= 4
4 inch= 0.64	

= (Total Depth of Well - Depth to Water) × Casing volume per foot

Acceptance Criteria:

Temp	3%
pH	± 0.1 unit
Sp. Cond.	3%
ORP	± 10mV
DO	10%
Turbidity	<50 NTU
Drawdown	<0.3'

Purging Data: feet below top of PVC

Method: Low Flow | Date: 10/5/23 | Time: 1207 (hhmm)

Initial Depth to Water	Depth to Bottom
3.49	19.25

Time (hhmm)	DTW (ft)	Pump Rate (ml/min)	Volume (gal.)	Temp (C˚)	Sp. Cond (ms/cm)	DO (mg/L)	pH	ORP (mV)	Turb (NTU)	Comments:
1210	4.83	200	0.00	20.80	1.74	1.00	6.68	-185	0.0	
1215	6.27	200	0.26	17.07	1.21	0.83	6.56	-169	0.0	
1220	7.51	200	0.53	17.39	0.99	1.15	6.58	-175	0.0	
1225	9.08	200	0.79	17.33	1.14	1.34	6.49	-181	0.0	
1230	10.49	200	1.06	17.50	1.22	1.38	6.46	-178	0.0	
1235	11.80	200	1.32	17.62	1.24	1.33	6.38	-175	0.0	
1240	12.92	200	1.59	17.50	1.26	1.37	6.35	-179	0.0	
1245	14.07	200	1.85	17.57	1.23	1.32	6.35	-178	0.0	

Sample Collection Method: Peristaltic Pump | **Date:** 10/5/23 | **Time:** 1245 | **Total Volume of Water Purged:** 1.75 gallons

Hach Test Kits

Alkalinity (mg/L)	380
Carbon Dioxide (mg/L)	40
Ferrous Iron (mg/L)	0.35
Hydrogen Sulfide (mg/L)	0.0
1 Well Volume	2.57

Drawdown, but stable. Taking sample.

Sample Set

Parameter		Bottle	Pres.	Method
VOCs	☑	3-40 mL glass vial	HCL	EPA 8260C
Dissolved Iron	☑	1-250 mL plastic (field filtered)	HNO3	6010C
TOC	☑	2-40mL glass vial	H2SO4	5310C
M.E.E.P.	☑	3-40 mL glass vial	HCL	RSK-175 mod
Nitrate/Nitrite/ Chloride/Sulfate	☑	1-500mL plastic	unpreserved	300, 353.2 300.0_28D
BOD	☑	1-1000 mL plastic	unpreserved	5210B
COD	☑	1-250 mL plastic	H2SO4	410.4
Sulfide	☑	1-500mL plastic	NaOH/Zn Acetate	4500-S2-F

AECOM

GROUNDWATER SAMPLING LOG

Low Flow Sampling Record

bp

Site Name	Well ID:	Well Diameter:
IP-BP Hyde Park	MW-16B	2"

Samplers:
C. Horrocks
T. Urban

Weather:
73F, Cloudy

Water Volume Calculation

1 inch= 0.041	6 inch= 1.4
1.5 inch= 0.092	8 inch= 2.5
2 inch= 0.163	10 inch= 4
4 inch= 0.64	

= (Total Depth of Well - Depth to Water) × Casing volume per foot

Acceptance Criteria:

Temp	3%
pH	± 0.1 unit
Sp. Cond.	3%
ORP	± 10mV
DO	10%
Turbidity	<50 NTU
Drawdown	<0.3'

Purging Data:

Method: Low Flow | Date: 10/5/23 | Time: 0952 (hhmm)

Initial Depth to Water (feet below top of PVC)	Depth to Bottom (feet below top of PVC)
5.18	39.12

Time (hhmm)	DTW (ft)	Pump Rate (ml/min)	Volume (gal.)	Temp (C˚)	Sp. Cond (ms/cm)	DO (mg/L)	pH	ORP (mV)	Turb (NTU)	Comments:
0955	5.35	350	0.00	16.74	0.835	8.44	6.69	-291	20.4	
1000	5.50	350	0.46	15.75	0.991	4.43	6.60	-322	21.4	
1005	5.61	350	0.92	14.22	0.984	3.71	6.47	-374	8.8	
1010	5.64	350	1.39	13.94	0.950	2.74	6.38	-386	7.6	
1015	5.64	350	1.85	13.79	0.907	2.30	6.39	-396	5.5	
1020	5.64	350	2.31	13.71	0.942	1.98	6.42	-407	4.3	
1025	5.64	350	2.77	13.63	0.972	1.75	6.41	-413	1.0	
1030	5.64	350	3.24	13.50	0.999	1.53	6.43	-420	0.0	
1035	5.64	350	3.70	13.57	1.02	1.41	6.35	-417	0.0	
1040	5.64	350	4.16	13.61	1.03	1.29	6.36	-420	0.0	
1045	5.64	350	4.62	13.45	1.04	1.19	6.39	-423	0.0	
1050	5.64	350	5.09	13.47	1.05	1.05	6.39	-424	0.0	
1055	5.64	350	5.55	13.59	1.06	0.38	6.38	-424	0.0	
1100	5.64	350	6.01	13.55	1.06	0.38	6.36	-422	0.0	
1105	5.64	350	6.47	13.59	1.05	0.38	6.33	-420	0.0	

Sample Collection Method: Peristaltic Pump | **Date:** 10/5/23 | **Time:** 1105 | **Total Volume of Water Purged:** 6.50 gallons

Hach Test Kits

Alkalinity (mg/L)	400
Carbon Dioxide (mg/L)	75
Ferrous Iron (mg/L)	0.11
Hydrogen Sulfide (mg/L)	75.0
1 Well Volume	5.53

with MS/MSD

Sample Set

Parameter		Bottle	Pres.	Method
VOCs	☑	3-40 mL glass vial	HCL	EPA 8260C
Dissolved Iron	☑	1-250 mL plastic (field filtered)	HNO3	6010C
TOC	☑	2-40mL glass vial	H2SO4	5310C
M.E.E.P.	☑	3-40 mL glass vial	HCL	RSK-175 mod
Nitrate/Nitrite/ Chloride/Sulfate	☑	1-500mL plastic	unpreserved	300, 353.2 300.0_28D
BOD	☑	1-1000 mL plastic	unpreserved	5210B
COD	☑	1-250 mL plastic	H2SO4	410.4
Sulfide	☑	1-500mL plastic	NaOH/Zn Acetate	4500-S2-F

AECOM

GROUNDWATER SAMPLING LOG

Low Flow Sampling Record

bp

Site Name	Well ID:	Well Diameter:
IP-BP Hyde Park	MW-17A	2"

Samplers:
A. Sands
T. Urban

Weather:
73F, Partly Cloudy

Water Volume Calculation

1 inch= 0.041	6 inch= 1.4
1.5 inch= 0.092	8 inch= 2.5
2 inch= 0.163	10 inch= 4
4 inch= 0.64	

= (Total Depth of Well - Depth to Water) × Casing volume per foot

Acceptance Criteria:

Temp	3%
pH	± 0.1 unit
Sp. Cond.	3%
ORP	± 10mV
DO	10%
Turbidity	<50 NTU
Drawdown	<0.3'

Purging Data: feet below top of PVC

Method: Low Flow | Date: 10/5/23 | Time: 1330 (hhmm) | Initial Depth to Water: 5.26 | Depth to Bottom: 16.15

Time (hhmm)	DTW (ft)	Pump Rate (ml/min)	Volume (gal.)	Temp (C˚)	Sp. Cond (ms/cm)	DO (mg/L)	pH	ORP (mV)	Turb (NTU)	Comments:
1330	5.47	250	0.00	21.09	0.855	2.32	7.59	-255	0.0	
1335	5.81	300	0.40	20.61	0.865	1.69	7.54	-255	0.0	
1340	5.76	300	0.79	20.71	0.865	1.57	7.51	-253	0.0	
1345	5.76	300	1.19	21.28	0.872	1.54	7.49	-250	0.0	
1350	5.57	300	1.59	21.30	0.872	1.50	7.48	-250	0.0	
1355	5.76	300	1.98	21.30	0.860	1.51	7.49	-251	0.0	
1400	5.93	300	2.38	21.12	0.860	1.53	7.49	-256	0.0	

Sample Collection Method: Peristaltic Pump | **Date:** 10/5/23 | **Time:** 1405 | **Total Volume of Water Purged:** 2.75 gallons

Hach Test Kits

Alkalinity (mg/L)	550
Carbon Dioxide (mg/L)	25
Ferrous Iron (mg/L)	0.23
Hydrogen Sulfide (mg/L)	0.0
1 Well Volume	1.78

Sample Set

Parameter		Bottle	Pres.	Method
VOCs	☑	3-40 mL glass vial	HCL	EPA 8260C
Dissolved Iron	☑	1-250 mL plastic (field filtered)	HNO3	6010C
TOC	☑	2-40mL glass vial	H2SO4	5310C
M.E.E.P.	☑	3-40 mL glass vial	HCL	RSK-175 mod
Nitrate/Nitrite/ Chloride/Sulfate	☑	1-500mL plastic	unpreserved	300, 353.2 300.0_28D
BOD	☑	1-1000 mL plastic	unpreserved	5210B
COD	☑	1-250 mL plastic	H2SO4	410.4
Sulfide	☑	1-500mL plastic	NaOH/Zn Acetate	4500-S2-F

AECOM

GROUNDWATER SAMPLING LOG

Low Flow Sampling Record

bp

Site Name	Well ID:	Well Diameter:
IP-BP Hyde Park	MW-17B	2"

Samplers:
A. Sands
T. Urban

Weather:
70F, Cloudy

Water Volume Calculation

1 inch= 0.041	6 inch= 1.4
1.5 inch= 0.092	8 inch= 2.5
2 inch= 0.163	10 inch= 4
4 inch= 0.64	

= (Total Depth of Well - Depth to Water) × Casing volume per foot

Acceptance Criteria:

Temp	3%
pH	± 0.1 unit
Sp. Cond.	3%
ORP	± 10mV
DO	10%
Turbidity	<50 NTU
Drawdown	<0.3'

Purging Data: feet below top of PVC

Method: Low Flow | Date: 10/5/23 | Time: 1200 (hhmm)

Initial Depth to Water	Depth to Bottom
6.17	30.92

Time (hhmm)	DTW (ft)	Pump Rate (ml/min)	Volume (gal.)	Temp (C˚)	Sp. Cond (ms/cm)	DO (mg/L)	pH	ORP (mV)	Turb (NTU)	Comments:
1200	6.17	330	0.00	18.02	1.33	0.94	6.59	-284	60.0	
1205	6.17	330	0.44	18.05	1.33	0.89	6.56	-289	52.4	
1210	6.20	330	0.87	19.09	1.30	0.82	6.50	-303	37.6	
1215	6.25	370	1.36	19.24	1.34	0.81	6.64	-316	90.4	
1220	6.25	380	1.86	19.20	1.34	0.82	6.66	-321	33.7	
1225	6.28	400	2.39	19.21	1.37	0.83	6.68	-329	0.0	
1230	6.29	400	2.92	19.25	1.35	0.82	6.68	-332	0.0	
1235	6.29	400	3.45	19.19	1.39	0.84	6.68	-334	0.0	

Sample Collection Method: Peristaltic Pump | **Date:** 10/5/23 | **Time:** 1240 | **Total Volume of Water Purged:** 3.50 gallons

Hach Test Kits

Alkalinity (mg/L)	560
Carbon Dioxide (mg/L)	125
Ferrous Iron (mg/L)	0.21
Hydrogen Sulfide (mg/L)	5.0
1 Well Volume	4.03

Sample Set

Parameter		Bottle	Pres.	Method
VOCs	☑	3-40 mL glass vial	HCL	EPA 8260C
Dissolved Iron	☑	1-250 mL plastic (field filtered)	HNO3	6010C
TOC	☑	2-40mL glass vial	H2SO4	5310C
M.E.E.P.	☑	3-40 mL glass vial	HCL	RSK-175 mod
Nitrate/Nitrite/ Chloride/Sulfate	☑	1-500mL plastic	unpreserved	300, 353.2 300.0_28D
BOD	☑	1-1000 mL plastic	unpreserved	5210B
COD	☑	1-250 mL plastic	H2SO4	410.4
Sulfide	☑	1-500mL plastic	NaOH/Zn Acetate	4500-S2-F

AECOM

GROUNDWATER SAMPLING LOG

Low Flow Sampling Record

bp

Site Name	Well ID:	Well Diameter:
IP-BP Hyde Park	MW-18A	2"

Samplers:
A. Sands
T. Urban

Weather:
68F, Partly Cloudy

Water Volume Calculation

1 inch= 0.041	6 inch= 1.4
1.5 inch= 0.092	8 inch= 2.5
2 inch= 0.163	10 inch= 4
4 inch= 0.64	

= (Total Depth of Well - Depth to Water) × Casing volume per foot

Acceptance Criteria:

Temp	3%
pH	± 0.1 unit
Sp. Cond.	3%
ORP	± 10mV
DO	10%
Turbidity	<50 NTU
Drawdown	<0.3'

Purging Data: feet below top of PVC

Method: Low Flow | Date: 10/5/23 | Time: 1025 (hhmm) | Initial Depth to Water: 6.89 | Depth to Bottom: 17.76

Time (hhmm)	DTW (ft)	Pump Rate (ml/min)	Volume (gal.)	Temp (C˚)	Sp. Cond (ms/cm)	DO (mg/L)	pH	ORP (mV)	Turb (NTU)	Comments:
1025	6.89	300	0.00	18.68	0.918	0.96	7.26	-188	0.0	Broken Turbidity
1030	7.61	175	0.23	19.23	0.917	0.00	7.19	-187	0.0	
1035	7.65	200	0.50	19.25	0.917	0.00	7.17	-186	0.0	
1040	7.71	200	0.76	19.28	0.916	0.00	7.14	-186	0.0	
1045	7.75	200	1.02	19.63	9.908	0.00	7.13	-185	0.0	Flow through cell in sun
1050	7.75	200	1.29	19.45	0.910	0.00	7.13	-185	0.0	
1055	7.75	200	1.55	19.41	0.907	0.00	7.13	-184	0.0	

Sample Collection Method: Peristaltic Pump | **Date:** 10/5/23 | **Time:** 1100 | **Total Volume of Water Purged:** 2.00 gallons

Hach Test Kits

Alkalinity (mg/L)	500
Carbon Dioxide (mg/L)	35
Ferrous Iron (mg/L)	1.88
Hydrogen Sulfide (mg/L)	0.0
1 Well Volume	1.77

Sample Set

Parameter		Bottle	Pres.	Method
VOCs	☑	3-40 mL glass vial	HCL	EPA 8260C
Dissolved Iron	☑	1-250 mL plastic (field filtered)	HNO3	6010C
TOC	☑	2-40mL glass vial	H2SO4	5310C
M.E.E.P.	☑	3-40 mL glass vial	HCL	RSK-175 mod
Nitrate/Nitrite/ Chloride/Sulfate	☑	1-500mL plastic	unpreserved	300, 353.2 300.0_28D
BOD	☑	1-1000 mL plastic	unpreserved	5210B
COD	☑	1-250 mL plastic	H2SO4	410.4
Sulfide	☑	1-500mL plastic	NaOH/Zn Acetate	4500-S2-F

AECOM

GROUNDWATER SAMPLING LOG

Low Flow Sampling Record

bp

Site Name	Well ID:	Well Diameter:
IP-BP Hyde Park	MW-18B	2"

Samplers:
A. Sands
T. Urban

Weather:
68F, Partly Cloudy

Water Volume Calculation

1 inch= 0.041	6 inch= 1.4
1.5 inch= 0.092	8 inch= 2.5
2 inch= 0.163	10 inch= 4
4 inch= 0.64	

= (Total Depth of Well - Depth to Water) × Casing volume per foot

Acceptance Criteria:

Temp	3%
pH	± 0.1 unit
Sp. Cond.	3%
ORP	± 10mV
DO	10%
Turbidity	<50 NTU
Drawdown	<0.3'

Purging Data: feet below top of PVC

Method: Low Flow | Date: 10/5/23 | Time: 0850 (hhmm) | Initial Depth to Water: 6.69 | Depth to Bottom: 37.73

Time (hhmm)	DTW (ft)	Pump Rate (ml/min)	Volume (gal.)	Temp (C˚)	Sp. Cond (ms/cm)	DO (mg/L)	pH	ORP (mV)	Turb (NTU)	Comments:
0850	6.69	370	0.00	15.99	1.40	0.55	6.85	-302	0.0	
0855	7.16	370	0.49	16.27	1.38	0.50	6.87	-313	0.0	
0900	7.16	370	0.98	16.37	1.26	0.69	6.84	-318	0.0	
0905	7.13	370	1.47	16.40	1.42	0.80	6.79	-327	0.0	
0910	7.13	370	1.95	16.48	1.51	0.87	6.79	-332	0.0	
0915	7.16	370	2.44	16.45	1.54	0.90	6.78	-333	0.0	
0920	7.16	370	2.93	16.38	1.44	0.93	6.76	-333	0.0	
0925	7.16	370	3.42	16.37	1.47	0.91	6.73	-333	0.0	
0930	7.16	370	3.91	16.40	1.50	0.88	6.72	-333	0.0	

Sample Collection Method: Peristaltic Pump | **Date:** 10/5/23 | **Time:** 0935 | **Total Volume of Water Purged:** 5.00 gallons

Hach Test Kits

Alkalinity (mg/L)	420
Carbon Dioxide (mg/L)	90
Ferrous Iron (mg/L)	0.12
Hydrogen Sulfide (mg/L)	4.0
1 Well Volume	5.06

Sample Set

Parameter		Bottle	Pres.	Method
VOCs	☑	3-40 mL glass vial	HCL	EPA 8260C
Dissolved Iron	☑	1-250 mL plastic (field filtered)	HNO3	6010C
TOC	☑	2-40mL glass vial	H2SO4	5310C
M.E.E.P.	☑	3-40 mL glass vial	HCL	RSK-175 mod
Nitrate/Nitrite/ Chloride/Sulfate	☑	1-500mL plastic	unpreserved	300, 353.2 300.0_28D
BOD	☑	1-1000 mL plastic	unpreserved	5210B
COD	☑	1-250 mL plastic	H2SO4	410.4
Sulfide	☑	1-500mL plastic	NaOH/Zn Acetate	4500-S2-F

AECOM

GROUNDWATER SAMPLING LOG

Low Flow Sampling Record

bp

Site Name	Well ID:	Well Diameter:
IP-BP Hyde Park	MW-19B	2"

Samplers:
C. Horrocks
T. Urban

Weather:
68F, Sunny

Water Volume Calculation

1 inch= 0.041	6 inch= 1.4
1.5 inch= 0.092	8 inch= 2.5
2 inch= 0.163	10 inch= 4
4 inch= 0.64	

= (Total Depth of Well - Depth to Water) × Casing volume per foot

Acceptance Criteria:

Temp	3%
pH	± 0.1 unit
Sp. Cond.	3%
ORP	± 10mV
DO	10%
Turbidity	<50 NTU
Drawdown	<0.3'

Purging Data: feet below top of PVC

Method: Low Flow | Date: 10/5/23 | Time: 0842 (hhmm) | Initial Depth to Water: 7.34 | Depth to Bottom: 37.65

Time (hhmm)	DTW (ft)	Pump Rate (ml/min)	Volume (gal.)	Temp (C˚)	Sp. Cond (ms/cm)	DO (mg/L)	pH	ORP (mV)	Turb (NTU)	Comments:
0845	7.34	200	0.00	18.93	0.58	1.97	5.83	-77	0.0	
0850	7.36	200	0.26	18.41	0.48	0.70	6.15	-210	0.0	
0855	7.36	200	0.53	17.83	1.32	0.55	6.08	-231	0.0	
0900	7.36	200	0.79	16.11	1.39	0.55	6.18	-275	0.0	
0905	7.36	200	1.06	15.51	1.38	0.52	6.22	-290	0.0	
0910	7.36	200	1.32	15.36	1.37	0.50	6.26	-302	0.0	
0915	7.36	200	1.59	15.41	1.36	0.48	6.26	-308	0.0	
0920	7.36	200	1.85	15.26	1.38	0.48	6.33	-316	0.0	
0925	7.36	200	2.11	15.36	1.38	0.48	6.32	-320	0.0	
0930	7.36	200	2.38	15.46	1.38	0.48	6.32	-325	0.0	

Sample Collection Method: Peristaltic Pump | **Date:** 10/5/23 | **Time:** 0930 | **Total Volume of Water Purged:** 2.25 gallons

Hach Test Kits

Alkalinity (mg/L)	300
Carbon Dioxide (mg/L)	70
Ferrous Iron (mg/L)	0.03
Hydrogen Sulfide (mg/L)	3.0
1 Well Volume	4.94

Sample Set

Parameter		Bottle	Pres.	Method
VOCs	☑	3-40 mL glass vial	HCL	EPA 8260C
Dissolved Iron	☐	1-250 mL plastic (field filtered)	HNO3	6010C
TOC	☐	2-40mL glass vial	H2SO4	5310C
M.E.E.P.	☐	3-40 mL glass vial	HCL	RSK-175 mod
Nitrate/Nitrite/ Chloride/Sulfate	☐	1-500mL plastic	unpreserved	300, 353.2 300.0_28D
BOD	☐	1-1000 mL plastic	unpreserved	5210B
COD	☐	1-250 mL plastic	H2SO4	410.4
Sulfide	☐	1-500mL plastic	NaOH/Zn Acetate	4500-S2-F

Appendix B

Data Usability Summary Report

DATA USABILITY SUMMARY REPORT

FORMER CARBORUNDUM COMPANY
HYDE PARK FACILITY
TOWN OF NIAGARA, NIAGARA COUNTY, NY
SITE ID 932036

Analyses Performed by:

EUROFINS CANTON/BUFFALO
BARBERTON, OHIO/AMHERST, NEW YORK

Prepared by:

AECOM
50 LAKEFRONT DRIVE, SUITE 110
BUFFALO, NY 14202

DECEMBER 2023

TABLE OF CONTENTS

TABLES
(Following Text)

ATTACHMENTS

I. INTRODUCTION

This Data Usability Summary Report (DUSR) has been prepared following the guidelines provided in New York State Department of Environmental Conservation (NYSDEC) Division of Environmental Remediation *DER-10, Technical Guidance for Site Investigation and Remediation, Appendix 2B - Guidance for Data Deliverables and the Development of Data Usability Summary Reports*, May 2010. Discussed in this DUSR are the analytical data for seventeen (17) groundwater samples, one (1) field duplicate, one (1) matrix spike/matrix spike duplicate (MS/MSD) pair, and three (3) trip blanks collected on October 4-6, 2023.

The samples were collected at the former Carborundum Company, Hyde Park Facility site (Site ID Number 932036), located in the Town of Niagara, Niagara County, NY and sent to Eurofins Canton and Buffalo for analysis. Eurofins is a New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP) certified laboratory.

II. ANALYTICAL METHODOLOGIES AND DATA VALIDATION PROCEDURES

The groundwater samples were analyzed for the following parameters (not all samples were analyzed for all parameters/analytes):

Parameter	**Method Number**
Select Chlorinated Volatile Organic Compounds (CVOCs)*	SW8260D
Dissolved Gases (methane, ethane,ethene, and propane)	RSK SOP-175
Dissolved Iron	6010D
Anions (Chloride, Nitrate, Nitrite, and Sulfate)	EPA 300.0
Nitrate-Nitrite	EPA 353.2
Biochemical Oxygen Demand (BOD_5)	SM 5210B
Chemical Oxygen Demand	EPA 410.4
Sulfide	SM 4500-S2E
Total Organic Carbon	SM 5310C

Notes:

* 1,1,1-Trichloroethane, 1,1-dichloroethane, 1,1-dichloroethene, cis-1,2-dichloroethene, trans-1,2-dichloroethene, chloroethane, tetrachloroethene, trichloroethene, and vinyl chloride.

A limited data validation was performed on the samples in accordance with the guidelines in the following USEPA Region II documents:

- *Validating Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry SW-846 Method 8260B & 8260C*, SOP HW-24, Revision 4, October 2014;

- *ICP-AES Data Validation*, SOP HW-3a, Rev. 1, September 2016; and
- *Mercury and Cyanide Data Validation*, SOP HW-3c, Rev. 1, September 2016.

The limited data review included a review of: completeness of all required deliverables; holding times; QC results [blanks, instrument tunes, calibration standards, MS/MSD recoveries, surrogate and internal standard recoveries, duplicate precision, and laboratory control sample (LCS) recoveries] to determine if the data are within the protocol-required QC limits and specifications; a determination that all samples were analyzed using established and agreed upon analytical protocols; an evaluation of the raw data to confirm the results provided in the data summary sheets; and a review of laboratory data qualifiers.

Qualifications applied to the data during the limited data validation include 'UJ' (estimated quantitation limit) and 'J' (estimated result). Definitions of USEPA data qualifiers are presented at the end of this text. The validated analytical results are presented on Table 1 and Table 2. Documentation supporting the qualification of data is presented in Attachment A. Only analytical deviations affecting data usability are discussed in this report.

III. DATA DELIVERABLE COMPLETENESS

Full deliverable data packages (i.e., NYSDEC ASP Category B or equivalent) were provided by the laboratory (where applicable) and included all reporting forms and raw data necessary to fully evaluate and verify the reported analytical results.

IV. SAMPLE RECEIPT/PRESERVATION/HOLDING TIMES

All samples were received by the laboratory intact, properly preserved, and under proper chain-of-custody (COC). All samples were analyzed within the required holding times (HT) with the following exceptions.

Due to a laboratory error the following samples were analyzed outside of the HT for nitrite and nitrate: MW- 7A, MW- 7B, and MW-12B. Due to a laboratory error the following samples were analyzed outside of the HT for BOD_5: MW- 7A and MW- 7B. The results for nitrite, nitrate, and BOD_5 in these samples have been qualified 'J' or "UJ' due to the HT exceedance.

V. NON-CONFORMANCES

Instrument Calibration

The percent difference (%D) between the initial calibration (ICAL) average relative response factor (RRF) and the RRF in the continuing calibration (CCAL) standards were greater than 20% for

VOC chloroethane and showed a decreasing response (low bias). The non-detect results for this compound in samples MW- 6, MW-16A, MW-17A, MW-18A, MW-18B, MW-19B, and TB-100523 were qualified 'UJ'.

Support documentation is presented in Attachment A.

VI. SAMPLE RESULTS AND REPORTING

A field duplicate was collected at location MW-5A. The FD exhibited good field and analytical precision.

All sample results were reported in accordance with method requirements and were adjusted for sample volume (where applicable). Results reported below the QL, but greater than the MDL, are qualified 'J' by the laboratory. Those results being reported from a secondary dilution have been qualified 'D.'

Due to multiple reruns and analyst error, the preservation check VOA vial was used for the diluted analysis of the following samples/analytes: MW- 6 (vinyl chloride), MW-17A (vinyl chloride), and MW-18B [1,2-dichloroethene (cis)]. The results for these compounds have been qualified as estimated 'J' since the analysis was performed on a vial that was previously opened.

Several samples for the VOA analysis were diluted due to the presence of high concentrations of target compounds. All of these samples had detections for one or more of the target compounds. The reporting limits for the non-detect compounds are elevated due to the dilutions utilized.

Several samples were analyzed utilizing dilutions by method 300. The non-detect analytes show elevated detection limits due to the dilutions utilized during the analysis.

VII. SUMMARY

All sample analyses were found to be compliant with the method criteria, except where previously noted. Those results qualified 'UJ' (estimated QL) or 'J' (estimated result) during the data review are considered conditionally usable. All other sample results are usable as reported. AECOM does not recommend the re-collection of any samples at this time.

Prepared By: Ann Marie Kropovitch, Chemist **Date: 12/11/2023**

Reviewed By: Peter R. Fairbanks, Senior Chemist **Date: 12/11/2023**

DEFINITIONS OF USEPA REGION II/ DATA QUALIFIERS

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

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

J- – The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample, but biased low.

UJ – The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R – The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

D – The sample results are reported from a secondary dilution.

TABLE 1
VALIDATED GROUNDWATER SAMPLE ANALYTICAL RESULTS
HYDE PARK FACILITY

Location ID		MW- 5A	MW- 5A	MW- 5B	MW- 6	MW- 7A
Sample ID		MW- 5A	MW-55A	MW- 5B	MW- 6	MW- 7A
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		10/04/23	10/04/23	10/04/23	10/05/23	10/06/23
Parameter	Units		Field Duplicate (1-1)			
Volatile Organic Compounds						
1,1,1-Trichloroethane	UG/L	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	UG/L	1.7	5.0 U	1.0 U	1.0 U	26
1,1-Dichloroethene	UG/L	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene (cis)	UG/L	67	81	24	12	3.5
1,2-Dichloroethene (trans)	UG/L	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	UG/L	1.0 U	5.0 U	1.0 U	1.0 UJ	7.0
Tetrachloroethene	UG/L	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	UG/L	0.49 J	5.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	UG/L	150 D	160	140 D	59 DJ	8.5
Dissolved Gases						
Ethane	UG/L	29	28	0.37 J	NA	26
Ethene	UG/L	35	34	2.6	NA	6.1
Methane	UG/L	2,100	2,100	210	NA	7,800
Propane	UG/L	1.1	1.1	0.73 J	NA	1.0 U
Dissolved Metals						
Iron, Dissolved	UG/L	200 U	200 U	200 U	NA	1,200
Miscellaneous Parameters						
Biochemical Oxygen Demand (BOD)	MG/L	2.0 U	2.0 U	2.0 U	NA	3.8 J
Chemical Oxygen Demand (COD)	MG/L	10 U	10 U	2.8 J	NA	32
Chloride	MG/L	110	110	140	NA	14
Nitrate-Nitrite	MG/L	NA	NA	NA	NA	0.050 U
Nitrate-Nitrogen	MG/L	0.25 U	0.25 U	0.25 U	NA	0.25 UJ
Nitrite-Nitrogen	MG/L	0.25 U	0.25 U	0.25 U	NA	0.25 UJ

Flags assigned during chemistry validation are shown.

Made By: AMK 11/21/23

Detection Limits shown are PQL

TABLE 1
VALIDATED GROUNDWATER SAMPLE ANALYTICAL RESULTS
HYDE PARK FACILITY

Location ID		MW- 5A	MW- 5A	MW- 5B	MW- 6	MW- 7A
Sample ID		MW- 5A	MW-55A	MW- 5B	MW- 6	MW- 7A
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		10/04/23	10/04/23	10/04/23	10/05/23	10/06/23
Parameter	Units		Field Duplicate (1-1)			
Miscellaneous Parameters						
Sulfate (as SO4)	MG/L	66	67	240	NA	140
Sulfide	MG/L	1.0 U	1.0 U	1.0 U	NA	2.9
Total Organic Carbon (TOC)	MG/L	0.97 J	0.98 J	3.2	NA	6.5

Flags assigned during chemistry validation are shown.

Made By: AMK 11/21/23

Detection Limits shown are PQL

Advanced Selection: amk-temp
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TABLE 1
VALIDATED GROUNDWATER SAMPLE ANALYTICAL RESULTS
HYDE PARK FACILITY

Location ID		MW- 7B	MW-10A	MW-10B	MW-12B	MW-13B
Sample ID		MW- 7B	MW-10A	MW-10B	MW-12B	MW-13B
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		10/06/23	10/04/23	10/04/23	10/04/23	10/04/23
Parameter	Units					
Volatile Organic Compounds						
1,1,1-Trichloroethane	UG/L	1.0 U	10 U	5.0 U	1.0 U	1.0 U
1,1-Dichloroethane	UG/L	1.0 U	10 U	5.0 U	1.0 U	1.0 U
1,1-Dichloroethene	UG/L	1.0 U	10 U	5.0 U	1.0 U	1.0 U
1,2-Dichloroethene (cis)	UG/L	1.7	580	320	53	9.9
1,2-Dichloroethene (trans)	UG/L	1.0 U	10 U	5.0 U	1.0 U	1.0 U
Chloroethane	UG/L	1.0 U	10 U	5.0 U	1.0 U	1.0 U
Tetrachloroethene	UG/L	1.0 U	10 U	5.0 U	1.0 U	1.0 U
Trichloroethene	UG/L	1.0 U	7.5 J	5.0 U	1.0 U	1.0 U
Vinyl chloride	UG/L	9.6	190	260	100 D	18
Dissolved Gases						
Ethane	UG/L	1.0 U	5.3	1.3	0.81 J	NA
Ethene	UG/L	1.9	37	40	6.9	NA
Methane	UG/L	170	3,500	3,400	240	NA
Propane	UG/L	1.0 U	1.0 U	3.8	1.0	NA
Dissolved Metals						
Iron, Dissolved	UG/L	200 U	1,200	120 J	200 U	NA
Miscellaneous Parameters						
Biochemical Oxygen Demand (BOD)	MG/L	2.0 UJ	2.2	2.0 U	2.0 U	NA
Chemical Oxygen Demand (COD)	MG/L	13	200	2.4 J	10 U	NA
Chloride	MG/L	250	150	160	170	NA
Nitrate-Nitrite	MG/L	0.050 U	NA	NA	NA	NA
Nitrate-Nitrogen	MG/L	0.25 UJ	0.25 U	0.25 U	0.25 UJ	NA
Nitrite-Nitrogen	MG/L	0.58 J	0.25 U	0.25 U	0.25 UJ	NA

Flags assigned during chemistry validation are shown.

Made By: AMK 11/21/23

Detection Limits shown are PQL

TABLE 1
VALIDATED GROUNDWATER SAMPLE ANALYTICAL RESULTS
HYDE PARK FACILITY

Location ID		MW- 7B	MW-10A	MW-10B	MW-12B	MW-13B
Sample ID		MW- 7B	MW-10A	MW-10B	MW-12B	MW-13B
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		10/06/23	10/04/23	10/04/23	10/04/23	10/04/23
Parameter	Units					
Miscellaneous Parameters						
Sulfate (as SO4)	MG/L	160	130	230	240	NA
Sulfide	MG/L	2.3	1.0 U	0.27 J	1.0 U	NA
Total Organic Carbon (TOC)	MG/L	3.6	2.8	3.5	3.1	NA

Flags assigned during chemistry validation are shown.

Made By: AMK 11/21/23

Detection Limits shown are PQL

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TABLE 1
VALIDATED GROUNDWATER SAMPLE ANALYTICAL RESULTS
HYDE PARK FACILITY

Location ID		MW-14B	MW-16A	MW-16B	MW-17A	MW-17B
Sample ID		MW-14B	MW-16A	MW-16B	MW-17A	MW-17B
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		10/04/23	10/05/23	10/05/23	10/05/23	10/05/23
Parameter	Units					
Volatile Organic Compounds						
1,1,1-Trichloroethane	UG/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	UG/L	1.0 U	1.0 U	1.0 U	11	11
1,1-Dichloroethene	UG/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene (cis)	UG/L	0.60 J	0.98 J	2.5	30	0.90 J
1,2-Dichloroethene (trans)	UG/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	UG/L	1.0 U	1.0 UJ	1.0 U	1.0 UJ	2.7
Tetrachloroethene	UG/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	UG/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	UG/L	2.2	37	7.1	73 DJ	2.2
Dissolved Gases						
Ethane	UG/L	NA	1.8	1.3	8.9	34
Ethene	UG/L	NA	170	4.4	21	5.5
Methane	UG/L	NA	370	12,000	13,000	26,000
Propane	UG/L	NA	1.0 U	1.0 U	1.0 U	1.0 U
Dissolved Metals						
Iron, Dissolved	UG/L	NA	490	200 U	540	160 J
Miscellaneous Parameters						
Biochemical Oxygen Demand (BOD)	MG/L	NA	2.0 U	8.1	4.4	11
Chemical Oxygen Demand (COD)	MG/L	NA	18	32	9.5 J	16
Chloride	MG/L	NA	40	140	16	88
Nitrate-Nitrite	MG/L	NA	NA	NA	NA	NA
Nitrate-Nitrogen	MG/L	NA	1.3	0.25 U	0.25 U	0.25 U
Nitrite-Nitrogen	MG/L	NA	0.25 U	0.25 U	0.25 U	0.25 U

Flags assigned during chemistry validation are shown.

Made By: AMK 11/21/23

Detection Limits shown are PQL

TABLE 1
VALIDATED GROUNDWATER SAMPLE ANALYTICAL RESULTS
HYDE PARK FACILITY

Location ID		MW-14B	MW-16A	MW-16B	MW-17A	MW-17B
Sample ID		MW-14B	MW-16A	MW-16B	MW-17A	MW-17B
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		10/04/23	10/05/23	10/05/23	10/05/23	10/05/23
Parameter	Units					
Miscellaneous Parameters						
Sulfate (as SO4)	MG/L	NA	190	230	41	69
Sulfide	MG/L	NA	1.0 U	7.9	1.0 U	4.5
Total Organic Carbon (TOC)	MG/L	NA	5.0	4.2	2.8	3.6

Flags assigned during chemistry validation are shown.

Made By: AMK 11/21/23

Detection Limits shown are PQL

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TABLE 1
VALIDATED GROUNDWATER SAMPLE ANALYTICAL RESULTS
HYDE PARK FACILITY

Location ID		MW-18A	MW-18B	MW-19B
Sample ID		MW-18A	MW-18B	MW-19B
Matrix		Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-
Date Sampled		10/05/23	10/05/23	10/05/23
Parameter	**Units**			
Volatile Organic Compounds				
1,1,1-Trichloroethane	UG/L	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	UG/L	4.0	1.0 U	1.0 U
1,1-Dichloroethene	UG/L	1.4	1.0 U	1.0 U
1,2-Dichloroethene (cis)	UG/L	57	120 DJ	1.5
1,2-Dichloroethene (trans)	UG/L	0.86 J	0.53 J	1.0 U
Chloroethane	UG/L	1.0 UJ	1.0 UJ	1.0 UJ
Tetrachloroethene	UG/L	1.0 U	1.0 U	1.0 U
Trichloroethene	UG/L	39	1.0 U	1.0 U
Vinyl chloride	UG/L	3.5	61	1.4
Dissolved Gases				
Ethane	UG/L	0.79 J	2.3	NA
Ethene	UG/L	0.66 J	5.0	NA
Methane	UG/L	3,400	22,000	NA
Propane	UG/L	1.0 U	1.0 U	NA
Dissolved Metals				
Iron, Dissolved	UG/L	1,900	170 J	NA
Miscellaneous Parameters				
Biochemical Oxygen Demand (BOD)	MG/L	2.0 U	17	NA
Chemical Oxygen Demand (COD)	MG/L	7.2 J	35	NA
Chloride	MG/L	37	100	NA
Nitrate-Nitrite	MG/L	NA	NA	NA
Nitrate-Nitrogen	MG/L	0.25 U	0.25 U	NA
Nitrite-Nitrogen	MG/L	0.25 U	0.25 U	NA

Flags assigned during chemistry validation are shown.

Made By: AMK 11/21/23

Detection Limits shown are PQL

TABLE 1
VALIDATED GROUNDWATER SAMPLE ANALYTICAL RESULTS
HYDE PARK FACILITY

Location ID		MW-18A	MW-18B	MW-19B
Sample ID		MW-18A	MW-18B	MW-19B
Matrix		Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-
Date Sampled		10/05/23	10/05/23	10/05/23
Parameter	**Units**			
Miscellaneous Parameters				
Sulfate (as SO4)	MG/L	120	180	NA
Sulfide	MG/L	1.0 U	7.7	NA
Total Organic Carbon (TOC)	MG/L	1.4	5.0	NA

Flags assigned during chemistry validation are shown.

Made By: AMK 11/21/23

Detection Limits shown are PQL

Advanced Selection: amk-temp
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[LOGDATE] > #9/1/2023# AND [LOCID] <> 'FIELDQC'

TABLE 2
VALIDATED FIELD QC SAMPLE ANALYTICAL RESULTS
HYDE PARK FACILITY

Location ID		FIELDQC	FIELDQC	FIELDQC
Sample ID		TB-100423	TB-100523	TB-100623
Matrix		Water Quality	Water Quality	Water Quality
Depth Interval (ft)		-	-	-
Date Sampled		10/04/23	10/05/23	10/06/23
Parameter	Units	Trip Blank (1-1)	Trip Blank (1-1)	Trip Blank (1-1)
Volatile Organic Compounds				
1,1,1-Trichloroethane	UG/L	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	UG/L	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	UG/L	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene (cis)	UG/L	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene (trans)	UG/L	1.0 U	1.0 U	1.0 U
Chloroethane	UG/L	1.0 U	1.0 UJ	1.0 U
Tetrachloroethene	UG/L	1.0 U	1.0 U	1.0 U
Trichloroethene	UG/L	1.0 U	1.0 U	1.0 U
Vinyl chloride	UG/L	1.0 U	1.0 U	1.0 U

Flags assigned during chemistry validation are shown.

Made By: AMK 11/21/23

Detection Limits shown are PQL

ATTACHMENT A

SUPPORT DOCUMENTATION

0.9/0.7

Laboratory Management Program LaMP Chain of Custody Record

BP/ARC Project Name: BP IPO

BP/ARC Facility No: BP Hyde Park

Req Due Date (mm/dd/yy):

Rush TAT: Yes ___ No X

Lab Work Order Number:

Lab Name	Test America (Canton, OH)	BP/ARC Facility Address	3425 Hyde Park Blvd	Consultant/Contractor	AECOM
Lab Address	4101 Shuffel Street NW, North Canton, OH 44720	City, State, ZIP Code	Niagara, NY 14305	Consultant/Contractor Project No	60481767.17.14
Lab PM	Lab Contact: Opal Johnson	Lead Regulatory Agency	NYSDEC	Address	257 West Genesee St., Suite 400 Buffalo, NY 14202
Lab Phone	330-497-9396 / 330-497-0772	California Global ID No.		Consultant/Contractor PM	James Kaczor
Lab Shipping Accnt		Enfos Proposal No		Phone	716-923-1300
Lab Bottle Order No		Accounting Mode	Provision ___ OOC-BU ___ OOC-RM ___	Email EDD To	James.Kaczor@aecom.com
Other Info		Stage	Activity	Invoice To	BP/ARC ___ Contractor X
BP/ARC EBM					
EBM Phone					
EBM Email					

Lab No.	Sample Description	Date	Time	Soil / Solid	Water / Liquid	Air / Vapor	Total Number of Containers	Unpreserved	HNO3	HCl	NaoH/Zn-acetate	H2SO4	8260C -VOCs	SM-4500_S2_F -Sulfide	410.4 - COD	RSK 175 - Dissolved Gases	5310 C - TOC	5210-BOD (TA-Buffalo)	300, 353.2, nitrate-nitrite 300.0_28D chloride, sulfate (TA - Buffalo)	6010C - Dissolved Iron (field filtered)	Report Type & QC Level / Note
	MW-14B	10/4/23	1000		X		3			3			3								
	MW-12B	10/4/23	1000		X		13	2	1	6	1	3	3	1	1	3	2	1	1	1	
	MW-55A	10/4/23	1120		X		13	2	1	6	1	3	3	1	1	3	2	1	1	1	
	MW-5A	10/4/23	1130		X		13	2	1	6	1	3	3	1	1	3	2	1	1	1	
	MW-10B	10/4/23	1140		X		13	2	1	6	1	3	3	1	1	3	2	1	1	1	
	MW-10A	10/4/23	1250		X		13	2	1	6	1	3	3	1	1	3	2	1	1	1	
	MW-5B	10/4/23	1335		X		13	2	1	6	1	3	3	1	1	3	2	1	1	1	
	MW-13B	10/4/23	1415		X		3			3			3								
	TB-100423	10/4/23	—		X		2			2			2								Trip Blank

Report Type & QC Level: Standard ___ Full Data Package ___

Note: If san[...] Sample" in[...] and initial a[...] "No [...]e out [...]ription

240-192832 Chain of Custody

Sampler's Name: Tom Orban, Alyssa Sands, Collin Horrocks

Sampler's Company: AECOM

Shipment Method: Dropoff at TA Buffalo, NY Ship Date:

Shipment Tracking No:

Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
[signature] / AECOM	10/4/23	1530	[signature] TA/B	10/4/23	1530
[signature]	10/5/23	1700			

Special Instructions: PO #93607 Line 2: TA Buffalo to ship to TA Canton except short hold bottles 5210-BOD, 300, 353.2, 300.0_28D :

THIS LINE - LAB USE ONLY: Custody Seals In Place: Yes / No | Temp Blank: Yes / No | Cooler Temp on Receipt: ______ °F/C | Trip Blank: Yes / No | MS/MSD Sample Submitted: Yes / No

Job Narrative
240-192832-1

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 are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample 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 10/4/2023 3:30 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice.

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

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

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

General Chemistry
Method 300.0_28D: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-12B (240-192832-2), MW-55A (240-192832-3), MW-5A (240-192832-4), MW-10B (240-192832-5), MW-10A (240-192832-6) and MW-5B (240-192832-7). Elevated reporting limits (RLs) are provided.

Method 300_48HR: The following sample(s) was received with less than 2 days remaining on the holding time or less than one shift (8 hours) remaining on a test with a holding time of 48 hours or less. As such, the laboratory had insufficient time remaining to perform the analysis within holding time: MW-12B (240-192832-2).

Method 300_48HR: The following samples were diluted due to the abundance of non-target analytes: MW-12B (240-192832-2), MW-55A (240-192832-3), MW-5A (240-192832-4), MW-10B (240-192832-5), MW-10A (240-192832-6) and MW-5B (240-192832-7). Elevated reporting limits (RLs) are provided.

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

3.9/3.7

Laboratory Management Program LaMP Chain of Custody Record

BP/ARC Project Name: BP IPO
Req Due Date (mm/dd/yy):
Rush TAT: Yes ___ No X

BP/ARC Facility No: BP Hyde Park
Lab Work Order Number:

Lab Name:	Test America (Canton, OH)	BP/ARC Facility Address:	3425 Hyde Park Blvd	Consultant/Contractor:	AECOM
Lab Address:	4101 Shuffel Street NW, North Canton, OH 44720	City, State, ZIP Code:	Niagara, NY 14305	Consultant/Contractor Project No:	60481767.~~17.14~~ 103
Lab PM:	Lab Contact: Opal Johnson	Lead Regulatory Agency:	NYSDEC	Address:	~~257 West Genesee St., Suite 400 Buffalo, NY 14202~~ 50 Lakefront Blvd, Suite 311 14202
Lab Phone:	330-497-9396 / 330-497-0772	California Global ID No.:		Consultant/Contractor PM:	James Kaczor
Lab Shipping Accnt:		Enfos Proposal No:		Phone:	716-923-1300
Lab Bottle Order No:		Accounting Mode:	Provision ___ OOC-BU ___ OOC-RM ___	Email EDD To:	James.Kaczor@aecom.com
Other Info:		Stage:	Activity:	Invoice To:	BP/ARC ___ Contractor X
BP/ARC EBM:					
EBM Phone:					
EBM Email:					

Lab No.	Sample Description	Date	Time	Matrix: Soil / Solid	Matrix: Water / Liquid	Matrix: Air / Vapor	Matrix:	No. Containers / Preservative: Total Number of Containers	Unpreserved	HNO3	HCl	NaOH/Zn-acetate	H2SO4 H2SO4		Requested Analyses: 8260C - VOCs	SM-4500_S2_F -Sulfide	410.4 - COD	RSK 175 - Dissolved Gases	5310 C - TOC	5210-BOD (TA-Buffalo)	300, 353.2, nitrate-nitrite 300.0_28D chloride, sulfate (TA - Buffalo)	6010C - Dissolved Iron (field filtered)			Report Type & QC Level
	MW-19B	10/5/23	0930		X			3			3				W										
	MW-18B	10/5/23	0935		X			13	2	1	6	1	3		3	1	1	3	2	1	1	1			Standard ___
	MW-18A	10/5/23	1100		X			(3	2	1	6	1	3		3	1	1	3	2	1	1	1			Full Data Package ___
	MW-16B	10/5/23	1105		X			13	2	1	6	1	3		3	1	1	3	2	1	1	1			
	MW-16B-MS	10/5/23	1105		X			13	2	1	6	1	3		3	1	1	3	2	1	1	1			Comments
	MW-16B-MSD	10/5/23	1105		X			13	2	1	6	1	3		3	1	1	3	2	1	1	1			Note: If s... Sample... and initi... te "No rike out scription
	MW-17B	10/5/23	1240		X			13	2	1	6	1	3		3	1	1	3	2	1	1	1			
	MW-16A	10/5/23	1245		X			13	2	1	6	1	3		3	1	1	3	2	1	1	1			
	MW-17A	10/5/23	1405		X			13	2	1	6	1	3		3	1	1	3	2	1	1	1			
	MW-6	10/5/23	1425		X			3			3				3										

240-192991 Chain of Custody

Page 1682 of 1689

Sampler's Name:	Tom Orban, Collin Mariscalco, Alyssa Sands	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Company:	AECOM	[illegible] AECOM	10/5/23	1530	[illegible] Linolb	10/5/23	1530
Shipment Method:	Dropoff at TA Buffalo, NY	[illegible] Linolb	10/5/23	1700	[illegible]	10/6/23	10:00
Shipment Tracking No:	Ship Date:						

Special Instructions: PO #93607 Line 2: TA Buffalo to ship to TA Canton except short hold bottles 5210-BOD, 300, 353.2, 300.0_28D :

THIS LINE - LAB USE ONLY: Custody Seals In Place: Yes / No | Temp Blank: Yes / No | Cooler Temp on Receipt: _____ °F/C | Trip Blank: Yes / No | MS/MSD Sample Submitted: Yes / No

10/23/2023 4:07:27 PM

Laboratory Management Program LaMP Chain of Custody Record

BP/ARC Project Name: BP IPO **Req Due Date (mm/dd/yy):** _____ **Rush TAT:** Yes ___ No X

BP/ARC Facility No: BP Hyde Park **Lab Work Order Number:** _____

Lab Name:	Test America (Canton, OH)	BP/ARC Facility Address:	3425 Hyde Park Blvd	Consultant/Contractor:	AECOM
Lab Address:	4101 Shuffel Street NW, North Canton, OH 44720	City, State, ZIP Code:	Niagara, NY 14305	Consultant/Contractor Project No:	60481767.~~17.14~~ 105
Lab PM:	Lab Contact: Opal Johnson	Lead Regulatory Agency:	NYSDEC	Address:	~~257 West Genesee St.~~, Suite ~~400~~ Buffalo, NY 14202 (30 Lakefront Blvd 111)
Lab Phone:	330-497-9396 / 330-497-0772	California Global ID No.:		Consultant/Contractor PM:	James Kaczor
Lab Shipping Accnt:		Enfos Proposal No:		Phone:	716-923-1300
Lab Bottle Order No:		Accounting Mode:	Provision ___ OOC-BU ___ OOC-RM ___	Email EDD To:	James.Kaczor@aecom.com
Other Info:		Stage:	Activity:	Invoice To:	BP/ARC ___ Contractor X
BP/ARC EBM:					
EBM Phone:					
EBM Email:					

Lab No.	Sample Description	Date	Time	Matrix: Soil / Solid	Matrix: Water / Liquid	Matrix: Air / Vapor		No. Containers / Preservative: Total Number of Containers	Unpreserved	HNO3	HCl	NaoH/Zn-acetate	H3PO4		Requested Analyses: 8260C -VOCs	SM-4500_S2_F -Sulfide	410.4 - COD	RSK 175 - Dissolved Gases	5310 C - TOC	5210-BOD (TA-Buffalo)	300, 353.2, nitrate-nitrite 300.0_28D chloride, sulfate (TA - Buffalo)	6010C - Dissolved Iron (field filtered)			Report Type & QC Level: Comments
	TB-100523	10/5/23	—		X			3			3				3										Trip Blank

Standard ___ Full Data Package ___

Note: If sample not collected, indicate "No Sample" in comments and single-strike out and initial any preprinted sample description

Sampler's Name:	Tom Orban, Collin Horlacks, Alyssa Sands	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Company:	AECOM	[signature] AECOM	10/5/23	1530	[signature] Lwolb	10/5/23	1530
Shipment Method:	Dropoff at TA Buffalo, NY	[signature] Lwolb	10/5/23	1700	[signature]	10-6-23	10:00
Shipment Tracking No:	Ship Date:						

Special Instructions: PO #93607 Line 2: TA Buffalo to ship to TA Canton except short hold bottles 5210-BOD, 300, 353.2, 300.0_28D :

THIS LINE - LAB USE ONLY: Custody Seals In Place: Yes / No | Temp Blank: Yes / No | Cooler Temp on Receipt: _____ °F/C | Trip Blank: Yes / No | MS/MSD Sample Submitted: Yes / No

Job Narrative
240-192991-1

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 are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample 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 10/5/2023 3:30 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice.

GC/MS VOA
Method 8260D: The continuing calibration verification (CCV) analyzed in batch 240-590898 was outside the method criteria for the following analyte(s): Chloroethane. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method 8260D: Two analyses were used to report sample MW-18B (240-192991-2), MW-17A (240-192991-7) and MW-6 (240-192991-8) due to high analyte concentration. Due to multiple re-runs for dilution/analyst error, the voa vial used for the preservation check was used for the re-analysis.

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

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

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

General Chemistry
Method 300.0_28D: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-18B (240-192991-2), MW-18A (240-192991-3), MW-16B (240-192991-4), MW-17B (240-192991-5), MW-16A (240-192991-6) and MW-17A (240-192991-7). Elevated reporting limits (RLs) are provided.

Method 300_48HR: The following samples were diluted due to the abundance of non-target analytes: MW-18B (240-192991-2), MW-18A (240-192991-3), MW-16B (240-192991-4), MW-17B (240-192991-5), MW-16A (240-192991-6) and MW-17A (240-192991-7). Elevated reporting limits (RLs) are provided.

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

FORM V
GC/MS VOA INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Eurofins Cleveland Job No.: 240-192991-1

SDG No.:

Lab File ID: BFB211385.D BFB Injection Date: 10/16/2023

Instrument ID: A3UX21 BFB Injection Time: 09:42

Analysis Batch No.: 590898

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	27.7	
75	30.0 - 60.0 % of mass 95	47.5	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	6.7	
173	Less than 2.0 % of mass 174	0.2	(0.3) 1
174	Greater than 50% of mass 95	79.2	
175	5.0 - 9.0 % of mass 174	6.2	(7.8) 1
176	95.0 - 101.0 % of mass 174	76.6	(96.7) 1
177	5.0 - 9.0 % of mass 176	5.2	(6.8) 2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCVIS 240-590898/3	211386.D	10/16/2023	10:33
	CCV 240-590898/4	211387.D	10/16/2023	10:57
	LCS 240-590898/5	211388.D	10/16/2023	11:22
	LCS 240-590898/6	211389.D	10/16/2023	11:47
	MB 240-590898/8	211391.D	10/16/2023	12:36
TB-100523	240-192991-9	211396.D	10/16/2023	14:40
MW-19B	240-192991-1	211401.D	10/16/2023	16:45
MW-18B	240-192991-2	211402.D	10/16/2023	17:10
MW-18A	240-192991-3	211403.D	10/16/2023	17:35
MW-17B	240-192991-5	211405.D	10/16/2023	18:26
MW-16A	240-192991-6	211406.D	10/16/2023	18:50
MW-17A	240-192991-7	211407.D	10/16/2023	19:16
MW-6	240-192991-8	211408.D	10/16/2023	19:40

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Cleveland Job No.: 240-192991-1

SDG No.:

Lab Sample ID: CCVIS 240-590898/3 Calibration Date: 10/16/2023 10:33

Instrument ID: A3UX21 Calib Start Date: 08/10/2023 10:33

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 08/10/2023 13:50

Lab File ID: 211386.D Conc. Units: ng/uL Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Lin1		0.3152	0.1000	0.0150	0.0125	19.8	20.0
Chloromethane	Ave	0.4073	0.3365	0.1000	0.0103	0.0125	-17.4	20.0
Vinyl chloride	Ave	0.2318	0.2252	0.1000	0.0121	0.0125	-2.8	20.0
Butadiene	Ave	0.3381	0.2755		0.0102	0.0125	-18.5	20.0
Bromomethane	Lin1		0.0971	0.0500	0.0105	0.0125	-15.7	20.0
Chloroethane	Ave	0.1437	0.1127	0.0500	0.00980	0.0125	-21.6*	20.0
Trichlorofluoromethane	Ave	0.2786	0.3604	0.1000	0.0162	0.0125	29.4*	20.0
Dichlorofluoromethane	Ave	0.2873	0.2918		0.0127	0.0125	1.6	20.0
Ethyl ether	Ave	0.2281	0.2483		0.0272	0.0250	8.8	20.0
Acrolein	Lin1		0.0306		0.271	0.125	116.8*	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.1069	0.1278	0.0500	0.0299	0.0250	19.5	20.0
1,1-Dichloroethene	Ave	0.1471	0.1571	0.1000	0.0267	0.0250	6.8	20.0
Acetone	Lin1		0.0684	0.0100	0.0634	0.0500	26.7	50.0
Iodomethane	Ave	0.3770	0.3340		0.0222	0.0250	-11.4	20.0
Carbon disulfide	Ave	0.6531	0.6050	0.1000	0.0232	0.0250	-7.4	20.0
3-Chloro-1-propene	Ave	0.6562	0.7414		0.0282	0.0250	13.0	20.0
Methyl acetate	Ave	0.6313	0.7323	0.0500	0.0580	0.0500	16.0	50.0
Methylene Chloride	Ave	0.3102	0.2706	0.1000	0.0218	0.0250	-12.7	50.0
2-Methyl-2-propanol	Ave	0.0690	0.0751		0.272	0.250	8.8	20.0
Methyl tert-butyl ether	Ave	0.8752	0.8736	0.1000	0.0250	0.0250	-0.2	20.0
trans-1,2-Dichloroethene	Ave	0.3088	0.3123	0.1000	0.0253	0.0250	1.1	20.0
Acrylonitrile	Ave	0.2594	0.2881		0.278	0.250	11.1	20.0
Hexane	Ave	0.4589	0.6578		0.0358	0.0250	43.3*	20.0
1,1-Dichloroethane	Ave	0.6567	0.6270	0.2000	0.0239	0.0250	-4.5	20.0
Vinyl acetate	Ave	0.7720	0.9109		0.0295	0.0250	18.0	20.0
2,2-Dichloropropane	Ave	0.0522	0.0485		0.0232	0.0250	-7.1	20.0
cis-1,2-Dichloroethene	Ave	0.3459	0.3316	0.1000	0.0240	0.0250	-4.1	20.0
2-Butanone (MEK)	Ave	0.0669	0.0755	0.0100	0.0565	0.0500	12.9	50.0
Chlorobromomethane	Ave	0.1622	0.1532		0.0236	0.0250	-5.5	20.0
Tetrahydrofuran	Ave	0.2726	0.3034		0.0556	0.0500	11.3	20.0
Chloroform	Ave	0.5379	0.5239	0.2000	0.0243	0.0250	-2.6	20.0
Cyclohexane	Ave	0.5882	0.6788	0.1000	0.0289	0.0250	15.4	20.0
1,1,1-Trichloroethane	Ave	0.3542	0.3814	0.1000	0.0269	0.0250	7.7	20.0
Carbon tetrachloride	Ave	0.2477	0.3365	0.1000	0.0340	0.0250	35.8*	20.0
1,1-Dichloropropene	Ave	0.3977	0.4270		0.0268	0.0250	7.4	20.0
Benzene	Ave	1.184	1.242	0.5000	0.0262	0.0250	4.9	20.0
1,2-Dichloroethane	Ave	0.4990	0.5009	0.1000	0.0251	0.0250	0.4	20.0
Isobutyl alcohol	Ave	0.0211	0.0332		0.982	0.625	57.0*	20.0
n-Heptane	Ave	0.0479	0.0787		0.0410	0.0250	64.1*	20.0
Trichloroethene	Ave	0.3154	0.2924	0.1500	0.0232	0.0250	-7.3	20.0

Laboratory Management Program LaMP Chain of Custody Record

BP/ARC Project Name: BP IPO
BP/ARC Facility No: BP Hyde Park
Req Due Date (mm/dd/yy):
Rush TAT: Yes ___ No X
Lab Work Order Number:

Lab Name:	Test America (Canton, OH)	BP/ARC Facility Address:	3425 Hyde Park Blvd
Lab Address:	4101 Shuffel Street NW, North Canton, OH 44720	City, State, ZIP Code:	Niagara, NY 14305
Lab PM:	Lab Contact: Opal Johnson	Lead Regulatory Agency:	NYSDEC
Lab Phone:	330-497-9396 / 330-497-0772	California Global ID No.:	
Lab Shipping Accnt:		Enfos Proposal No:	
Lab Bottle Order No:		Accounting Mode:	Provision ___ OOC-BU ___ OOC-RM ___
Other Info:		Stage:	Activity:
BP/ARC EBM:			
EBM Phone:			
EBM Email:			

Consultant/Contractor:	AECOM	
Consultant/Contractor Project No:	60481767.17.14	
Address:	~~257 West Genesee St.~~, Suite ~~400~~ Buffalo, NY 14202 50 Lakefront Blvd 14	
Consultant/Contractor PM:	James Kaczor	
Phone:	716-923-1300	
Email EDD To:	James.Kaczor@aecom.com	
Invoice To:	BP/ARC ___	Contractor X

Lab No.	Sample Description	Date	Time	Matrix: Soil / Solid	Matrix: Water / Liquid	Matrix: Air / Vapor	Matrix:	No. Containers / Preservative: Total Number of Containers	Unpreserved	HNO3	HCl	NaOH/Zn-acetate	H3PO4 ~~H2SO4~~	Requested Analyses: 8260C -VOCs	SM-4500_S2_F -Sulfide	410.4 - COD	RSK 175 - Dissolved Gases	5310 C - TOC	5210-BOD (TA-Buffalo)	300, 353.2, nitrate-nitrite 300.0_28D chloride, sulfate (TA - Buffalo)	6010C - Dissloved Iron (field filtered)			Report Type & QC Level: Comments
	MW-7A	10/6/23	0930		X			13	2	1	6	1	3	3	1	1	3	2	1	1	1			
	MW-7B	10/6/23	0930		X			13	2	1	6	1	3	3	1	1	3	2	1	1	1			
	TB-100623	10/6/23	—		X			1			1			1										Trip Blank

Standard ___
Full Data Package ___

240-193122 Chain of Custody

Sampler's Name:	Tom Orsen Alyssa Sands	Collin Horrocks	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Company:	AECOM							
Shipment Method:	Dropoff at TA Buffalo, NY	Ship Date:						
Shipment Tracking No:								
			Collin Horrocks / AECOM	10/6/23	1100	TAB	10-6-23	1100

Special Instructions: PO #93607 Line 2: TA Buffalo to ship to TA Canton except short hold bottles 5210-BOD, 300, 353.2, 300.0_28D

THIS LINE - LAB USE ONLY: Custody Seals In Place: Yes / No | Temp Blank: Yes / No | Cooler Temp on Receipt: 3.1 °F/C | Trip Blank: Yes / No | MS/MSD Sample Submitted: Yes / No

Job Narrative
240-193122-1

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 are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample 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 10/6/2023 5:00 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice.

General Chemistry
Method 300.0_28D: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-7A (240-193122-1) and MW-7B (240-193122-2). Elevated reporting limits (RLs) are provided.

Method 300_48HR: The following samples were diluted due to the abundance of non-target analytes: MW-7A (240-193122-1), MW-7B (240-193122-2) and (480-213342-I-12). Elevated reporting limits (RLs) are provided.

Method 300_48HR: The following samples were analyzed outside of analytical holding time due to received outside of holding time : MW-7A (240-193122-1) and MW-7B (240-193122-2).

Method 5210B: The following samples were analyzed outside of analytical holding time due to lab error: MW-7A (240-193122-1) and MW-7B (240-193122-2).

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

Laboratory Management Program LaMP Chain of Custody Record

3-8|37

Page 1 of 1

BP/ARC Project Name: BP IPO
Req Due Date (mm/dd/yy):
Rush TAT: Yes ___ No X

BP/ARC Facility No: BP Hyde Park
Lab Work Order Number:

Lab Name:	Test America (Canton, OH)	BP/ARC Facility Address:	3425 Hyde Park Blvd	Consultant/Contractor:	AECOM
Lab Address:	4101 Shuffel Street NW, North Canton, OH 44720	City, State, ZIP Code:	Niagara, NY 14305	Consultant/Contractor Project No:	60481767.17.14
Lab PM:	Lab Contact: Opal Johnson	Lead Regulatory Agency:	NYSDEC	Address:	~~257 West Genesee St.~~ 50 Lakefront Blvd, Suite ~~400~~ 101 Buffalo, NY 14202
Lab Phone:	330-497-9396 / 330-497-0772	California Global ID No.:		Consultant/Contractor PM:	James Kaczor
Lab Shipping Accnt:		Enfos Proposal No:		Phone:	716-923-1300
Lab Bottle Order No:		Accounting Mode:	Provision ___ OOC-BU ___ OOC-RM ___	Email EDD To:	James.Kaczor@aecom.com
Other Info:		Stage:	Activity:	Invoice To:	BP/ARC ___ Contractor X
BP/ARC EBM:					
EBM Phone:					
EBM Email:					

Lab No.	Sample Description	Date	Time	Matrix: Soil / Solid	Matrix: Water / Liquid	Matrix: Air / Vapor	No. Containers / Preservative: Total Number of Containers	Unpreserved	HNO3	HCl	NaOH/Zn-acetate	~~H3PO4~~ H_2SO_4	8260C -VOCs	SM-4500_S2_F -Sulfide	410.4 - COD	RSK 175 - Dissolved Gases	5310 C - TOC	5210-BOD (TA-Buffalo)	300, 353.2, nitrate-nitrite 300.0_28D chloride, sulfate (TA - Buffalo)	6010C - Dissloved Iron (field filtered)			Report Type & QC Level / Comments
	MW-7A	10/6/23	0930		X		13	2	1	6	1	3	3	1	1	3	2	1	1	1			
	MW-7B	10/6/23	0930		X		13	2	1	6	1	3	3	1	1	3	2	1	1	1			
	TB-100623	10/6/23	—		X		1			1			1										Trip Blank

Standard ___
Full Data Package ___

Comments
Note: If sample not collected, indicate "No Sample" in comments and single-strike out and initial any preprinted sample description.

Sampler's Name:	Tom Orban, Alyssa Sands, Collin Horrocks	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Company:	AECOM						
Shipment Method:	Dropoff at TA Buffalo, NY	Ship Date:					
Shipment Tracking No:							

Special Instructions: PO #93607 Line 2: TA Buffalo to ship to TA Canton except short hold bottles 5210-BOD, 300, 353.2, 300.0_28D :

THIS LINE - LAB USE ONLY: Custody Seals In Place: Yes / No | Temp Blank: Yes / No | Cooler Temp on Receipt: _____ °F/C | Trip Blank: Yes / No | MS/MSD Sample Submitted: Yes / No

Job Narrative
240-193238-1

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 are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample 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 10/10/2023 9:40 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 3.7°C

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

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

Metals
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.

Appendix C

Laboratory Analytical Data Packages

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Ms. Ann Marie Kropovitch
AECOM
50 Lakefront Bouelvard
Suite 111
Buffalo, New York 14202

Generated 10/19/2023 1:49:12 PM

JOB DESCRIPTION

BP Hyde Park

JOB NUMBER

240-192832-1

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton OH 44203

See page two for job notes and contact information.

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 North Central, LLC Project Manager.

Authorization

Generated
10/19/2023 1:49:12 PM

Authorized for release by
Opal Johnson, Project Manager II
Opal.Johnson@et.eurofinsus.com
(330)966-9279

Table of Contents

Definitions/Glossary

Client: AECOM
Job ID: 240-192832-1
Project/Site: BP Hyde Park

Qualifiers

GC/MS VOA

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

GC VOA

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

Metals

Qualifier	Qualifier Description
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	Result Detected in the Unseeded Control blank (USB).
H	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.
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

Job ID: 240-192832-1

Laboratory: Eurofins Cleveland

Narrative

Job Narrative
240-192832-1

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 are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample 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 10/4/2023 3:30 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice.

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

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

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

General Chemistry
Method 300.0_28D: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-12B (240-192832-2), MW-55A (240-192832-3), MW-5A (240-192832-4), MW-10B (240-192832-5), MW-10A (240-192832-6) and MW-5B (240-192832-7). Elevated reporting limits (RLs) are provided.

Method 300_48HR: The following sample(s) was received with less than 2 days remaining on the holding time or less than one shift (8 hours) remaining on a test with a holding time of 48 hours or less. As such, the laboratory had insufficient time remaining to perform the analysis within holding time: MW-12B (240-192832-2).

Method 300_48HR: The following samples were diluted due to the abundance of non-target analytes: MW-12B (240-192832-2), MW-55A (240-192832-3), MW-5A (240-192832-4), MW-10B (240-192832-5), MW-10A (240-192832-6) and MW-5B (240-192832-7). Elevated reporting limits (RLs) are provided.

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

Method Summary

Client: AECOM
Job ID: 240-192832-1
Project/Site: BP Hyde Park

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET CLE
RSK-175	Dissolved Gases (GC)	RSK	EET CLE
6010D	Metals (ICP)	SW846	EET CLE
300.0	Anions, Ion Chromatography	EPA	EET BUF
410.4-1993 R2.0	COD	MCAWW	EET CLE
4500 S2 F-2000	Sulfide, Total	SM	EET CLE
5310C-2000	Total Organic Carbon/Persulfate - Ultrav	SM	EET CLE
SM 5210B	BOD, 5-Day	SM	EET BUF
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	EET CLE
5030C	Purge and Trap	SW846	EET CLE

Protocol References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique , RSKSOP-175, Rev. 0, 8/11/94, USEPA Research Lab

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

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

Laboratory References:

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

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

Sample Summary

Client: AECOM
Project/Site: BP Hyde Park

Job ID: 240-192832-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-192832-1	MW-14B	Water	10/04/23 10:00	10/04/23 15:30
240-192832-2	MW-12B	Water	10/04/23 10:00	10/04/23 15:30
240-192832-3	MW-55A	Water	10/04/23 11:20	10/04/23 15:30
240-192832-4	MW-5A	Water	10/04/23 11:30	10/04/23 15:30
240-192832-5	MW-10B	Water	10/04/23 11:40	10/04/23 15:30
240-192832-6	MW-10A	Water	10/04/23 12:50	10/04/23 15:30
240-192832-7	MW-5B	Water	10/04/23 13:35	10/04/23 15:30
240-192832-8	MW-13B	Water	10/04/23 14:15	10/04/23 15:30
240-192832-9	TB-100423	Water	10/04/23 00:00	10/04/23 15:30

Detection Summary

Client: AECOM
Project/Site: BP Hyde Park

Job ID: 240-192832-1

Client Sample ID: MW-14B — Lab Sample ID: 240-192832-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.60	J	1.0	0.46	ug/L	1		8260D	Total/NA
Vinyl chloride	2.2		1.0	0.45	ug/L	1		8260D	Total/NA

Client Sample ID: MW-12B — Lab Sample ID: 240-192832-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	53		1.0	0.46	ug/L	1		8260D	Total/NA
Vinyl chloride	100		2.0	0.90	ug/L	2		8260D	Total/NA
Methane	240		1.0	0.17	ug/L	1		RSK-175	Total/NA
Ethane	0.81	J	1.0	0.29	ug/L	1		RSK-175	Total/NA
Ethylene	6.9		1.0	0.12	ug/L	1		RSK-175	Total/NA
Propane	1.0		1.0	0.38	ug/L	1		RSK-175	Total/NA
Chloride	170		2.5	1.4	mg/L	5		300.0	Total/NA
Sulfate	240		10	1.7	mg/L	5		300.0	Total/NA
Total Organic Carbon	3.1		1.0	0.44	mg/L	1		5310C-2000	Total/NA

Client Sample ID: MW-55A — Lab Sample ID: 240-192832-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	81		5.0	2.3	ug/L	5		8260D	Total/NA
Vinyl chloride	160		5.0	2.3	ug/L	5		8260D	Total/NA
Methane	2100		1.0	0.17	ug/L	1		RSK-175	Total/NA
Ethane	28		1.0	0.29	ug/L	1		RSK-175	Total/NA
Ethylene	34		1.0	0.12	ug/L	1		RSK-175	Total/NA
Propane	1.1		1.0	0.38	ug/L	1		RSK-175	Total/NA
Chloride	110		2.5	1.4	mg/L	5		300.0	Total/NA
Sulfate	67		10	1.7	mg/L	5		300.0	Total/NA
Total Organic Carbon	0.98	J	1.0	0.44	mg/L	1		5310C-2000	Total/NA

Client Sample ID: MW-5A — Lab Sample ID: 240-192832-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethane	1.7		1.0	0.47	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene	67		1.0	0.46	ug/L	1		8260D	Total/NA
Trichloroethene	0.49	J	1.0	0.44	ug/L	1		8260D	Total/NA
Vinyl chloride	150		5.0	2.3	ug/L	5		8260D	Total/NA
Methane	2100		1.0	0.17	ug/L	1		RSK-175	Total/NA
Ethane	29		1.0	0.29	ug/L	1		RSK-175	Total/NA
Ethylene	35		1.0	0.12	ug/L	1		RSK-175	Total/NA
Propane	1.1		1.0	0.38	ug/L	1		RSK-175	Total/NA
Chloride	110		2.5	1.4	mg/L	5		300.0	Total/NA
Sulfate	66		10	1.7	mg/L	5		300.0	Total/NA
Total Organic Carbon	0.97	J	1.0	0.44	mg/L	1		5310C-2000	Total/NA

Client Sample ID: MW-10B — Lab Sample ID: 240-192832-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	320		5.0	2.3	ug/L	5		8260D	Total/NA
Vinyl chloride	260		5.0	2.3	ug/L	5		8260D	Total/NA
Methane	3400		1.0	0.17	ug/L	1		RSK-175	Total/NA
Ethane	1.3		1.0	0.29	ug/L	1		RSK-175	Total/NA
Ethylene	40		1.0	0.12	ug/L	1		RSK-175	Total/NA
Propane	3.8		1.0	0.38	ug/L	1		RSK-175	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM
Project/Site: BP Hyde Park

Job ID: 240-192832-1

Client Sample ID: MW-10B (Continued) — Lab Sample ID: 240-192832-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	120	J	200	83	ug/L	1		6010D	Dissolved
Chloride	160		2.5	1.4	mg/L	5		300.0	Total/NA
Sulfate	230		10	1.7	mg/L	5		300.0	Total/NA
Chemical Oxygen Demand	2.4	J	10	1.8	mg/L	1		410.4-1993 R2.0	Total/NA
Sulfide	0.27	J	1.0	0.27	mg/L	1		4500 S2 F-2000	Total/NA
Total Organic Carbon	3.5		1.0	0.44	mg/L	1		5310C-2000	Total/NA

Client Sample ID: MW-10A — Lab Sample ID: 240-192832-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	580		10	4.6	ug/L	10		8260D	Total/NA
Trichloroethene	7.5	J	10	4.4	ug/L	10		8260D	Total/NA
Vinyl chloride	190		10	4.5	ug/L	10		8260D	Total/NA
Methane	3500		1.0	0.17	ug/L	1		RSK-175	Total/NA
Ethane	5.3		1.0	0.29	ug/L	1		RSK-175	Total/NA
Ethylene	37		1.0	0.12	ug/L	1		RSK-175	Total/NA
Iron	1200		200	83	ug/L	1		6010D	Dissolved
Chloride	150		2.5	1.4	mg/L	5		300.0	Total/NA
Sulfate	130		10	1.7	mg/L	5		300.0	Total/NA
Chemical Oxygen Demand	200		100	18	mg/L	10		410.4-1993 R2.0	Total/NA
Total Organic Carbon	2.8		1.0	0.44	mg/L	1		5310C-2000	Total/NA
Biochemical Oxygen Demand	2.2	b	2.0	2.0	mg/L	1		SM 5210B	Total/NA

Client Sample ID: MW-5B — Lab Sample ID: 240-192832-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	24		1.0	0.46	ug/L	1		8260D	Total/NA
Vinyl chloride	140		5.0	2.3	ug/L	5		8260D	Total/NA
Methane	210		1.0	0.17	ug/L	1		RSK-175	Total/NA
Ethane	0.37	J	1.0	0.29	ug/L	1		RSK-175	Total/NA
Ethylene	2.6		1.0	0.12	ug/L	1		RSK-175	Total/NA
Propane	0.73	J	1.0	0.38	ug/L	1		RSK-175	Total/NA
Chloride	140		2.5	1.4	mg/L	5		300.0	Total/NA
Sulfate	240		10	1.7	mg/L	5		300.0	Total/NA
Chemical Oxygen Demand	2.8	J	10	1.8	mg/L	1		410.4-1993 R2.0	Total/NA
Total Organic Carbon	3.2		1.0	0.44	mg/L	1		5310C-2000	Total/NA

Client Sample ID: MW-13B — Lab Sample ID: 240-192832-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	9.9		1.0	0.46	ug/L	1		8260D	Total/NA
Vinyl chloride	18		1.0	0.45	ug/L	1		8260D	Total/NA

Client Sample ID: TB-100423 — Lab Sample ID: 240-192832-9

No Detections.

This Detection Summary does not include radiochemical test results.

Client: AECOM
Project/Site: BP Hyde Park

Job ID: 240-192832-1

Client Sample ID: MW-14B
Date Collected: 10/04/23 10:00
Date Received: 10/04/23 15:30

Lab Sample ID: 240-192832-1
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.48	ug/L			10/17/23 06:48	1
1,1-Dichloroethane	ND		1.0	0.47	ug/L			10/17/23 06:48	1
1,1-Dichloroethene	ND		1.0	0.49	ug/L			10/17/23 06:48	1
Chloroethane	ND		1.0	0.83	ug/L			10/17/23 06:48	1
cis-1,2-Dichloroethene	**0.60**	**J**	1.0	0.46	ug/L			10/17/23 06:48	1
Tetrachloroethene	ND		1.0	0.44	ug/L			10/17/23 06:48	1
trans-1,2-Dichloroethene	ND		1.0	0.51	ug/L			10/17/23 06:48	1
Trichloroethene	ND		1.0	0.44	ug/L			10/17/23 06:48	1
Vinyl chloride	**2.2**		1.0	0.45	ug/L			10/17/23 06:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*78 - 122*		*10/17/23 06:48*	*1*
Dibromofluoromethane (Surr)	*94*		*73 - 120*		*10/17/23 06:48*	*1*
4-Bromofluorobenzene (Surr)	*98*		*56 - 136*		*10/17/23 06:48*	*1*
1,2-Dichloroethane-d4 (Surr)	*94*		*62 - 137*		*10/17/23 06:48*	*1*

Client: AECOM
Project/Site: BP Hyde Park

Job ID: 240-192832-1

Client Sample ID: MW-12B

Date Collected: 10/04/23 10:00
Date Received: 10/04/23 15:30

Lab Sample ID: 240-192832-2

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.48	ug/L			10/17/23 07:13	1
1,1-Dichloroethane	ND		1.0	0.47	ug/L			10/17/23 07:13	1
1,1-Dichloroethene	ND		1.0	0.49	ug/L			10/17/23 07:13	1
Chloroethane	ND		1.0	0.83	ug/L			10/17/23 07:13	1
cis-1,2-Dichloroethene	**53**		1.0	0.46	ug/L			10/17/23 07:13	1
Tetrachloroethene	ND		1.0	0.44	ug/L			10/17/23 07:13	1
trans-1,2-Dichloroethene	ND		1.0	0.51	ug/L			10/17/23 07:13	1
Trichloroethene	ND		1.0	0.44	ug/L			10/17/23 07:13	1
Vinyl chloride	**100**		2.0	0.90	ug/L			10/17/23 20:41	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*78 - 122*		*10/17/23 07:13*	*1*
Toluene-d8 (Surr)	*101*		*78 - 122*		*10/17/23 20:41*	*2*
Dibromofluoromethane (Surr)	*95*		*73 - 120*		*10/17/23 07:13*	*1*
Dibromofluoromethane (Surr)	*98*		*73 - 120*		*10/17/23 20:41*	*2*
4-Bromofluorobenzene (Surr)	*96*		*56 - 136*		*10/17/23 07:13*	*1*
4-Bromofluorobenzene (Surr)	*97*		*56 - 136*		*10/17/23 20:41*	*2*
1,2-Dichloroethane-d4 (Surr)	*94*		*62 - 137*		*10/17/23 07:13*	*1*
1,2-Dichloroethane-d4 (Surr)	*98*		*62 - 137*		*10/17/23 20:41*	*2*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	**240**		1.0	0.17	ug/L			10/10/23 19:11	1
Ethane	**0.81**	**J**	1.0	0.29	ug/L			10/10/23 19:11	1
Ethylene	**6.9**		1.0	0.12	ug/L			10/10/23 19:11	1
Propane	**1.0**		1.0	0.38	ug/L			10/10/23 19:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,1,1-Trifluoroethane	*100*		*60 - 140*		*10/10/23 19:11*	*1*

Method: SW846 6010D - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		200	83	ug/L		10/11/23 14:00	10/12/23 12:20	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**170**		2.5	1.4	mg/L			10/06/23 10:37	5
Nitrate as N (EPA 300.0)	ND	H	0.25	0.13	mg/L			10/06/23 10:37	5
Nitrite as N (EPA 300.0)	ND	H	0.25	0.13	mg/L			10/06/23 10:37	5
Sulfate (EPA 300.0)	**240**		10	1.7	mg/L			10/06/23 10:37	5
Chemical Oxygen Demand (MCAWW 410.4-1993 R2.0)	ND		10	1.8	mg/L			10/11/23 12:58	1
Sulfide (SM 4500 S2 F-2000)	ND		1.0	0.27	mg/L			10/06/23 15:52	1
Total Organic Carbon (SM 5310C-2000)	**3.1**		1.0	0.44	mg/L			10/11/23 01:18	1
Biochemical Oxygen Demand (SM 5210B)	ND		2.0	2.0	mg/L			10/05/23 21:08	1

Client: AECOM
Project/Site: BP Hyde Park

Job ID: 240-192832-1

Client Sample ID: MW-55A

Date Collected: 10/04/23 11:20
Date Received: 10/04/23 15:30

Lab Sample ID: 240-192832-3

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	2.4	ug/L			10/17/23 07:39	5
1,1-Dichloroethane	ND		5.0	2.4	ug/L			10/17/23 07:39	5
1,1-Dichloroethene	ND		5.0	2.5	ug/L			10/17/23 07:39	5
Chloroethane	ND		5.0	4.2	ug/L			10/17/23 07:39	5
cis-1,2-Dichloroethene	**81**		5.0	2.3	ug/L			10/17/23 07:39	5
Tetrachloroethene	ND		5.0	2.2	ug/L			10/17/23 07:39	5
trans-1,2-Dichloroethene	ND		5.0	2.6	ug/L			10/17/23 07:39	5
Trichloroethene	ND		5.0	2.2	ug/L			10/17/23 07:39	5
Vinyl chloride	**160**		5.0	2.3	ug/L			10/17/23 07:39	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*78 - 122*		*10/17/23 07:39*	*5*
Dibromofluoromethane (Surr)	*90*		*73 - 120*		*10/17/23 07:39*	*5*
4-Bromofluorobenzene (Surr)	*94*		*56 - 136*		*10/17/23 07:39*	*5*
1,2-Dichloroethane-d4 (Surr)	*90*		*62 - 137*		*10/17/23 07:39*	*5*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	**2100**		1.0	0.17	ug/L			10/10/23 19:28	1
Ethane	**28**		1.0	0.29	ug/L			10/10/23 19:28	1
Ethylene	**34**		1.0	0.12	ug/L			10/10/23 19:28	1
Propane	**1.1**		1.0	0.38	ug/L			10/10/23 19:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,1,1-Trifluoroethane	*100*		*60 - 140*		*10/10/23 19:28*	*1*

Method: SW846 6010D - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		200	83	ug/L		10/11/23 14:00	10/12/23 12:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**110**		2.5	1.4	mg/L			10/06/23 10:55	5
Nitrate as N (EPA 300.0)	ND		0.25	0.13	mg/L			10/06/23 10:55	5
Nitrite as N (EPA 300.0)	ND		0.25	0.13	mg/L			10/06/23 10:55	5
Sulfate (EPA 300.0)	**67**		10	1.7	mg/L			10/06/23 10:55	5
Chemical Oxygen Demand (MCAWW 410.4-1993 R2.0)	ND		10	1.8	mg/L			10/11/23 12:58	1
Sulfide (SM 4500 S2 F-2000)	ND		1.0	0.27	mg/L			10/06/23 15:52	1
Total Organic Carbon (SM 5310C-2000)	**0.98**	**J**	1.0	0.44	mg/L			10/11/23 01:56	1
Biochemical Oxygen Demand (SM 5210B)	ND		2.0	2.0	mg/L			10/05/23 21:08	1

Client: AECOM
Project/Site: BP Hyde Park

Job ID: 240-192832-1

Client Sample ID: MW-5A
Date Collected: 10/04/23 11:30
Date Received: 10/04/23 15:30

Lab Sample ID: 240-192832-4
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.48	ug/L			10/17/23 08:05	1
1,1-Dichloroethane	**1.7**		1.0	0.47	ug/L			10/17/23 08:05	1
1,1-Dichloroethene	ND		1.0	0.49	ug/L			10/17/23 08:05	1
Chloroethane	ND		1.0	0.83	ug/L			10/17/23 08:05	1
cis-1,2-Dichloroethene	**67**		1.0	0.46	ug/L			10/17/23 08:05	1
Tetrachloroethene	ND		1.0	0.44	ug/L			10/17/23 08:05	1
trans-1,2-Dichloroethene	ND		1.0	0.51	ug/L			10/17/23 08:05	1
Trichloroethene	**0.49**	**J**	1.0	0.44	ug/L			10/17/23 08:05	1
Vinyl chloride	**150**		5.0	2.3	ug/L			10/17/23 21:07	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*78 - 122*		*10/17/23 08:05*	*1*
Toluene-d8 (Surr)	*99*		*78 - 122*		*10/17/23 21:07*	*5*
Dibromofluoromethane (Surr)	*95*		*73 - 120*		*10/17/23 08:05*	*1*
Dibromofluoromethane (Surr)	*94*		*73 - 120*		*10/17/23 21:07*	*5*
4-Bromofluorobenzene (Surr)	*99*		*56 - 136*		*10/17/23 08:05*	*1*
4-Bromofluorobenzene (Surr)	*99*		*56 - 136*		*10/17/23 21:07*	*5*
1,2-Dichloroethane-d4 (Surr)	*94*		*62 - 137*		*10/17/23 08:05*	*1*
1,2-Dichloroethane-d4 (Surr)	*98*		*62 - 137*		*10/17/23 21:07*	*5*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	**2100**		1.0	0.17	ug/L			10/10/23 19:45	1
Ethane	**29**		1.0	0.29	ug/L			10/10/23 19:45	1
Ethylene	**35**		1.0	0.12	ug/L			10/10/23 19:45	1
Propane	**1.1**		1.0	0.38	ug/L			10/10/23 19:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,1,1-Trifluoroethane	*101*		*60 - 140*		*10/10/23 19:45*	*1*

Method: SW846 6010D - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		200	83	ug/L		10/11/23 14:00	10/12/23 12:37	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**110**		2.5	1.4	mg/L			10/06/23 11:13	5
Nitrate as N (EPA 300.0)	ND		0.25	0.13	mg/L			10/06/23 11:13	5
Nitrite as N (EPA 300.0)	ND		0.25	0.13	mg/L			10/06/23 11:13	5
Sulfate (EPA 300.0)	**66**		10	1.7	mg/L			10/06/23 11:13	5
Chemical Oxygen Demand (MCAWW 410.4-1993 R2.0)	ND		10	1.8	mg/L			10/11/23 12:58	1
Sulfide (SM 4500 S2 F-2000)	ND		1.0	0.27	mg/L			10/06/23 15:52	1
Total Organic Carbon (SM 5310C-2000)	**0.97**	**J**	1.0	0.44	mg/L			10/11/23 02:09	1
Biochemical Oxygen Demand (SM 5210B)	ND		2.0	2.0	mg/L			10/05/23 21:08	1

Client: AECOM
Project/Site: BP Hyde Park

Job ID: 240-192832-1

Client Sample ID: MW-10B

Date Collected: 10/04/23 11:40
Date Received: 10/04/23 15:30

Lab Sample ID: 240-192832-5

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	2.4	ug/L			10/17/23 08:30	5
1,1-Dichloroethane	ND		5.0	2.4	ug/L			10/17/23 08:30	5
1,1-Dichloroethene	ND		5.0	2.5	ug/L			10/17/23 08:30	5
Chloroethane	ND		5.0	4.2	ug/L			10/17/23 08:30	5
cis-1,2-Dichloroethene	**320**		5.0	2.3	ug/L			10/17/23 08:30	5
Tetrachloroethene	ND		5.0	2.2	ug/L			10/17/23 08:30	5
trans-1,2-Dichloroethene	ND		5.0	2.6	ug/L			10/17/23 08:30	5
Trichloroethene	ND		5.0	2.2	ug/L			10/17/23 08:30	5
Vinyl chloride	**260**		5.0	2.3	ug/L			10/17/23 08:30	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*78 - 122*		*10/17/23 08:30*	*5*
Dibromofluoromethane (Surr)	*90*		*73 - 120*		*10/17/23 08:30*	*5*
4-Bromofluorobenzene (Surr)	*93*		*56 - 136*		*10/17/23 08:30*	*5*
1,2-Dichloroethane-d4 (Surr)	*89*		*62 - 137*		*10/17/23 08:30*	*5*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	**3400**		1.0	0.17	ug/L			10/10/23 20:19	1
Ethane	**1.3**		1.0	0.29	ug/L			10/10/23 20:19	1
Ethylene	**40**		1.0	0.12	ug/L			10/10/23 20:19	1
Propane	**3.8**		1.0	0.38	ug/L			10/10/23 20:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,1,1-Trifluoroethane	*98*		*60 - 140*		*10/10/23 20:19*	*1*

Method: SW846 6010D - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**120**	**J**	200	83	ug/L		10/11/23 14:00	10/12/23 12:41	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**160**		2.5	1.4	mg/L			10/06/23 11:31	5
Nitrate as N (EPA 300.0)	ND		0.25	0.13	mg/L			10/06/23 11:31	5
Nitrite as N (EPA 300.0)	ND		0.25	0.13	mg/L			10/06/23 11:31	5
Sulfate (EPA 300.0)	**230**		10	1.7	mg/L			10/06/23 11:31	5
Chemical Oxygen Demand (MCAWW 410.4-1993 R2.0)	**2.4**	**J**	10	1.8	mg/L			10/11/23 12:58	1
Sulfide (SM 4500 S2 F-2000)	**0.27**	**J**	1.0	0.27	mg/L			10/06/23 15:52	1
Total Organic Carbon (SM 5310C-2000)	**3.5**		1.0	0.44	mg/L			10/11/23 02:22	1
Biochemical Oxygen Demand (SM 5210B)	ND		2.0	2.0	mg/L			10/05/23 21:08	1

Client: AECOM
Project/Site: BP Hyde Park

Job ID: 240-192832-1

Client Sample ID: MW-10A
Date Collected: 10/04/23 12:50
Date Received: 10/04/23 15:30

Lab Sample ID: 240-192832-6
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		10	4.8	ug/L			10/17/23 08:55	10
1,1-Dichloroethane	ND		10	4.7	ug/L			10/17/23 08:55	10
1,1-Dichloroethene	ND		10	4.9	ug/L			10/17/23 08:55	10
Chloroethane	ND		10	8.3	ug/L			10/17/23 08:55	10
cis-1,2-Dichloroethene	**580**		10	4.6	ug/L			10/17/23 08:55	10
Tetrachloroethene	ND		10	4.4	ug/L			10/17/23 08:55	10
trans-1,2-Dichloroethene	ND		10	5.1	ug/L			10/17/23 08:55	10
Trichloroethene	**7.5**	**J**	10	4.4	ug/L			10/17/23 08:55	10
Vinyl chloride	**190**		10	4.5	ug/L			10/17/23 08:55	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*78 - 122*		*10/17/23 08:55*	*10*
Dibromofluoromethane (Surr)	*93*		*73 - 120*		*10/17/23 08:55*	*10*
4-Bromofluorobenzene (Surr)	*96*		*56 - 136*		*10/17/23 08:55*	*10*
1,2-Dichloroethane-d4 (Surr)	*92*		*62 - 137*		*10/17/23 08:55*	*10*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	**3500**		1.0	0.17	ug/L			10/10/23 20:36	1
Ethane	**5.3**		1.0	0.29	ug/L			10/10/23 20:36	1
Ethylene	**37**		1.0	0.12	ug/L			10/10/23 20:36	1
Propane	ND		1.0	0.38	ug/L			10/10/23 20:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,1,1-Trifluoroethane	*99*		*60 - 140*		*10/10/23 20:36*	*1*

Method: SW846 6010D - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**1200**		200	83	ug/L		10/11/23 14:00	10/12/23 12:46	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**150**		2.5	1.4	mg/L			10/06/23 11:49	5
Nitrate as N (EPA 300.0)	ND		0.25	0.13	mg/L			10/06/23 11:49	5
Nitrite as N (EPA 300.0)	ND		0.25	0.13	mg/L			10/06/23 11:49	5
Sulfate (EPA 300.0)	**130**		10	1.7	mg/L			10/06/23 11:49	5
Chemical Oxygen Demand (MCAWW 410.4-1993 R2.0)	**200**		100	18	mg/L			10/11/23 12:58	10
Sulfide (SM 4500 S2 F-2000)	ND		1.0	0.27	mg/L			10/06/23 15:52	1
Total Organic Carbon (SM 5310C-2000)	**2.8**		1.0	0.44	mg/L			10/11/23 03:01	1
Biochemical Oxygen Demand (SM 5210B)	**2.2**	**b**	2.0	2.0	mg/L			10/05/23 21:08	1

Client: AECOM
Project/Site: BP Hyde Park

Job ID: 240-192832-1

Client Sample ID: MW-5B
Date Collected: 10/04/23 13:35
Date Received: 10/04/23 15:30

Lab Sample ID: 240-192832-7
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.48	ug/L			10/17/23 09:21	1
1,1-Dichloroethane	ND		1.0	0.47	ug/L			10/17/23 09:21	1
1,1-Dichloroethene	ND		1.0	0.49	ug/L			10/17/23 09:21	1
Chloroethane	ND		1.0	0.83	ug/L			10/17/23 09:21	1
cis-1,2-Dichloroethene	**24**		1.0	0.46	ug/L			10/17/23 09:21	1
Tetrachloroethene	ND		1.0	0.44	ug/L			10/17/23 09:21	1
trans-1,2-Dichloroethene	ND		1.0	0.51	ug/L			10/17/23 09:21	1
Trichloroethene	ND		1.0	0.44	ug/L			10/17/23 09:21	1
Vinyl chloride	**140**		5.0	2.3	ug/L			10/17/23 21:32	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*78 - 122*		*10/17/23 09:21*	*1*
Toluene-d8 (Surr)	*100*		*78 - 122*		*10/17/23 21:32*	*5*
Dibromofluoromethane (Surr)	*91*		*73 - 120*		*10/17/23 09:21*	*1*
Dibromofluoromethane (Surr)	*96*		*73 - 120*		*10/17/23 21:32*	*5*
4-Bromofluorobenzene (Surr)	*94*		*56 - 136*		*10/17/23 09:21*	*1*
4-Bromofluorobenzene (Surr)	*98*		*56 - 136*		*10/17/23 21:32*	*5*
1,2-Dichloroethane-d4 (Surr)	*91*		*62 - 137*		*10/17/23 09:21*	*1*
1,2-Dichloroethane-d4 (Surr)	*98*		*62 - 137*		*10/17/23 21:32*	*5*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	**210**		1.0	0.17	ug/L			10/10/23 20:53	1
Ethane	**0.37**	**J**	1.0	0.29	ug/L			10/10/23 20:53	1
Ethylene	**2.6**		1.0	0.12	ug/L			10/10/23 20:53	1
Propane	**0.73**	**J**	1.0	0.38	ug/L			10/10/23 20:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,1,1-Trifluoroethane	*98*		*60 - 140*		*10/10/23 20:53*	*1*

Method: SW846 6010D - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		200	83	ug/L		10/11/23 14:00	10/12/23 12:50	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**140**		2.5	1.4	mg/L			10/06/23 12:07	5
Nitrate as N (EPA 300.0)	ND		0.25	0.13	mg/L			10/06/23 12:07	5
Nitrite as N (EPA 300.0)	ND		0.25	0.13	mg/L			10/06/23 12:07	5
Sulfate (EPA 300.0)	**240**		10	1.7	mg/L			10/06/23 12:07	5
Chemical Oxygen Demand (MCAWW 410.4-1993 R2.0)	**2.8**	**J**	10	1.8	mg/L			10/11/23 12:58	1
Sulfide (SM 4500 S2 F-2000)	ND		1.0	0.27	mg/L			10/06/23 15:52	1
Total Organic Carbon (SM 5310C-2000)	**3.2**		1.0	0.44	mg/L			10/11/23 03:14	1
Biochemical Oxygen Demand (SM 5210B)	ND		2.0	2.0	mg/L			10/05/23 21:08	1

Client: AECOM
Project/Site: BP Hyde Park

Job ID: 240-192832-1

Client Sample ID: MW-13B
Date Collected: 10/04/23 14:15
Date Received: 10/04/23 15:30

Lab Sample ID: 240-192832-8
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.48	ug/L			10/18/23 11:34	1
1,1-Dichloroethane	ND		1.0	0.47	ug/L			10/18/23 11:34	1
1,1-Dichloroethene	ND		1.0	0.49	ug/L			10/18/23 11:34	1
Chloroethane	ND		1.0	0.83	ug/L			10/18/23 11:34	1
cis-1,2-Dichloroethene	**9.9**		1.0	0.46	ug/L			10/18/23 11:34	1
Tetrachloroethene	ND		1.0	0.44	ug/L			10/18/23 11:34	1
trans-1,2-Dichloroethene	ND		1.0	0.51	ug/L			10/18/23 11:34	1
Trichloroethene	ND		1.0	0.44	ug/L			10/18/23 11:34	1
Vinyl chloride	**18**		1.0	0.45	ug/L			10/18/23 11:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*78 - 122*		*10/18/23 11:34*	*1*
Dibromofluoromethane (Surr)	*93*		*73 - 120*		*10/18/23 11:34*	*1*
4-Bromofluorobenzene (Surr)	*97*		*56 - 136*		*10/18/23 11:34*	*1*
1,2-Dichloroethane-d4 (Surr)	*93*		*62 - 137*		*10/18/23 11:34*	*1*

Client: AECOM
Project/Site: BP Hyde Park

Job ID: 240-192832-1

Client Sample ID: TB-100423
Date Collected: 10/04/23 00:00
Date Received: 10/04/23 15:30

Lab Sample ID: 240-192832-9
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.48	ug/L			10/17/23 00:52	1
1,1-Dichloroethane	ND		1.0	0.47	ug/L			10/17/23 00:52	1
1,1-Dichloroethene	ND		1.0	0.49	ug/L			10/17/23 00:52	1
Chloroethane	ND		1.0	0.83	ug/L			10/17/23 00:52	1
cis-1,2-Dichloroethene	ND		1.0	0.46	ug/L			10/17/23 00:52	1
Tetrachloroethene	ND		1.0	0.44	ug/L			10/17/23 00:52	1
trans-1,2-Dichloroethene	ND		1.0	0.51	ug/L			10/17/23 00:52	1
Trichloroethene	ND		1.0	0.44	ug/L			10/17/23 00:52	1
Vinyl chloride	ND		1.0	0.45	ug/L			10/17/23 00:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*78 - 122*		*10/17/23 00:52*	*1*
Dibromofluoromethane (Surr)	*93*		*73 - 120*		*10/17/23 00:52*	*1*
4-Bromofluorobenzene (Surr)	*99*		*56 - 136*		*10/17/23 00:52*	*1*
1,2-Dichloroethane-d4 (Surr)	*93*		*62 - 137*		*10/17/23 00:52*	*1*

Surrogate Summary

Client: AECOM
Project/Site: BP Hyde Park

Job ID: 240-192832-1

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

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		TOL	DBFM	BFB	DCA
Lab Sample ID	Client Sample ID	(78-122)	(73-120)	(56-136)	(62-137)
240-192832-1	MW-14B	101	94	98	94
240-192832-2	MW-12B	100	95	96	94
240-192832-2	MW-12B	101	98	97	98
240-192832-3	MW-55A	98	90	94	90
240-192832-4	MW-5A	102	95	99	94
240-192832-4	MW-5A	99	94	99	98
240-192832-5	MW-10B	98	90	93	89
240-192832-6	MW-10A	100	93	96	92
240-192832-7	MW-5B	99	91	94	91
240-192832-7	MW-5B	100	96	98	98
240-192832-7 MS	MW-5B	98	94	96	92
240-192832-7 MSD	MW-5B	99	94	97	92
240-192832-8	MW-13B	102	93	97	93
240-192832-9	TB-100423	102	93	99	93
LCS 240-590956/5	Lab Control Sample	100	96	101	93
LCS 240-591030/5	Lab Control Sample	99	91	95	91
LCS 240-591190/5	Lab Control Sample	101	97	97	93
MB 240-590956/9	Method Blank	99	92	96	93
MB 240-591030/9	Method Blank	101	93	98	93
MB 240-591190/9	Method Blank	99	94	94	95

Surrogate Legend

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

Method: RSK-175 - Dissolved Gases (GC)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		TFE1
Lab Sample ID	Client Sample ID	(60-140)
240-192832-2	MW-12B	100
240-192832-3	MW-55A	100
240-192832-4	MW-5A	101
240-192832-5	MW-10B	98
240-192832-6	MW-10A	99
240-192832-7	MW-5B	98
LCS 240-590261/4	Lab Control Sample	103
LCSD 240-590261/5	Lab Control Sample Dup	104
MB 240-590261/3	Method Blank	107

Surrogate Legend

TFE = 1,1,1-Trifluoroethane

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

Lab Sample ID: MB 240-590956/9
Matrix: Water
Analysis Batch: 590956

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.48	ug/L			10/17/23 00:26	1
1,1-Dichloroethane	ND		1.0	0.47	ug/L			10/17/23 00:26	1
1,1-Dichloroethene	ND		1.0	0.49	ug/L			10/17/23 00:26	1
Chloroethane	ND		1.0	0.83	ug/L			10/17/23 00:26	1
cis-1,2-Dichloroethene	ND		1.0	0.46	ug/L			10/17/23 00:26	1
Tetrachloroethene	ND		1.0	0.44	ug/L			10/17/23 00:26	1
trans-1,2-Dichloroethene	ND		1.0	0.51	ug/L			10/17/23 00:26	1
Trichloroethene	ND		1.0	0.44	ug/L			10/17/23 00:26	1
Vinyl chloride	ND		1.0	0.45	ug/L			10/17/23 00:26	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*78 - 122*		*10/17/23 00:26*	*1*
Dibromofluoromethane (Surr)	*92*		*73 - 120*		*10/17/23 00:26*	*1*
4-Bromofluorobenzene (Surr)	*96*		*56 - 136*		*10/17/23 00:26*	*1*
1,2-Dichloroethane-d4 (Surr)	*93*		*62 - 137*		*10/17/23 00:26*	*1*

Lab Sample ID: LCS 240-590956/5
Matrix: Water
Analysis Batch: 590956

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	20.0	18.0		ug/L		90	64 - 131
1,1-Dichloroethane	20.0	19.1		ug/L		96	72 - 127
1,1-Dichloroethene	20.0	20.3		ug/L		102	63 - 134
Chloroethane	20.0	17.7		ug/L		88	38 - 152
cis-1,2-Dichloroethene	20.0	18.5		ug/L		93	77 - 123
Tetrachloroethene	20.0	18.9		ug/L		94	76 - 123
trans-1,2-Dichloroethene	20.0	19.1		ug/L		95	75 - 124
Trichloroethene	20.0	17.9		ug/L		89	70 - 122
Vinyl chloride	20.0	20.8		ug/L		104	60 - 144

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*100*		*78 - 122*
Dibromofluoromethane (Surr)	*96*		*73 - 120*
4-Bromofluorobenzene (Surr)	*101*		*56 - 136*
1,2-Dichloroethane-d4 (Surr)	*93*		*62 - 137*

Lab Sample ID: MB 240-591030/9
Matrix: Water
Analysis Batch: 591030

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.48	ug/L			10/17/23 16:52	1
1,1-Dichloroethane	ND		1.0	0.47	ug/L			10/17/23 16:52	1
1,1-Dichloroethene	ND		1.0	0.49	ug/L			10/17/23 16:52	1
Chloroethane	ND		1.0	0.83	ug/L			10/17/23 16:52	1
cis-1,2-Dichloroethene	ND		1.0	0.46	ug/L			10/17/23 16:52	1
Tetrachloroethene	ND		1.0	0.44	ug/L			10/17/23 16:52	1

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

Lab Sample ID: MB 240-591030/9
Matrix: Water
Analysis Batch: 591030

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	ND		1.0	0.51	ug/L			10/17/23 16:52	1
Trichloroethene	ND		1.0	0.44	ug/L			10/17/23 16:52	1
Vinyl chloride	ND		1.0	0.45	ug/L			10/17/23 16:52	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*78 - 122*		*10/17/23 16:52*	*1*
Dibromofluoromethane (Surr)	*93*		*73 - 120*		*10/17/23 16:52*	*1*
4-Bromofluorobenzene (Surr)	*98*		*56 - 136*		*10/17/23 16:52*	*1*
1,2-Dichloroethane-d4 (Surr)	*93*		*62 - 137*		*10/17/23 16:52*	*1*

Lab Sample ID: LCS 240-591030/5
Matrix: Water
Analysis Batch: 591030

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	20.0	17.8		ug/L		89	64 - 131
1,1-Dichloroethane	20.0	19.2		ug/L		96	72 - 127
1,1-Dichloroethene	20.0	19.5		ug/L		97	63 - 134
Chloroethane	20.0	17.6		ug/L		88	38 - 152
cis-1,2-Dichloroethene	20.0	18.4		ug/L		92	77 - 123
Tetrachloroethene	20.0	19.1		ug/L		95	76 - 123
trans-1,2-Dichloroethene	20.0	18.9		ug/L		95	75 - 124
Trichloroethene	20.0	17.9		ug/L		90	70 - 122
Vinyl chloride	20.0	20.5		ug/L		102	60 - 144

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*99*		*78 - 122*
Dibromofluoromethane (Surr)	*91*		*73 - 120*
4-Bromofluorobenzene (Surr)	*95*		*56 - 136*
1,2-Dichloroethane-d4 (Surr)	*91*		*62 - 137*

Lab Sample ID: 240-192832-7 MS
Matrix: Water
Analysis Batch: 591030

Client Sample ID: MW-5B
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Vinyl chloride	140		100	188		ug/L		44	43 - 157

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*98*		*78 - 122*
Dibromofluoromethane (Surr)	*94*		*73 - 120*
4-Bromofluorobenzene (Surr)	*96*		*56 - 136*
1,2-Dichloroethane-d4 (Surr)	*92*		*62 - 137*

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

Lab Sample ID: 240-192832-7 MSD
Matrix: Water
Analysis Batch: 591030

Client Sample ID: MW-5B
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Vinyl chloride	140		100	202		ug/L		59	43 - 157	8	24

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*99*		*78 - 122*
Dibromofluoromethane (Surr)	*94*		*73 - 120*
4-Bromofluorobenzene (Surr)	*97*		*56 - 136*
1,2-Dichloroethane-d4 (Surr)	*92*		*62 - 137*

Lab Sample ID: MB 240-591190/9
Matrix: Water
Analysis Batch: 591190

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.48	ug/L			10/18/23 11:08	1
1,1-Dichloroethane	ND		1.0	0.47	ug/L			10/18/23 11:08	1
1,1-Dichloroethene	ND		1.0	0.49	ug/L			10/18/23 11:08	1
Chloroethane	ND		1.0	0.83	ug/L			10/18/23 11:08	1
cis-1,2-Dichloroethene	ND		1.0	0.46	ug/L			10/18/23 11:08	1
Tetrachloroethene	ND		1.0	0.44	ug/L			10/18/23 11:08	1
trans-1,2-Dichloroethene	ND		1.0	0.51	ug/L			10/18/23 11:08	1
Trichloroethene	ND		1.0	0.44	ug/L			10/18/23 11:08	1
Vinyl chloride	ND		1.0	0.45	ug/L			10/18/23 11:08	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*78 - 122*		*10/18/23 11:08*	*1*
Dibromofluoromethane (Surr)	*94*		*73 - 120*		*10/18/23 11:08*	*1*
4-Bromofluorobenzene (Surr)	*94*		*56 - 136*		*10/18/23 11:08*	*1*
1,2-Dichloroethane-d4 (Surr)	*95*		*62 - 137*		*10/18/23 11:08*	*1*

Lab Sample ID: LCS 240-591190/5
Matrix: Water
Analysis Batch: 591190

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	20.0	18.2		ug/L		91	64 - 131
1,1-Dichloroethane	20.0	19.2		ug/L		96	72 - 127
1,1-Dichloroethene	20.0	21.4		ug/L		107	63 - 134
Chloroethane	20.0	18.6		ug/L		93	38 - 152
cis-1,2-Dichloroethene	20.0	18.4		ug/L		92	77 - 123
Tetrachloroethene	20.0	19.6		ug/L		98	76 - 123
trans-1,2-Dichloroethene	20.0	19.4		ug/L		97	75 - 124
Trichloroethene	20.0	18.1		ug/L		91	70 - 122
Vinyl chloride	20.0	22.2		ug/L		111	60 - 144

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*101*		*78 - 122*
Dibromofluoromethane (Surr)	*97*		*73 - 120*

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

Lab Sample ID: LCS 240-591190/5
Matrix: Water
Analysis Batch: 591190

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

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	*97*		*56 - 136*
1,2-Dichloroethane-d4 (Surr)	*93*		*62 - 137*

Method: RSK-175 - Dissolved Gases (GC)

Lab Sample ID: MB 240-590261/3
Matrix: Water
Analysis Batch: 590261

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		1.0	0.17	ug/L			10/10/23 14:05	1
Ethane	ND		1.0	0.29	ug/L			10/10/23 14:05	1
Ethylene	ND		1.0	0.12	ug/L			10/10/23 14:05	1
Propane	ND		1.0	0.38	ug/L			10/10/23 14:05	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,1,1-Trifluoroethane	*107*		*60 - 140*		*10/10/23 14:05*	*1*

Lab Sample ID: LCS 240-590261/4
Matrix: Water
Analysis Batch: 590261

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Methane			284	295		ug/L		104	80 - 120		
Ethane			537	513		ug/L		96	80 - 120		
Ethylene			506	485		ug/L		96	80 - 120		
Propane			787	735		ug/L		93	80 - 120		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,1,1-Trifluoroethane	*103*		*60 - 140*

Lab Sample ID: LCSD 240-590261/5
Matrix: Water
Analysis Batch: 590261

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Methane			284	297		ug/L		105	80 - 120	1	35
Ethane			537	518		ug/L		96	80 - 120	1	35
Ethylene			506	490		ug/L		97	80 - 120	1	35
Propane			787	739		ug/L		94	80 - 120	1	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,1,1-Trifluoroethane	*104*		*60 - 140*

Method: 6010D - Metals (ICP)

Lab Sample ID: MB 240-590420/1-A
Matrix: Water
Analysis Batch: 590553

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 590420

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		200	83	ug/L		10/11/23 14:00	10/12/23 12:02	1

Lab Sample ID: LCS 240-590420/2-A
Matrix: Water
Analysis Batch: 590553

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 590420

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Iron	10000	9340		ug/L		93	80 - 120

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 480-686325/4
Matrix: Water
Analysis Batch: 686325

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50	0.28	mg/L			10/06/23 10:00	1
Sulfate	ND		2.0	0.35	mg/L			10/06/23 10:00	1

Lab Sample ID: LCS 480-686325/5
Matrix: Water
Analysis Batch: 686325

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	50.1	47.0		mg/L		94	90 - 110
Sulfate	50.1	47.0		mg/L		94	90 - 110

Lab Sample ID: 240-192832-7 MS
Matrix: Water
Analysis Batch: 686325

Client Sample ID: MW-5B
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	140		250	356		mg/L		88	81 - 120
Sulfate	240		250	452		mg/L		87	80 - 120

Lab Sample ID: 240-192832-7 MSD
Matrix: Water
Analysis Batch: 686325

Client Sample ID: MW-5B
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	140		250	358		mg/L		89	81 - 120	0	15
Sulfate	240		250	453		mg/L		87	80 - 120	0	15

Lab Sample ID: MB 480-686328/4
Matrix: Water
Analysis Batch: 686328

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.050	0.025	mg/L			10/06/23 10:00	1
Nitrite as N	ND		0.050	0.025	mg/L			10/06/23 10:00	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 480-686328/5
Matrix: Water
Analysis Batch: 686328

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Nitrate as N			5.01	4.86		mg/L		97	90 - 110		

Lab Sample ID: 240-192832-7 MS
Matrix: Water
Analysis Batch: 686328

Client Sample ID: MW-5B
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Nitrate as N	ND		25.0	24.6		mg/L		98	80 - 120		

Lab Sample ID: 240-192832-7 MSD
Matrix: Water
Analysis Batch: 686328

Client Sample ID: MW-5B
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate as N	ND		25.0	24.9		mg/L		100	80 - 120	1	15

Method: 410.4-1993 R2.0 - COD

Lab Sample ID: MB 240-590444/9
Matrix: Water
Analysis Batch: 590444

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		10	1.8	mg/L			10/11/23 12:58	1

Lab Sample ID: LCS 240-590444/10
Matrix: Water
Analysis Batch: 590444

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chemical Oxygen Demand			46.4	44.5		mg/L		96	90 - 110		

Lab Sample ID: 240-192832-2 MS
Matrix: Water
Analysis Batch: 590444

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chemical Oxygen Demand	ND		52.6	57.8		mg/L		110	90 - 110		

Lab Sample ID: 240-192832-2 MSD
Matrix: Water
Analysis Batch: 590444

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chemical Oxygen Demand	ND		52.6	53.0		mg/L		101	90 - 110	9	20

Method: 410.4-1993 R2.0 - COD (Continued)

Lab Sample ID: 240-192832-4 MS
Matrix: Water
Analysis Batch: 590444

Client Sample ID: MW-5A
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chemical Oxygen Demand	ND		52.6	49.7		mg/L		94	90 - 110

Lab Sample ID: 240-192832-4 MSD
Matrix: Water
Analysis Batch: 590444

Client Sample ID: MW-5A
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chemical Oxygen Demand	ND		52.6	47.4		mg/L		90	90 - 110	5	20

Method: 4500 S2 F-2000 - Sulfide, Total

Lab Sample ID: MB 240-589978/1
Matrix: Water
Analysis Batch: 589978

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		1.0	0.27	mg/L			10/06/23 15:52	1

Lab Sample ID: LCS 240-589978/2
Matrix: Water
Analysis Batch: 589978

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfide	21.5	21.5		mg/L		100	80 - 120

Method: 5310C-2000 - Total Organic Carbon/Persulfate - Ultrav

Lab Sample ID: MB 240-590494/32
Matrix: Water
Analysis Batch: 590494

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		1.0	0.44	mg/L			10/11/23 02:48	1

Lab Sample ID: MB 240-590494/4
Matrix: Water
Analysis Batch: 590494

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		1.0	0.44	mg/L			10/10/23 20:45	1

Lab Sample ID: LCS 240-590494/31
Matrix: Water
Analysis Batch: 590494

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	18.3	18.3		mg/L		100	85 - 115

Method: 5310C-2000 - Total Organic Carbon/Persulfate - Ultrav (Continued)

Lab Sample ID: LCS 240-590494/5
Matrix: Water
Analysis Batch: 590494

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			18.3	18.3		mg/L		100	85 - 115		

Method: SM 5210B - BOD, 5-Day

Lab Sample ID: USB 480-686301/1
Matrix: Water
Analysis Batch: 686301

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

Analyte	USB Result	USB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	ND		2.0	2.0	mg/L			10/05/23 21:08	1

Lab Sample ID: LCS 480-686301/2
Matrix: Water
Analysis Batch: 686301

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Biochemical Oxygen Demand			197	183		mg/L		93	85 - 115		

GC/MS VOA

Analysis Batch: 590956

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-192832-1	MW-14B	Total/NA	Water	8260D	
240-192832-2	MW-12B	Total/NA	Water	8260D	
240-192832-3	MW-55A	Total/NA	Water	8260D	
240-192832-4	MW-5A	Total/NA	Water	8260D	
240-192832-5	MW-10B	Total/NA	Water	8260D	
240-192832-6	MW-10A	Total/NA	Water	8260D	
240-192832-7	MW-5B	Total/NA	Water	8260D	
240-192832-9	TB-100423	Total/NA	Water	8260D	
MB 240-590956/9	Method Blank	Total/NA	Water	8260D	
LCS 240-590956/5	Lab Control Sample	Total/NA	Water	8260D	

Analysis Batch: 591030

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-192832-2	MW-12B	Total/NA	Water	8260D	
240-192832-4	MW-5A	Total/NA	Water	8260D	
240-192832-7	MW-5B	Total/NA	Water	8260D	
MB 240-591030/9	Method Blank	Total/NA	Water	8260D	
LCS 240-591030/5	Lab Control Sample	Total/NA	Water	8260D	
240-192832-7 MS	MW-5B	Total/NA	Water	8260D	
240-192832-7 MSD	MW-5B	Total/NA	Water	8260D	

Analysis Batch: 591190

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-192832-8	MW-13B	Total/NA	Water	8260D	
MB 240-591190/9	Method Blank	Total/NA	Water	8260D	
LCS 240-591190/5	Lab Control Sample	Total/NA	Water	8260D	

GC VOA

Analysis Batch: 590261

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-192832-2	MW-12B	Total/NA	Water	RSK-175	
240-192832-3	MW-55A	Total/NA	Water	RSK-175	
240-192832-4	MW-5A	Total/NA	Water	RSK-175	
240-192832-5	MW-10B	Total/NA	Water	RSK-175	
240-192832-6	MW-10A	Total/NA	Water	RSK-175	
240-192832-7	MW-5B	Total/NA	Water	RSK-175	
MB 240-590261/3	Method Blank	Total/NA	Water	RSK-175	
LCS 240-590261/4	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 240-590261/5	Lab Control Sample Dup	Total/NA	Water	RSK-175	

Metals

Prep Batch: 590420

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-192832-2	MW-12B	Dissolved	Water	3005A	
240-192832-3	MW-55A	Dissolved	Water	3005A	
240-192832-4	MW-5A	Dissolved	Water	3005A	
240-192832-5	MW-10B	Dissolved	Water	3005A	
240-192832-6	MW-10A	Dissolved	Water	3005A	
240-192832-7	MW-5B	Dissolved	Water	3005A	
MB 240-590420/1-A	Method Blank	Total Recoverable	Water	3005A	

Metals (Continued)

Prep Batch: 590420 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 240-590420/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 590553

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-192832-2	MW-12B	Dissolved	Water	6010D	590420
240-192832-3	MW-55A	Dissolved	Water	6010D	590420
240-192832-4	MW-5A	Dissolved	Water	6010D	590420
240-192832-5	MW-10B	Dissolved	Water	6010D	590420
240-192832-6	MW-10A	Dissolved	Water	6010D	590420
240-192832-7	MW-5B	Dissolved	Water	6010D	590420
MB 240-590420/1-A	Method Blank	Total Recoverable	Water	6010D	590420
LCS 240-590420/2-A	Lab Control Sample	Total Recoverable	Water	6010D	590420

General Chemistry

Analysis Batch: 589978

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-192832-2	MW-12B	Total/NA	Water	4500 S2 F-2000	
240-192832-3	MW-55A	Total/NA	Water	4500 S2 F-2000	
240-192832-4	MW-5A	Total/NA	Water	4500 S2 F-2000	
240-192832-5	MW-10B	Total/NA	Water	4500 S2 F-2000	
240-192832-6	MW-10A	Total/NA	Water	4500 S2 F-2000	
240-192832-7	MW-5B	Total/NA	Water	4500 S2 F-2000	
MB 240-589978/1	Method Blank	Total/NA	Water	4500 S2 F-2000	
LCS 240-589978/2	Lab Control Sample	Total/NA	Water	4500 S2 F-2000	

Analysis Batch: 590444

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-192832-2	MW-12B	Total/NA	Water	410.4-1993 R2.0	
240-192832-3	MW-55A	Total/NA	Water	410.4-1993 R2.0	
240-192832-4	MW-5A	Total/NA	Water	410.4-1993 R2.0	
240-192832-5	MW-10B	Total/NA	Water	410.4-1993 R2.0	
240-192832-6	MW-10A	Total/NA	Water	410.4-1993 R2.0	
240-192832-7	MW-5B	Total/NA	Water	410.4-1993 R2.0	
MB 240-590444/9	Method Blank	Total/NA	Water	410.4-1993 R2.0	
LCS 240-590444/10	Lab Control Sample	Total/NA	Water	410.4-1993 R2.0	
240-192832-2 MS	MW-12B	Total/NA	Water	410.4-1993 R2.0	
240-192832-2 MSD	MW-12B	Total/NA	Water	410.4-1993 R2.0	
240-192832-4 MS	MW-5A	Total/NA	Water	410.4-1993 R2.0	
240-192832-4 MSD	MW-5A	Total/NA	Water	410.4-1993 R2.0	

Analysis Batch: 590494

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-192832-2	MW-12B	Total/NA	Water	5310C-2000	
240-192832-3	MW-55A	Total/NA	Water	5310C-2000	
240-192832-4	MW-5A	Total/NA	Water	5310C-2000	
240-192832-5	MW-10B	Total/NA	Water	5310C-2000	
240-192832-6	MW-10A	Total/NA	Water	5310C-2000	
240-192832-7	MW-5B	Total/NA	Water	5310C-2000	
MB 240-590494/32	Method Blank	Total/NA	Water	5310C-2000	
MB 240-590494/4	Method Blank	Total/NA	Water	5310C-2000	

General Chemistry (Continued)

Analysis Batch: 590494 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 240-590494/31	Lab Control Sample	Total/NA	Water	5310C-2000	
LCS 240-590494/5	Lab Control Sample	Total/NA	Water	5310C-2000	

Analysis Batch: 686301

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-192832-2	MW-12B	Total/NA	Water	SM 5210B	
240-192832-3	MW-55A	Total/NA	Water	SM 5210B	
240-192832-4	MW-5A	Total/NA	Water	SM 5210B	
240-192832-5	MW-10B	Total/NA	Water	SM 5210B	
240-192832-6	MW-10A	Total/NA	Water	SM 5210B	
240-192832-7	MW-5B	Total/NA	Water	SM 5210B	
USB 480-686301/1	Method Blank	Total/NA	Water	SM 5210B	
LCS 480-686301/2	Lab Control Sample	Total/NA	Water	SM 5210B	

Analysis Batch: 686325

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-192832-2	MW-12B	Total/NA	Water	300.0	
240-192832-3	MW-55A	Total/NA	Water	300.0	
240-192832-4	MW-5A	Total/NA	Water	300.0	
240-192832-5	MW-10B	Total/NA	Water	300.0	
240-192832-6	MW-10A	Total/NA	Water	300.0	
240-192832-7	MW-5B	Total/NA	Water	300.0	
MB 480-686325/4	Method Blank	Total/NA	Water	300.0	
LCS 480-686325/5	Lab Control Sample	Total/NA	Water	300.0	
240-192832-7 MS	MW-5B	Total/NA	Water	300.0	
240-192832-7 MSD	MW-5B	Total/NA	Water	300.0	

Analysis Batch: 686328

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-192832-2	MW-12B	Total/NA	Water	300.0	
240-192832-3	MW-55A	Total/NA	Water	300.0	
240-192832-4	MW-5A	Total/NA	Water	300.0	
240-192832-5	MW-10B	Total/NA	Water	300.0	
240-192832-6	MW-10A	Total/NA	Water	300.0	
240-192832-7	MW-5B	Total/NA	Water	300.0	
MB 480-686328/4	Method Blank	Total/NA	Water	300.0	
LCS 480-686328/5	Lab Control Sample	Total/NA	Water	300.0	
240-192832-7 MS	MW-5B	Total/NA	Water	300.0	
240-192832-7 MSD	MW-5B	Total/NA	Water	300.0	

Client Sample ID: MW-14B
Lab Sample ID: 240-192832-1

Date Collected: 10/04/23 10:00
Matrix: Water
Date Received: 10/04/23 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	590956	AJS	EET CLE	10/17/23 06:48

Client Sample ID: MW-12B
Lab Sample ID: 240-192832-2

Date Collected: 10/04/23 10:00
Matrix: Water
Date Received: 10/04/23 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	590956	AJS	EET CLE	10/17/23 07:13
Total/NA	Analysis	8260D		2	591030	AJS	EET CLE	10/17/23 20:41
Total/NA	Analysis	RSK-175		1	590261	JBN	EET CLE	10/10/23 19:11
Dissolved	Prep	3005A			590420	S4FJ	EET CLE	10/11/23 14:00
Dissolved	Analysis	6010D		1	590553	KLC	EET CLE	10/12/23 12:20
Total/NA	Analysis	300.0		5	686325	AF	EET BUF	10/06/23 10:37
Total/NA	Analysis	300.0		5	686328	AF	EET BUF	10/06/23 10:37
Total/NA	Analysis	410.4-1993 R2.0		1	590444	QUY8	EET CLE	10/11/23 12:58
Total/NA	Analysis	4500 S2 F-2000		1	589978	RP	EET CLE	10/06/23 15:52
Total/NA	Analysis	5310C-2000		1	590494	JWW	EET CLE	10/11/23 01:18
Total/NA	Analysis	SM 5210B		1	686301	GW	EET BUF	10/05/23 21:08

Client Sample ID: MW-55A
Lab Sample ID: 240-192832-3

Date Collected: 10/04/23 11:20
Matrix: Water
Date Received: 10/04/23 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		5	590956	AJS	EET CLE	10/17/23 07:39
Total/NA	Analysis	RSK-175		1	590261	JBN	EET CLE	10/10/23 19:28
Dissolved	Prep	3005A			590420	S4FJ	EET CLE	10/11/23 14:00
Dissolved	Analysis	6010D		1	590553	KLC	EET CLE	10/12/23 12:24
Total/NA	Analysis	300.0		5	686325	AF	EET BUF	10/06/23 10:55
Total/NA	Analysis	300.0		5	686328	AF	EET BUF	10/06/23 10:55
Total/NA	Analysis	410.4-1993 R2.0		1	590444	QUY8	EET CLE	10/11/23 12:58
Total/NA	Analysis	4500 S2 F-2000		1	589978	RP	EET CLE	10/06/23 15:52
Total/NA	Analysis	5310C-2000		1	590494	JWW	EET CLE	10/11/23 01:56
Total/NA	Analysis	SM 5210B		1	686301	GW	EET BUF	10/05/23 21:08

Client Sample ID: MW-5A
Lab Sample ID: 240-192832-4

Date Collected: 10/04/23 11:30
Matrix: Water
Date Received: 10/04/23 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	590956	AJS	EET CLE	10/17/23 08:05
Total/NA	Analysis	8260D		5	591030	AJS	EET CLE	10/17/23 21:07
Total/NA	Analysis	RSK-175		1	590261	JBN	EET CLE	10/10/23 19:45

Lab Chronicle

Client: AECOM
Project/Site: BP Hyde Park

Job ID: 240-192832-1

Client Sample ID: MW-5A

Lab Sample ID: 240-192832-4

Date Collected: 10/04/23 11:30

Matrix: Water

Date Received: 10/04/23 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	3005A			590420	S4FJ	EET CLE	10/11/23 14:00
Dissolved	Analysis	6010D		1	590553	KLC	EET CLE	10/12/23 12:37
Total/NA	Analysis	300.0		5	686325	AF	EET BUF	10/06/23 11:13
Total/NA	Analysis	300.0		5	686328	AF	EET BUF	10/06/23 11:13
Total/NA	Analysis	410.4-1993 R2.0		1	590444	QUY8	EET CLE	10/11/23 12:58
Total/NA	Analysis	4500 S2 F-2000		1	589978	RP	EET CLE	10/06/23 15:52
Total/NA	Analysis	5310C-2000		1	590494	JWW	EET CLE	10/11/23 02:09
Total/NA	Analysis	SM 5210B		1	686301	GW	EET BUF	10/05/23 21:08

Client Sample ID: MW-10B

Lab Sample ID: 240-192832-5

Date Collected: 10/04/23 11:40

Matrix: Water

Date Received: 10/04/23 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		5	590956	AJS	EET CLE	10/17/23 08:30
Total/NA	Analysis	RSK-175		1	590261	JBN	EET CLE	10/10/23 20:19
Dissolved	Prep	3005A			590420	S4FJ	EET CLE	10/11/23 14:00
Dissolved	Analysis	6010D		1	590553	KLC	EET CLE	10/12/23 12:41
Total/NA	Analysis	300.0		5	686325	AF	EET BUF	10/06/23 11:31
Total/NA	Analysis	300.0		5	686328	AF	EET BUF	10/06/23 11:31
Total/NA	Analysis	410.4-1993 R2.0		1	590444	QUY8	EET CLE	10/11/23 12:58
Total/NA	Analysis	4500 S2 F-2000		1	589978	RP	EET CLE	10/06/23 15:52
Total/NA	Analysis	5310C-2000		1	590494	JWW	EET CLE	10/11/23 02:22
Total/NA	Analysis	SM 5210B		1	686301	GW	EET BUF	10/05/23 21:08

Client Sample ID: MW-10A

Lab Sample ID: 240-192832-6

Date Collected: 10/04/23 12:50

Matrix: Water

Date Received: 10/04/23 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		10	590956	AJS	EET CLE	10/17/23 08:55
Total/NA	Analysis	RSK-175		1	590261	JBN	EET CLE	10/10/23 20:36
Dissolved	Prep	3005A			590420	S4FJ	EET CLE	10/11/23 14:00
Dissolved	Analysis	6010D		1	590553	KLC	EET CLE	10/12/23 12:46
Total/NA	Analysis	300.0		5	686325	AF	EET BUF	10/06/23 11:49
Total/NA	Analysis	300.0		5	686328	AF	EET BUF	10/06/23 11:49
Total/NA	Analysis	410.4-1993 R2.0		10	590444	QUY8	EET CLE	10/11/23 12:58
Total/NA	Analysis	4500 S2 F-2000		1	589978	RP	EET CLE	10/06/23 15:52
Total/NA	Analysis	5310C-2000		1	590494	JWW	EET CLE	10/11/23 03:01
Total/NA	Analysis	SM 5210B		1	686301	GW	EET BUF	10/05/23 21:08

Lab Chronicle

Client: AECOM
Project/Site: BP Hyde Park

Job ID: 240-192832-1

Client Sample ID: MW-5B

Lab Sample ID: 240-192832-7

Date Collected: 10/04/23 13:35

Matrix: Water

Date Received: 10/04/23 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	590956	AJS	EET CLE	10/17/23 09:21
Total/NA	Analysis	8260D		5	591030	AJS	EET CLE	10/17/23 21:32
Total/NA	Analysis	RSK-175		1	590261	JBN	EET CLE	10/10/23 20:53
Dissolved	Prep	3005A			590420	S4FJ	EET CLE	10/11/23 14:00
Dissolved	Analysis	6010D		1	590553	KLC	EET CLE	10/12/23 12:50
Total/NA	Analysis	300.0		5	686325	AF	EET BUF	10/06/23 12:07
Total/NA	Analysis	300.0		5	686328	AF	EET BUF	10/06/23 12:07
Total/NA	Analysis	410.4-1993 R2.0		1	590444	QUY8	EET CLE	10/11/23 12:58
Total/NA	Analysis	4500 S2 F-2000		1	589978	RP	EET CLE	10/06/23 15:52
Total/NA	Analysis	5310C-2000		1	590494	JWW	EET CLE	10/11/23 03:14
Total/NA	Analysis	SM 5210B		1	686301	GW	EET BUF	10/05/23 21:08

Client Sample ID: MW-13B

Lab Sample ID: 240-192832-8

Date Collected: 10/04/23 14:15

Matrix: Water

Date Received: 10/04/23 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	591190	AJS	EET CLE	10/18/23 11:34

Client Sample ID: TB-100423

Lab Sample ID: 240-192832-9

Date Collected: 10/04/23 00:00

Matrix: Water

Date Received: 10/04/23 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	590956	AJS	EET CLE	10/17/23 00:52

Laboratory References:

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

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

Accreditation/Certification Summary

Client: AECOM
Job ID: 240-192832-1
Project/Site: BP Hyde Park

Laboratory: Eurofins Cleveland

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

Authority	Program	Identification Number	Expiration Date
New York	NELAP	10975	04-02-24

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
5310C-2000		Water	Total Organic Carbon
RSK-175		Water	Ethane
RSK-175		Water	Ethylene
RSK-175		Water	Methane
RSK-175		Water	Propane

Laboratory: Eurofins Buffalo

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

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	88-0686	07-06-23 *
Connecticut	State	PH-0568	03-31-24
Florida	NELAP	E87672	06-30-23 *
Georgia	State	10026 (NY)	03-31-24
Georgia	State Program	N/A	03-31-09 *
Illinois	NELAP	200003	09-30-23 *
Iowa	State	374	03-01-25
Iowa	State Program	374	03-01-09 *
Kansas	NELAP	E-10187	02-01-24
Kentucky (DW)	State	90029	01-01-24
Kentucky (UST)	State	108092	04-01-24
Kentucky (WW)	State	KY90029	12-31-23
Louisiana	NELAP	02031	06-30-23 *
Louisiana (All)	NELAP	02031	06-30-23 *
Maine	State	NY00044	12-04-24
Maryland	State	294	06-30-24
Massachusetts	State	M-NY044	07-01-24
Michigan	State	9937	04-01-24
Michigan	State Program	9937	04-01-09 *
New Hampshire	NELAP	2973	09-11-19 *
New Hampshire	NELAP	2337	11-17-23
New Jersey	NELAP	NY455	06-30-24
New York	NELAP	10026	03-31-24
Pennsylvania	NELAP	68-00281	08-31-24
Rhode Island	State	LAO00328	12-30-23
Texas	NELAP	T104704412-18-10	07-31-23 *
USDA	US Federal Programs	P330-18-00039	03-25-24
Virginia	NELAP	460185	09-14-23 *
Washington	State	C784	02-10-24
Wisconsin	State	998310390	08-31-24

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

0.9/0.7

Laboratory Management Program LaMP Chain of Custody Record

BP/ARC Project Name: BP IPO
BP/ARC Facility No: BP Hyde Park
Req Due Date (mm/dd/yy):
Lab Work Order Number:
Rush TAT: Yes ___ No X

Lab Name:	Test America (Canton, OH)
Lab Address:	4101 Shuffel Street NW, North Canton, OH 44720
Lab PM:	Lab Contact: Opal Johnson
Lab Phone:	330-497-9396 / 330-497-0772
Lab Shipping Accnt:	
Lab Bottle Order No:	
Other Info:	
BP/ARC EBM:	
EBM Phone:	
EBM Email:	

BP/ARC Facility Address:	3425 Hyde Park Blvd
City, State, ZIP Code:	Niagara, NY 14305
Lead Regulatory Agency:	NYSDEC
California Global ID No.:	
Enfos Proposal No:	
Accounting Mode:	Provision ___ OOC-BU ___ OOC-RM ___
Stage:	Activity:

Consultant/Contractor:	AECOM
Consultant/Contractor Project No:	60481767.17.14
Address:	257 West Genesee St., Suite 400 Buffalo, NY 14202
Consultant/Contractor PM:	James Kaczor
Phone:	716-923-1300
Email EDD To:	James.Kaczor@aecom.com
Invoice To:	BP/ARC ___ Contractor X

Report Type & QC Level: Standard ___ Full Data Package ___

Lab No.	Sample Description	Date	Time	Soil / Solid	Water / Liquid	Air / Vapor	Total Number of Containers	Unpreserved	HNO3	HCl	NaoH/Zn-acetate	H2SO4	8260C -VOCs	SM-4500_S2_F -Sulfide	410.4 - COD	RSK 175 - Dissolved Gases	5310 C - TOC	5210-BOD (TA-Buffalo)	300, 353.2, nitrate-nitrite 300.0_28D chloride, sulfate (TA - Buffalo)	6010C - Dissolved Iron (field filtered)	Note
	MW-14B	10/4/23	1000		X		3			3			3								
	MW-12B	10/4/23	1000		X		13	2	1	6	1	3	3	1	1	3	2	1	1	1	
	MW-55A	10/4/23	1120		X		13	2	1	6	1	3	3	1	1	3	2	1	1	1	
	MW-5A	10/4/23	1130		X		13	2	1	6	1	3	3	1	1	3	2	1	1	1	
	MW-10B	10/4/23	1140		X		13	2	1	6	1	3	3	1	1	3	2	1	1	1	
	MW-10A	10/4/23	1250		X		13	2	1	6	1	3	3	1	1	3	2	1	1	1	
	MW-5B	10/4/23	1335		X		13	2	1	6	1	3	3	1	1	3	2	1	1	1	
	MW-13B	10/4/23	1415		X		3			3			3								
	TB-100423	10/4/23	—		X		2			2			2								Trip Blank

Note: If san[...] Sample" in[...] and initial a[...] "No [...]e out [...]ription.

240-192832 Chain of Custody

Sampler's Name: Tom Orban, Alyssa Sands, Collin Horrocks
Sampler's Company: AECOM
Shipment Method: Dropoff at TA Buffalo, NY
Ship Date:
Shipment Tracking No:

Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
[signature] / AECOM	10/4/23	1530	[signature] TA/B	10/4/23	1530
[signature]	10/5/23	1700			

Special Instructions: PO #93607 Line 2: TA Buffalo to ship to TA Canton except short hold bottles 5210-BOD, 300, 353.2, 300.0_28D :

THIS LINE - LAB USE ONLY: Custody Seals In Place: Yes / No | Temp Blank: Yes / No | Cooler Temp on Receipt: ______ °F/C | Trip Blank: Yes / No | MS/MSD Sample Submitted: Yes / No

BP/ARC LaMP COC Rev. 6 01/01/2009

Eurofins – Cleveland Sample Receipt Form/Narrative **Login # :**_____
Barberton Facility

Client BP Site Name_____ Cooler unpacked by: M. Loch

Cooler Received on 10-6-23 Opened on 10-6-23

FedEx: 1st Grd (Exp) UPS FAS Waypoint Client Drop Off Eurofins Courier Other_____

Receipt After-hours: Drop-off Date/Time_____ Storage Location_____

Eurofins Cooler # (EC) Foam Box Client Cooler Box Other_____

Packing material used: (Bubble Wrap) Foam Plastic Bag None Other_____

COOLANT: (Wet Ice) Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☒ See Multiple Cooler Form

   IR GUN # _____ (CF_____°C) Observed Cooler Temp._____°C Corrected Cooler Temp._____°C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity_____ (Yes) No
   - -Were the seals on the outside of the cooler(s) signed & dated? Yes (No) NA
   - -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes (No)
   - -Were tamper/custody seals intact and uncompromised? (Yes) No NA
3. Shippers' packing slip attached to the cooler(s)? (Yes) No
4. Did custody papers accompany the sample(s)? (Yes) No
5. Were the custody papers relinquished & signed in the appropriate place? (Yes) No
6. Was/were the person(s) who collected the samples clearly identified on the COC? (Yes) No
7. Did all bottles arrive in good condition (Unbroken)? (Yes) No
8. Could all bottle labels (ID/Date/Time) be reconciled with the COC? (Yes) No
9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)?
10. Were correct bottle(s) used for the test(s) indicated? (Yes) No
11. Sufficient quantity received to perform indicated analyses? (Yes) No
12. Are these work share samples and all listed on the COC? Yes (No)

    If yes, Questions 13-17 have been checked at the originating laboratory.
13. Were all preserved sample(s) at the correct pH upon receipt? (Yes) No NA pH Strip Lot# HC312502
14. Were VOAs on the COC? (Yes) No
15. Were air bubbles >6 mm in any VOA vials? ● ⬅ Larger than this. Yes (No) NA
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot #_____ (Yes) No
17. Was a LL Hg or Me Hg trip blank present? _____ Yes (No)

Tests that are not checked for pH by Receiving:

VOAs
Oil and Grease
TOC

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

Concerning _____

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page

Samples processed by:

19. SAMPLE CONDITION

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

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

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

20. SAMPLE PRESERVATION

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

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

VOA Sample Preservation - Date/Time VOAs Frozen: _____

5

Login # : _____

Eurofins - Canton Sample Receipt Multiple Cooler Form

Cooler Description (Circle)	IR Gun # (Circle)	Observed Temp °C	Corrected Temp °C	Coolant (Circle)
EC Client Box Other	IR GUN #: _____	4.7	4.5	Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____	3.9	3.7	Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____	0.9	0.7	Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____	2.4	2.4	Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____	0.9	0.7	Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
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EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None

☐ See Temperature Excursion Form

WI-NC-099 Cooler Receipt Form Page 2 - Multiple Coolers

FedEx®

240-192832 Waybill

this tag.

RT 164 FZ

eurofins | En Test ting

6 10:30 A 7202 10:06

Part # 159469-434 MTW EXP 06/24

ORIGIN ID:DKKA (716) 691-2600
BUFFALO LAB
EUROFINS BUFFALO
10 HAZELWOOD DRIVE

AMHERST, NY 14228
UNITED STATES US

SHIP DATE: 05OCT23
ACTWGT: 48.65 LB
CAD: 846654/CAFE3753
DIMS: 26x15x14 IN

BILL RECIPIENT

TO SAMPLE CONTROL
EUROFINS CANTON
180 SOUTH VAN BUREN

BARBERTON OH 44203
(330) 497-9396
REF: TA BARBERTON

585C9/3B0A/AED7

FedEx Express E

J223023051201uv

5 of 5
MPS# 0263 6758 4754 7202
Mstr# 6758 4754 7165 0201

FRI - 06 OCT 10:30A
PRIORITY OVERNIGHT

NX CAKA

44203
OH-US CLE

Laboratory Management Program LaMP Chain of Custody Record

BP/ARC Project Name: BP IPO
BP/ARC Facility No: BP Hyde Park
Req Due Date (mm/dd/yy):
Rush TAT: Yes ___ No X
Lab Work Order Number:

Lab Name: Test America (Canton, OH)	BP/ARC Facility Address: 3425 Hyde Park Blvd	Consultant/Contractor: AECOM
Lab Address: 4101 Shuffel Street NW, North Canton, OH 44720	City, State, ZIP Code: Niagara, NY 14305	Consultant/Contractor Project No: 60481767.17.14
Lab PM: Lab Contact: Opal Johnson	Lead Regulatory Agency: NYSDEC	Address: 257 West Genesee St., Suite 400 Buffalo, NY 14202
Lab Phone: 330-497-9396 / 330-497-0772	California Global ID No.:	Consultant/Contractor PM: James Kaczor
Lab Shipping Accnt:	Enfos Proposal No:	Phone: 716-923-1300
Lab Bottle Order No:	Accounting Mode: Provision ___ OOC-BU ___ OOC-RM ___	Email EDD To: James.Kaczor@aecom.com
Other Info:	Stage: Activity:	Invoice To: BP/ARC ___ Contractor X
BP/ARC EBM:		
EBM Phone:		
EBM Email:		

Lab No.	Sample Description	Date	Time	Matrix: Soil / Solid	Matrix: Water / Liquid	Matrix: Air / Vapor	No. Containers / Preservative: Total Number of Containers	Unpreserved	HNO3	HCl	NaOH/Zn-acetate	H_2SO_4	Requested Analyses: 8260C -VOCs	SM-4500_S2_F -Sulfide	410.4 - COD	RSK 175 - Dissolved Gases	5310 C - TOC	5210-BOD (TA-Buffalo)	300, 353.2, nitrate-nitrite 300.0_28D chloride, sulfate (TA - Buffalo)	6010C - Dissloved Iron (field filtered)			Report Type & QC Level
	MW-14B	10/4/23	1000		X		3			3			3										
	MW-12B	10/4/23	1000		X		13	2	1	6	1	3	3	1	1	3	2	1	1	1			
	MW-55A	10/4/23	1120		X		13	2	1	6	1	3	3	1	1	3	2	1	1	1			
	MW-5A	10/4/23	1130		X		13	2	1	6	1	3	3	1	1	3	2	1	1	1			
	MW-10B	10/4/23	1140		X		13	2	1	6	1	3	3	1	1	3	2	1	1	1			
	MW-10A	10/4/23	1250		X		13	2	1	6	1	3	3	1	1	3	2	1	1	1			
	MW-5B	10/4/23	1335		X		13	2	1	6	1	3	3	1	1	3	2	1	1	1			
	MW-13B	10/4/23	1415		X		3			3			3										
	TB-100423	10/4/23	—		X		2			2			2										Trip Blank

Comments: Note: If sample not collected, indicate "No Sample" in comments and single-strike out and initial any preprinted sample description.

Standard ___
Full Data Package ___

240-192832 Chain of Custody

		Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Name:	Tom Orban, Alyssa Sands, Collin Horrocks						
Sampler's Company:	AECOM						
Shipment Method:	Dropoff at TA Buffalo, NY	AECOM	10/4/23	1530			
Shipment Tracking No:	Ship Date:		10/5/23	1700	TARB	10/4/23	1530

Special Instructions: PO #93607 Line 2: TA Buffalo to ship to TA Canton except short hold bottles 5210-BOD, 300, 353.2, 300.0_28D :

THIS LINE - LAB USE ONLY: Custody Seals In Place: Yes / No | Temp Blank: Yes / No | Cooler Temp on Receipt: Cooler #1 °F/C | Trip Blank: Yes / No | MS/MSD Sample Submitted: Yes / No

10/19/2023

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Ms. Ann Marie Kropovitch
AECOM
50 Lakefront Bouelvard
Suite 111
Buffalo, New York 14202

Generated 10/19/2023 11:58:56 AM

JOB DESCRIPTION

BP Hyde Park

JOB NUMBER

240-192991-1

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton OH 44203

See page two for job notes and contact information.

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 North Central, LLC Project Manager.

Authorization

Generated
10/19/2023 11:58:56 AM

Authorized for release by
Opal Johnson, Project Manager II
Opal.Johnson@et.eurofinsus.com
(330)966-9279

Table of Contents

Definitions/Glossary

Client: AECOM
Job ID: 240-192991-1
Project/Site: BP Hyde Park

Qualifiers

GC/MS VOA

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

GC VOA

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

Metals

Qualifier	Qualifier Description
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
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

Job ID: 240-192991-1

Laboratory: Eurofins Cleveland

Narrative

Job Narrative
240-192991-1

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 are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample 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 10/5/2023 3:30 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice.

GC/MS VOA
Method 8260D: The continuing calibration verification (CCV) analyzed in batch 240-590898 was outside the method criteria for the following analyte(s): Chloroethane. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method 8260D: Two analyses were used to report sample MW-18B (240-192991-2), MW-17A (240-192991-7) and MW-6 (240-192991-8) due to high analyte concentration. Due to multiple re-runs for dilution/analyst error, the voa vial used for the preservation check was used for the re-analysis.

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

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

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

General Chemistry
Method 300.0_28D: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-18B (240-192991-2), MW-18A (240-192991-3), MW-16B (240-192991-4), MW-17B (240-192991-5), MW-16A (240-192991-6) and MW-17A (240-192991-7). Elevated reporting limits (RLs) are provided.

Method 300_48HR: The following samples were diluted due to the abundance of non-target analytes: MW-18B (240-192991-2), MW-18A (240-192991-3), MW-16B (240-192991-4), MW-17B (240-192991-5), MW-16A (240-192991-6) and MW-17A (240-192991-7). Elevated reporting limits (RLs) are provided.

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

Method Summary

Client: AECOM
Project/Site: BP Hyde Park

Job ID: 240-192991-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET CLE
RSK-175	Dissolved Gases (GC)	RSK	EET CLE
6010D	Metals (ICP)	SW846	EET CLE
300.0	Anions, Ion Chromatography	EPA	EET BUF
410.4-1993 R2.0	COD	MCAWW	EET CLE
4500 S2 F-2000	Sulfide, Total	SM	EET CLE
5310C-2000	Total Organic Carbon/Persulfate - Ultrav	SM	EET CLE
SM 5210B	BOD, 5-Day	SM	EET BUF
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	EET CLE
5030C	Purge and Trap	SW846	EET CLE

Protocol References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique , RSKSOP-175, Rev. 0, 8/11/94, USEPA Research Lab

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

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

Laboratory References:

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

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

Sample Summary

Client: AECOM
Job ID: 240-192991-1
Project/Site: BP Hyde Park

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-192991-1	MW-19B	Water	10/05/23 09:30	10/05/23 15:30
240-192991-2	MW-18B	Water	10/05/23 09:35	10/05/23 15:30
240-192991-3	MW-18A	Water	10/05/23 11:00	10/05/23 15:30
240-192991-4	MW-16B	Water	10/05/23 11:05	10/05/23 15:30
240-192991-5	MW-17B	Water	10/05/23 12:40	10/05/23 15:30
240-192991-6	MW-16A	Water	10/05/23 12:45	10/05/23 15:30
240-192991-7	MW-17A	Water	10/05/23 14:05	10/05/23 15:30
240-192991-8	MW-6	Water	10/05/23 14:25	10/05/23 15:30
240-192991-9	TB-100523	Water	10/05/23 00:00	10/05/23 15:30

Detection Summary

Client: AECOM
Project/Site: BP Hyde Park

Job ID: 240-192991-1

Client Sample ID: MW-19B — Lab Sample ID: 240-192991-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.5		1.0	0.46	ug/L	1		8260D	Total/NA
Vinyl chloride	1.4		1.0	0.45	ug/L	1		8260D	Total/NA

Client Sample ID: MW-18B — Lab Sample ID: 240-192991-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	120		3.3	1.5	ug/L	3.333		8260D	Total/NA
trans-1,2-Dichloroethene	0.53	J	1.0	0.51	ug/L	1		8260D	Total/NA
Vinyl chloride	61		1.0	0.45	ug/L	1		8260D	Total/NA
Methane	22000		20	3.5	ug/L	20		RSK-175	Total/NA
Ethane	2.3		1.0	0.29	ug/L	1		RSK-175	Total/NA
Ethylene	5.0		1.0	0.12	ug/L	1		RSK-175	Total/NA
Iron	170	J	200	83	ug/L	1		6010D	Dissolved
Chloride	100		2.5	1.4	mg/L	5		300.0	Total/NA
Sulfate	180		10	1.7	mg/L	5		300.0	Total/NA
Chemical Oxygen Demand	35		10	1.8	mg/L	1		410.4-1993 R2.0	Total/NA
Sulfide	7.7		1.0	0.27	mg/L	1		4500 S2 F-2000	Total/NA
Total Organic Carbon	5.0		1.0	0.44	mg/L	1		5310C-2000	Total/NA
Biochemical Oxygen Demand	17		6.0	6.0	mg/L	1		SM 5210B	Total/NA

Client Sample ID: MW-18A — Lab Sample ID: 240-192991-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethane	4.0		1.0	0.47	ug/L	1		8260D	Total/NA
1,1-Dichloroethene	1.4		1.0	0.49	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene	57		1.0	0.46	ug/L	1		8260D	Total/NA
trans-1,2-Dichloroethene	0.86	J	1.0	0.51	ug/L	1		8260D	Total/NA
Trichloroethene	39		1.0	0.44	ug/L	1		8260D	Total/NA
Vinyl chloride	3.5		1.0	0.45	ug/L	1		8260D	Total/NA
Methane	3400		1.0	0.17	ug/L	1		RSK-175	Total/NA
Ethane	0.79	J	1.0	0.29	ug/L	1		RSK-175	Total/NA
Ethylene	0.66	J	1.0	0.12	ug/L	1		RSK-175	Total/NA
Iron	1900		200	83	ug/L	1		6010D	Dissolved
Chloride	37		2.5	1.4	mg/L	5		300.0	Total/NA
Sulfate	120		10	1.7	mg/L	5		300.0	Total/NA
Chemical Oxygen Demand	7.2	J	10	1.8	mg/L	1		410.4-1993 R2.0	Total/NA
Total Organic Carbon	1.4		1.0	0.44	mg/L	1		5310C-2000	Total/NA

Client Sample ID: MW-16B — Lab Sample ID: 240-192991-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	2.5		1.0	0.46	ug/L	1		8260D	Total/NA
Vinyl chloride	7.1		1.0	0.45	ug/L	1		8260D	Total/NA
Methane	12000		10	1.7	ug/L	10		RSK-175	Total/NA
Ethane	1.3		1.0	0.29	ug/L	1		RSK-175	Total/NA
Ethylene	4.4		1.0	0.12	ug/L	1		RSK-175	Total/NA
Chloride	140		2.5	1.4	mg/L	5		300.0	Total/NA
Sulfate	230		10	1.7	mg/L	5		300.0	Total/NA
Chemical Oxygen Demand	32		10	1.8	mg/L	1		410.4-1993 R2.0	Total/NA
Sulfide	7.9		1.0	0.27	mg/L	1		4500 S2 F-2000	Total/NA
Total Organic Carbon	4.2		1.0	0.44	mg/L	1		5310C-2000	Total/NA
Biochemical Oxygen Demand	8.1		6.0	6.0	mg/L	1		SM 5210B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM
Project/Site: BP Hyde Park

Job ID: 240-192991-1

Client Sample ID: MW-17B — Lab Sample ID: 240-192991-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethane	11		1.0	0.47	ug/L	1		8260D	Total/NA
Chloroethane	2.7		1.0	0.83	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene	0.90	J	1.0	0.46	ug/L	1		8260D	Total/NA
Vinyl chloride	2.2		1.0	0.45	ug/L	1		8260D	Total/NA
Methane	26000		20	3.5	ug/L	20		RSK-175	Total/NA
Ethane	34		1.0	0.29	ug/L	1		RSK-175	Total/NA
Ethylene	5.5		1.0	0.12	ug/L	1		RSK-175	Total/NA
Iron	160	J	200	83	ug/L	1		6010D	Dissolved
Chloride	88		2.5	1.4	mg/L	5		300.0	Total/NA
Sulfate	69		10	1.7	mg/L	5		300.0	Total/NA
Chemical Oxygen Demand	16		10	1.8	mg/L	1		410.4-1993 R2.0	Total/NA
Sulfide	4.5		1.0	0.27	mg/L	1		4500 S2 F-2000	Total/NA
Total Organic Carbon	3.6		1.0	0.44	mg/L	1		5310C-2000	Total/NA
Biochemical Oxygen Demand	11		6.0	6.0	mg/L	1		SM 5210B	Total/NA

Client Sample ID: MW-16A — Lab Sample ID: 240-192991-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.98	J	1.0	0.46	ug/L	1		8260D	Total/NA
Vinyl chloride	37		1.0	0.45	ug/L	1		8260D	Total/NA
Methane	370		1.0	0.17	ug/L	1		RSK-175	Total/NA
Ethane	1.8		1.0	0.29	ug/L	1		RSK-175	Total/NA
Ethylene	170		1.0	0.12	ug/L	1		RSK-175	Total/NA
Iron	490		200	83	ug/L	1		6010D	Dissolved
Chloride	40		2.5	1.4	mg/L	5		300.0	Total/NA
Nitrate as N	1.3		0.25	0.13	mg/L	5		300.0	Total/NA
Sulfate	190		10	1.7	mg/L	5		300.0	Total/NA
Chemical Oxygen Demand	18		10	1.8	mg/L	1		410.4-1993 R2.0	Total/NA
Total Organic Carbon	5.0		1.0	0.44	mg/L	1		5310C-2000	Total/NA

Client Sample ID: MW-17A — Lab Sample ID: 240-192991-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethane	11		1.0	0.47	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene	30		1.0	0.46	ug/L	1		8260D	Total/NA
Vinyl chloride	73		2.0	0.90	ug/L	2		8260D	Total/NA
Methane	13000		10	1.7	ug/L	10		RSK-175	Total/NA
Ethane	8.9		1.0	0.29	ug/L	1		RSK-175	Total/NA
Ethylene	21		1.0	0.12	ug/L	1		RSK-175	Total/NA
Iron	540		200	83	ug/L	1		6010D	Dissolved
Chloride	16		2.5	1.4	mg/L	5		300.0	Total/NA
Sulfate	41		10	1.7	mg/L	5		300.0	Total/NA
Chemical Oxygen Demand	9.5	J	10	1.8	mg/L	1		410.4-1993 R2.0	Total/NA
Total Organic Carbon	2.8		1.0	0.44	mg/L	1		5310C-2000	Total/NA
Biochemical Oxygen Demand	4.4		2.0	2.0	mg/L	1		SM 5210B	Total/NA

Client Sample ID: MW-6 — Lab Sample ID: 240-192991-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	12		1.0	0.46	ug/L	1		8260D	Total/NA
Vinyl chloride	59		2.0	0.90	ug/L	2		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM
Job ID: 240-192991-1
Project/Site: BP Hyde Park

Client Sample ID: TB-100523 **Lab Sample ID: 240-192991-9**

No Detections.

This Detection Summary does not include radiochemical test results.

Client: AECOM
Project/Site: BP Hyde Park

Job ID: 240-192991-1

Client Sample ID: MW-19B
Date Collected: 10/05/23 09:30
Date Received: 10/05/23 15:30

Lab Sample ID: 240-192991-1
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.48	ug/L			10/16/23 16:45	1
1,1-Dichloroethane	ND		1.0	0.47	ug/L			10/16/23 16:45	1
1,1-Dichloroethene	ND		1.0	0.49	ug/L			10/16/23 16:45	1
Chloroethane	ND		1.0	0.83	ug/L			10/16/23 16:45	1
cis-1,2-Dichloroethene	**1.5**		1.0	0.46	ug/L			10/16/23 16:45	1
Tetrachloroethene	ND		1.0	0.44	ug/L			10/16/23 16:45	1
trans-1,2-Dichloroethene	ND		1.0	0.51	ug/L			10/16/23 16:45	1
Trichloroethene	ND		1.0	0.44	ug/L			10/16/23 16:45	1
Vinyl chloride	**1.4**		1.0	0.45	ug/L			10/16/23 16:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*93*		*78 - 122*		*10/16/23 16:45*	*1*
Dibromofluoromethane (Surr)	*97*		*73 - 120*		*10/16/23 16:45*	*1*
4-Bromofluorobenzene (Surr)	*84*		*56 - 136*		*10/16/23 16:45*	*1*
1,2-Dichloroethane-d4 (Surr)	*106*		*62 - 137*		*10/16/23 16:45*	*1*

Client Sample ID: MW-18B

Date Collected: 10/05/23 09:35
Date Received: 10/05/23 15:30

Lab Sample ID: 240-192991-2

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.48	ug/L			10/16/23 17:10	1
1,1-Dichloroethane	ND		1.0	0.47	ug/L			10/16/23 17:10	1
1,1-Dichloroethene	ND		1.0	0.49	ug/L			10/16/23 17:10	1
Chloroethane	ND		1.0	0.83	ug/L			10/16/23 17:10	1
cis-1,2-Dichloroethene	**120**		3.3	1.5	ug/L			10/18/23 18:11	3.333
Tetrachloroethene	ND		1.0	0.44	ug/L			10/16/23 17:10	1
trans-1,2-Dichloroethene	**0.53**	**J**	1.0	0.51	ug/L			10/16/23 17:10	1
Trichloroethene	ND		1.0	0.44	ug/L			10/16/23 17:10	1
Vinyl chloride	**61**		1.0	0.45	ug/L			10/16/23 17:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*94*		*78 - 122*		*10/16/23 17:10*	*1*
Toluene-d8 (Surr)	*95*		*78 - 122*		*10/18/23 18:11*	*3.333*
Dibromofluoromethane (Surr)	*96*		*73 - 120*		*10/16/23 17:10*	*1*
Dibromofluoromethane (Surr)	*96*		*73 - 120*		*10/18/23 18:11*	*3.333*
4-Bromofluorobenzene (Surr)	*82*		*56 - 136*		*10/16/23 17:10*	*1*
4-Bromofluorobenzene (Surr)	*83*		*56 - 136*		*10/18/23 18:11*	*3.333*
1,2-Dichloroethane-d4 (Surr)	*107*		*62 - 137*		*10/16/23 17:10*	*1*
1,2-Dichloroethane-d4 (Surr)	*110*		*62 - 137*		*10/18/23 18:11*	*3.333*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	**22000**		20	3.5	ug/L			10/12/23 16:01	20
Ethane	**2.3**		1.0	0.29	ug/L			10/11/23 03:40	1
Ethylene	**5.0**		1.0	0.12	ug/L			10/11/23 03:40	1
Propane	ND		1.0	0.38	ug/L			10/11/23 03:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,1,1-Trifluoroethane	*97*		*60 - 140*		*10/11/23 03:40*	*1*
1,1,1-Trifluoroethane	*103*		*60 - 140*		*10/12/23 16:01*	*20*

Method: SW846 6010D - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**170**	**J**	200	83	ug/L		10/09/23 14:00	10/10/23 15:53	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**100**		2.5	1.4	mg/L			10/06/23 15:27	5
Nitrate as N (EPA 300.0)	ND		0.25	0.13	mg/L			10/06/23 15:27	5
Nitrite as N (EPA 300.0)	ND		0.25	0.13	mg/L			10/06/23 15:27	5
Sulfate (EPA 300.0)	**180**		10	1.7	mg/L			10/06/23 15:27	5
Chemical Oxygen Demand (MCAWW 410.4-1993 R2.0)	**35**		10	1.8	mg/L			10/12/23 08:08	1
Sulfide (SM 4500 S2 F-2000)	**7.7**		1.0	0.27	mg/L			10/09/23 13:52	1
Total Organic Carbon (SM 5310C-2000)	**5.0**		1.0	0.44	mg/L			10/11/23 00:13	1
Biochemical Oxygen Demand (SM 5210B)	**17**		6.0	6.0	mg/L			10/06/23 11:04	1

Client: AECOM
Project/Site: BP Hyde Park

Job ID: 240-192991-1

Client Sample ID: MW-18A

Date Collected: 10/05/23 11:00
Date Received: 10/05/23 15:30

Lab Sample ID: 240-192991-3

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.48	ug/L			10/16/23 17:35	1
1,1-Dichloroethane	**4.0**		1.0	0.47	ug/L			10/16/23 17:35	1
1,1-Dichloroethene	**1.4**		1.0	0.49	ug/L			10/16/23 17:35	1
Chloroethane	ND		1.0	0.83	ug/L			10/16/23 17:35	1
cis-1,2-Dichloroethene	**57**		1.0	0.46	ug/L			10/16/23 17:35	1
Tetrachloroethene	ND		1.0	0.44	ug/L			10/16/23 17:35	1
trans-1,2-Dichloroethene	**0.86**	**J**	1.0	0.51	ug/L			10/16/23 17:35	1
Trichloroethene	**39**		1.0	0.44	ug/L			10/16/23 17:35	1
Vinyl chloride	**3.5**		1.0	0.45	ug/L			10/16/23 17:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*92*		*78 - 122*		*10/16/23 17:35*	*1*
Dibromofluoromethane (Surr)	*93*		*73 - 120*		*10/16/23 17:35*	*1*
4-Bromofluorobenzene (Surr)	*82*		*56 - 136*		*10/16/23 17:35*	*1*
1,2-Dichloroethane-d4 (Surr)	*106*		*62 - 137*		*10/16/23 17:35*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	**3400**		1.0	0.17	ug/L			10/11/23 03:57	1
Ethane	**0.79**	**J**	1.0	0.29	ug/L			10/11/23 03:57	1
Ethylene	**0.66**	**J**	1.0	0.12	ug/L			10/11/23 03:57	1
Propane	ND		1.0	0.38	ug/L			10/11/23 03:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,1,1-Trifluoroethane	*98*		*60 - 140*		*10/11/23 03:57*	*1*

Method: SW846 6010D - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**1900**		200	83	ug/L		10/09/23 14:00	10/10/23 15:58	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**37**		2.5	1.4	mg/L			10/06/23 15:45	5
Nitrate as N (EPA 300.0)	ND		0.25	0.13	mg/L			10/06/23 15:45	5
Nitrite as N (EPA 300.0)	ND		0.25	0.13	mg/L			10/06/23 15:45	5
Sulfate (EPA 300.0)	**120**		10	1.7	mg/L			10/06/23 15:45	5
Chemical Oxygen Demand (MCAWW 410.4-1993 R2.0)	**7.2**	**J**	10	1.8	mg/L			10/12/23 08:08	1
Sulfide (SM 4500 S2 F-2000)	ND		1.0	0.27	mg/L			10/09/23 13:52	1
Total Organic Carbon (SM 5310C-2000)	**1.4**		1.0	0.44	mg/L			10/11/23 00:26	1
Biochemical Oxygen Demand (SM 5210B)	ND		2.0	2.0	mg/L			10/06/23 11:04	1

Client: AECOM
Project/Site: BP Hyde Park

Job ID: 240-192991-1

Client Sample ID: MW-16B

Date Collected: 10/05/23 11:05
Date Received: 10/05/23 15:30

Lab Sample ID: 240-192991-4

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.48	ug/L			10/17/23 16:44	1
1,1-Dichloroethane	ND		1.0	0.47	ug/L			10/17/23 16:44	1
1,1-Dichloroethene	ND		1.0	0.49	ug/L			10/17/23 16:44	1
Chloroethane	ND		1.0	0.83	ug/L			10/17/23 16:44	1
cis-1,2-Dichloroethene	**2.5**		1.0	0.46	ug/L			10/17/23 16:44	1
Tetrachloroethene	ND		1.0	0.44	ug/L			10/17/23 16:44	1
trans-1,2-Dichloroethene	ND		1.0	0.51	ug/L			10/17/23 16:44	1
Trichloroethene	ND		1.0	0.44	ug/L			10/17/23 16:44	1
Vinyl chloride	**7.1**		1.0	0.45	ug/L			10/17/23 16:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*92*		*78 - 122*		*10/17/23 16:44*	*1*
Dibromofluoromethane (Surr)	*94*		*73 - 120*		*10/17/23 16:44*	*1*
4-Bromofluorobenzene (Surr)	*83*		*56 - 136*		*10/17/23 16:44*	*1*
1,2-Dichloroethane-d4 (Surr)	*106*		*62 - 137*		*10/17/23 16:44*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	**12000**		10	1.7	ug/L			10/11/23 18:54	10
Ethane	**1.3**		1.0	0.29	ug/L			10/11/23 04:31	1
Ethylene	**4.4**		1.0	0.12	ug/L			10/11/23 04:31	1
Propane	ND		1.0	0.38	ug/L			10/11/23 04:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,1,1-Trifluoroethane	*99*		*60 - 140*		*10/11/23 04:31*	*1*
1,1,1-Trifluoroethane	*101*		*60 - 140*		*10/11/23 18:54*	*10*

Method: SW846 6010D - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		200	83	ug/L		10/09/23 14:00	10/10/23 15:05	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**140**		2.5	1.4	mg/L			10/06/23 16:58	5
Nitrate as N (EPA 300.0)	ND		0.25	0.13	mg/L			10/06/23 16:58	5
Nitrite as N (EPA 300.0)	ND		0.25	0.13	mg/L			10/06/23 16:58	5
Sulfate (EPA 300.0)	**230**		10	1.7	mg/L			10/06/23 16:58	5
Chemical Oxygen Demand (MCAWW 410.4-1993 R2.0)	**32**		10	1.8	mg/L			10/12/23 08:08	1
Sulfide (SM 4500 S2 F-2000)	**7.9**		1.0	0.27	mg/L			10/09/23 13:52	1
Total Organic Carbon (SM 5310C-2000)	**4.2**		1.0	0.44	mg/L			10/11/23 03:26	1
Biochemical Oxygen Demand (SM 5210B)	**8.1**		6.0	6.0	mg/L			10/06/23 11:04	1

Client Sample ID: MW-17B

Date Collected: 10/05/23 12:40
Date Received: 10/05/23 15:30

Lab Sample ID: 240-192991-5

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.48	ug/L			10/16/23 18:26	1
1,1-Dichloroethane	**11**		1.0	0.47	ug/L			10/16/23 18:26	1
1,1-Dichloroethene	ND		1.0	0.49	ug/L			10/16/23 18:26	1
Chloroethane	**2.7**		1.0	0.83	ug/L			10/17/23 15:29	1
cis-1,2-Dichloroethene	**0.90**	**J**	1.0	0.46	ug/L			10/16/23 18:26	1
Tetrachloroethene	ND		1.0	0.44	ug/L			10/16/23 18:26	1
trans-1,2-Dichloroethene	ND		1.0	0.51	ug/L			10/16/23 18:26	1
Trichloroethene	ND		1.0	0.44	ug/L			10/16/23 18:26	1
Vinyl chloride	**2.2**		1.0	0.45	ug/L			10/16/23 18:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*104*		*78 - 122*		*10/16/23 18:26*	*1*
Toluene-d8 (Surr)	*89*		*78 - 122*		*10/17/23 15:29*	*1*
Dibromofluoromethane (Surr)	*112*		*73 - 120*		*10/16/23 18:26*	*1*
Dibromofluoromethane (Surr)	*92*		*73 - 120*		*10/17/23 15:29*	*1*
4-Bromofluorobenzene (Surr)	*93*		*56 - 136*		*10/16/23 18:26*	*1*
4-Bromofluorobenzene (Surr)	*79*		*56 - 136*		*10/17/23 15:29*	*1*
1,2-Dichloroethane-d4 (Surr)	*126*		*62 - 137*		*10/16/23 18:26*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*62 - 137*		*10/17/23 15:29*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	**26000**		20	3.5	ug/L			10/11/23 20:02	20
Ethane	**34**		1.0	0.29	ug/L			10/11/23 05:22	1
Ethylene	**5.5**		1.0	0.12	ug/L			10/11/23 05:22	1
Propane	ND		1.0	0.38	ug/L			10/11/23 05:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,1,1-Trifluoroethane	*98*		*60 - 140*		*10/11/23 05:22*	*1*
1,1,1-Trifluoroethane	*102*		*60 - 140*		*10/11/23 20:02*	*20*

Method: SW846 6010D - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**160**	**J**	200	83	ug/L		10/09/23 14:00	10/10/23 16:02	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**88**		2.5	1.4	mg/L			10/06/23 16:04	5
Nitrate as N (EPA 300.0)	ND		0.25	0.13	mg/L			10/06/23 16:04	5
Nitrite as N (EPA 300.0)	ND		0.25	0.13	mg/L			10/06/23 16:04	5
Sulfate (EPA 300.0)	**69**		10	1.7	mg/L			10/06/23 16:04	5
Chemical Oxygen Demand (MCAWW 410.4-1993 R2.0)	**16**		10	1.8	mg/L			10/12/23 08:08	1
Sulfide (SM 4500 S2 F-2000)	**4.5**		1.0	0.27	mg/L			10/09/23 13:52	1
Total Organic Carbon (SM 5310C-2000)	**3.6**		1.0	0.44	mg/L			10/11/23 00:39	1
Biochemical Oxygen Demand (SM 5210B)	**11**		6.0	6.0	mg/L			10/06/23 11:04	1

Client: AECOM
Project/Site: BP Hyde Park

Job ID: 240-192991-1

Client Sample ID: MW-16A

Date Collected: 10/05/23 12:45
Date Received: 10/05/23 15:30

Lab Sample ID: 240-192991-6

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.48	ug/L			10/16/23 18:50	1
1,1-Dichloroethane	ND		1.0	0.47	ug/L			10/16/23 18:50	1
1,1-Dichloroethene	ND		1.0	0.49	ug/L			10/16/23 18:50	1
Chloroethane	ND		1.0	0.83	ug/L			10/16/23 18:50	1
cis-1,2-Dichloroethene	**0.98**	**J**	1.0	0.46	ug/L			10/16/23 18:50	1
Tetrachloroethene	ND		1.0	0.44	ug/L			10/16/23 18:50	1
trans-1,2-Dichloroethene	ND		1.0	0.51	ug/L			10/16/23 18:50	1
Trichloroethene	ND		1.0	0.44	ug/L			10/16/23 18:50	1
Vinyl chloride	**37**		1.0	0.45	ug/L			10/16/23 18:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*93*		*78 - 122*		*10/16/23 18:50*	*1*
Dibromofluoromethane (Surr)	*99*		*73 - 120*		*10/16/23 18:50*	*1*
4-Bromofluorobenzene (Surr)	*82*		*56 - 136*		*10/16/23 18:50*	*1*
1,2-Dichloroethane-d4 (Surr)	*113*		*62 - 137*		*10/16/23 18:50*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	**370**		1.0	0.17	ug/L			10/11/23 05:39	1
Ethane	**1.8**		1.0	0.29	ug/L			10/11/23 05:39	1
Ethylene	**170**		1.0	0.12	ug/L			10/11/23 05:39	1
Propane	ND		1.0	0.38	ug/L			10/11/23 05:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,1,1-Trifluoroethane	*100*		*60 - 140*		*10/11/23 05:39*	*1*

Method: SW846 6010D - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**490**		200	83	ug/L		10/09/23 14:00	10/10/23 16:06	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**40**		2.5	1.4	mg/L			10/06/23 16:22	5
Nitrate as N (EPA 300.0)	**1.3**		0.25	0.13	mg/L			10/06/23 16:22	5
Nitrite as N (EPA 300.0)	ND		0.25	0.13	mg/L			10/06/23 16:22	5
Sulfate (EPA 300.0)	**190**		10	1.7	mg/L			10/06/23 16:22	5
Chemical Oxygen Demand (MCAWW 410.4-1993 R2.0)	**18**		10	1.8	mg/L			10/12/23 08:08	1
Sulfide (SM 4500 S2 F-2000)	ND		1.0	0.27	mg/L			10/09/23 13:52	1
Total Organic Carbon (SM 5310C-2000)	**5.0**		1.0	0.44	mg/L			10/11/23 00:52	1
Biochemical Oxygen Demand (SM 5210B)	ND		2.0	2.0	mg/L			10/06/23 11:04	1

Client: AECOM
Project/Site: BP Hyde Park

Job ID: 240-192991-1

Client Sample ID: MW-17A

Date Collected: 10/05/23 14:05
Date Received: 10/05/23 15:30

Lab Sample ID: 240-192991-7

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.48	ug/L			10/16/23 19:16	1
1,1-Dichloroethane	**11**		1.0	0.47	ug/L			10/16/23 19:16	1
1,1-Dichloroethene	ND		1.0	0.49	ug/L			10/16/23 19:16	1
Chloroethane	ND		1.0	0.83	ug/L			10/16/23 19:16	1
cis-1,2-Dichloroethene	**30**		1.0	0.46	ug/L			10/16/23 19:16	1
Tetrachloroethene	ND		1.0	0.44	ug/L			10/16/23 19:16	1
trans-1,2-Dichloroethene	ND		1.0	0.51	ug/L			10/16/23 19:16	1
Trichloroethene	ND		1.0	0.44	ug/L			10/16/23 19:16	1
Vinyl chloride	**73**		2.0	0.90	ug/L			10/18/23 19:26	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*92*		*78 - 122*		*10/16/23 19:16*	*1*
Toluene-d8 (Surr)	*104*		*78 - 122*		*10/18/23 19:26*	*2*
Dibromofluoromethane (Surr)	*98*		*73 - 120*		*10/16/23 19:16*	*1*
Dibromofluoromethane (Surr)	*106*		*73 - 120*		*10/18/23 19:26*	*2*
4-Bromofluorobenzene (Surr)	*82*		*56 - 136*		*10/16/23 19:16*	*1*
4-Bromofluorobenzene (Surr)	*93*		*56 - 136*		*10/18/23 19:26*	*2*
1,2-Dichloroethane-d4 (Surr)	*108*		*62 - 137*		*10/16/23 19:16*	*1*
1,2-Dichloroethane-d4 (Surr)	*120*		*62 - 137*		*10/18/23 19:26*	*2*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	**13000**		10	1.7	ug/L			10/11/23 20:19	10
Ethane	**8.9**		1.0	0.29	ug/L			10/11/23 05:56	1
Ethylene	**21**		1.0	0.12	ug/L			10/11/23 05:56	1
Propane	ND		1.0	0.38	ug/L			10/11/23 05:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,1,1-Trifluoroethane	*98*		*60 - 140*		*10/11/23 05:56*	*1*
1,1,1-Trifluoroethane	*100*		*60 - 140*		*10/11/23 20:19*	*10*

Method: SW846 6010D - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**540**		200	83	ug/L		10/09/23 14:00	10/10/23 16:11	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**16**		2.5	1.4	mg/L			10/06/23 16:40	5
Nitrate as N (EPA 300.0)	ND		0.25	0.13	mg/L			10/06/23 16:40	5
Nitrite as N (EPA 300.0)	ND		0.25	0.13	mg/L			10/06/23 16:40	5
Sulfate (EPA 300.0)	**41**		10	1.7	mg/L			10/06/23 16:40	5
Chemical Oxygen Demand (MCAWW 410.4-1993 R2.0)	**9.5**	**J**	10	1.8	mg/L			10/12/23 08:08	1
Sulfide (SM 4500 S2 F-2000)	ND		1.0	0.27	mg/L			10/09/23 13:52	1
Total Organic Carbon (SM 5310C-2000)	**2.8**		1.0	0.44	mg/L			10/11/23 01:05	1
Biochemical Oxygen Demand (SM 5210B)	**4.4**		2.0	2.0	mg/L			10/06/23 11:04	1

Client: AECOM
Project/Site: BP Hyde Park

Job ID: 240-192991-1

Client Sample ID: MW-6
Date Collected: 10/05/23 14:25
Date Received: 10/05/23 15:30

Lab Sample ID: 240-192991-8
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.48	ug/L			10/16/23 19:40	1
1,1-Dichloroethane	ND		1.0	0.47	ug/L			10/16/23 19:40	1
1,1-Dichloroethene	ND		1.0	0.49	ug/L			10/16/23 19:40	1
Chloroethane	ND		1.0	0.83	ug/L			10/16/23 19:40	1
cis-1,2-Dichloroethene	**12**		1.0	0.46	ug/L			10/16/23 19:40	1
Tetrachloroethene	ND		1.0	0.44	ug/L			10/16/23 19:40	1
trans-1,2-Dichloroethene	ND		1.0	0.51	ug/L			10/16/23 19:40	1
Trichloroethene	ND		1.0	0.44	ug/L			10/16/23 19:40	1
Vinyl chloride	**59**		2.0	0.90	ug/L			10/18/23 19:50	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*93*		*78 - 122*		*10/16/23 19:40*	*1*
Toluene-d8 (Surr)	*92*		*78 - 122*		*10/18/23 19:50*	*2*
Dibromofluoromethane (Surr)	*96*		*73 - 120*		*10/16/23 19:40*	*1*
Dibromofluoromethane (Surr)	*94*		*73 - 120*		*10/18/23 19:50*	*2*
4-Bromofluorobenzene (Surr)	*85*		*56 - 136*		*10/16/23 19:40*	*1*
4-Bromofluorobenzene (Surr)	*83*		*56 - 136*		*10/18/23 19:50*	*2*
1,2-Dichloroethane-d4 (Surr)	*108*		*62 - 137*		*10/16/23 19:40*	*1*
1,2-Dichloroethane-d4 (Surr)	*107*		*62 - 137*		*10/18/23 19:50*	*2*

Client: AECOM
Project/Site: BP Hyde Park

Job ID: 240-192991-1

Client Sample ID: TB-100523
Date Collected: 10/05/23 00:00
Date Received: 10/05/23 15:30

Lab Sample ID: 240-192991-9
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.48	ug/L			10/16/23 14:40	1
1,1-Dichloroethane	ND		1.0	0.47	ug/L			10/16/23 14:40	1
1,1-Dichloroethene	ND		1.0	0.49	ug/L			10/16/23 14:40	1
Chloroethane	ND		1.0	0.83	ug/L			10/16/23 14:40	1
cis-1,2-Dichloroethene	ND		1.0	0.46	ug/L			10/16/23 14:40	1
Tetrachloroethene	ND		1.0	0.44	ug/L			10/16/23 14:40	1
trans-1,2-Dichloroethene	ND		1.0	0.51	ug/L			10/16/23 14:40	1
Trichloroethene	ND		1.0	0.44	ug/L			10/16/23 14:40	1
Vinyl chloride	ND		1.0	0.45	ug/L			10/16/23 14:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*91*		*78 - 122*		*10/16/23 14:40*	*1*
Dibromofluoromethane (Surr)	*93*		*73 - 120*		*10/16/23 14:40*	*1*
4-Bromofluorobenzene (Surr)	*82*		*56 - 136*		*10/16/23 14:40*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*62 - 137*		*10/16/23 14:40*	*1*

Client: AECOM
Project/Site: BP Hyde Park

Job ID: 240-192991-1

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

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		TOL	DBFM	BFB	DCA
Lab Sample ID	Client Sample ID	(78-122)	(73-120)	(56-136)	(62-137)
240-192991-1	MW-19B	93	97	84	106
240-192991-2	MW-18B	94	96	82	107
240-192991-2	MW-18B	95	96	83	110
240-192991-2 MS	MW-18B	90	94	87	103
240-192991-2 MSD	MW-18B	92	95	89	101
240-192991-3	MW-18A	92	93	82	106
240-192991-4	MW-16B	92	94	83	106
240-192991-4 MS	MW-16B	96	98	92	105
240-192991-4 MSD	MW-16B	93	95	89	100
240-192991-5	MW-17B	104	112	93	126
240-192991-5	MW-17B	89	92	79	101
240-192991-6	MW-16A	93	99	82	113
240-192991-7	MW-17A	92	98	82	108
240-192991-7	MW-17A	104	106	93	120
240-192991-8	MW-6	93	96	85	108
240-192991-8	MW-6	92	94	83	107
240-192991-9	TB-100523	91	93	82	103
LCS 240-590898/5	Lab Control Sample	91	93	86	97
LCS 240-590898/6	Lab Control Sample	105	105	100	112
LCS 240-591078/5	Lab Control Sample	93	93	90	100
LCS 240-591291/5	Lab Control Sample	100	102	95	108
MB 240-590898/8	Method Blank	99	96	89	110
MB 240-591078/8	Method Blank	97	96	87	108
MB 240-591291/8	Method Blank	104	107	92	116

Surrogate Legend

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

Method: RSK-175 - Dissolved Gases (GC)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		TFE1
Lab Sample ID	Client Sample ID	(60-140)
240-192991-2	MW-18B	97
240-192991-2	MW-18B	103
240-192991-3	MW-18A	98
240-192991-4	MW-16B	99
240-192991-4	MW-16B	101
240-192991-4 MS	MW-16B	98
240-192991-4 MS	MW-16B	103
240-192991-4 MSD	MW-16B	100
240-192991-4 MSD	MW-16B	105
240-192991-5	MW-17B	98
240-192991-5	MW-17B	102
240-192991-6	MW-16A	100
240-192991-7	MW-17A	98

Surrogate Summary

Client: AECOM
Job ID: 240-192991-1
Project/Site: BP Hyde Park

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

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)							
		TFE1							
Lab Sample ID	Client Sample ID	(60-140)							
240-192991-7	MW-17A	100							
LCS 240-590262/34	Lab Control Sample	102							
LCS 240-590452/4	Lab Control Sample	102							
LCS 240-590566/4	Lab Control Sample	102							
LCSD 240-590262/35	Lab Control Sample Dup	103							
LCSD 240-590452/5	Lab Control Sample Dup	104							
LCSD 240-590566/5	Lab Control Sample Dup	104							
MB 240-590262/33	Method Blank	102							
MB 240-590452/3	Method Blank	105							
MB 240-590566/3	Method Blank	106							

Surrogate Legend

TFE = 1,1,1-Trifluoroethane

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

Lab Sample ID: MB 240-590898/8
Matrix: Water
Analysis Batch: 590898

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.48	ug/L			10/16/23 12:36	1
1,1-Dichloroethane	ND		1.0	0.47	ug/L			10/16/23 12:36	1
1,1-Dichloroethene	ND		1.0	0.49	ug/L			10/16/23 12:36	1
Chloroethane	ND		1.0	0.83	ug/L			10/16/23 12:36	1
cis-1,2-Dichloroethene	ND		1.0	0.46	ug/L			10/16/23 12:36	1
Tetrachloroethene	ND		1.0	0.44	ug/L			10/16/23 12:36	1
trans-1,2-Dichloroethene	ND		1.0	0.51	ug/L			10/16/23 12:36	1
Trichloroethene	ND		1.0	0.44	ug/L			10/16/23 12:36	1
Vinyl chloride	ND		1.0	0.45	ug/L			10/16/23 12:36	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*78 - 122*		*10/16/23 12:36*	*1*
Dibromofluoromethane (Surr)	*96*		*73 - 120*		*10/16/23 12:36*	*1*
4-Bromofluorobenzene (Surr)	*89*		*56 - 136*		*10/16/23 12:36*	*1*
1,2-Dichloroethane-d4 (Surr)	*110*		*62 - 137*		*10/16/23 12:36*	*1*

Lab Sample ID: LCS 240-590898/5
Matrix: Water
Analysis Batch: 590898

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	25.0	27.3		ug/L		109	64 - 131
1,1-Dichloroethane	25.0	24.9		ug/L		100	72 - 127
1,1-Dichloroethene	25.0	28.0		ug/L		112	63 - 134
Chloroethane	12.5	11.3		ug/L		90	38 - 152
cis-1,2-Dichloroethene	25.0	24.9		ug/L		100	77 - 123
Tetrachloroethene	25.0	24.6		ug/L		98	76 - 123
trans-1,2-Dichloroethene	25.0	25.7		ug/L		103	75 - 124
Trichloroethene	25.0	24.7		ug/L		99	70 - 122
Vinyl chloride	12.5	12.7		ug/L		102	60 - 144

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*91*		*78 - 122*
Dibromofluoromethane (Surr)	*93*		*73 - 120*
4-Bromofluorobenzene (Surr)	*86*		*56 - 136*
1,2-Dichloroethane-d4 (Surr)	*97*		*62 - 137*

Lab Sample ID: LCS 240-590898/6
Matrix: Water
Analysis Batch: 590898

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

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*105*		*78 - 122*
Dibromofluoromethane (Surr)	*105*		*73 - 120*
4-Bromofluorobenzene (Surr)	*100*		*56 - 136*
1,2-Dichloroethane-d4 (Surr)	*112*		*62 - 137*

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

Lab Sample ID: MB 240-591078/8
Matrix: Water
Analysis Batch: 591078

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.48	ug/L			10/17/23 12:59	1
1,1-Dichloroethane	ND		1.0	0.47	ug/L			10/17/23 12:59	1
1,1-Dichloroethene	ND		1.0	0.49	ug/L			10/17/23 12:59	1
Chloroethane	ND		1.0	0.83	ug/L			10/17/23 12:59	1
cis-1,2-Dichloroethene	ND		1.0	0.46	ug/L			10/17/23 12:59	1
Tetrachloroethene	ND		1.0	0.44	ug/L			10/17/23 12:59	1
trans-1,2-Dichloroethene	ND		1.0	0.51	ug/L			10/17/23 12:59	1
Trichloroethene	ND		1.0	0.44	ug/L			10/17/23 12:59	1
Vinyl chloride	ND		1.0	0.45	ug/L			10/17/23 12:59	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*78 - 122*		*10/17/23 12:59*	*1*
Dibromofluoromethane (Surr)	*96*		*73 - 120*		*10/17/23 12:59*	*1*
4-Bromofluorobenzene (Surr)	*87*		*56 - 136*		*10/17/23 12:59*	*1*
1,2-Dichloroethane-d4 (Surr)	*108*		*62 - 137*		*10/17/23 12:59*	*1*

Lab Sample ID: LCS 240-591078/5
Matrix: Water
Analysis Batch: 591078

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	25.0	25.3		ug/L		101	64 - 131
1,1-Dichloroethane	25.0	24.7		ug/L		99	72 - 127
1,1-Dichloroethene	25.0	25.2		ug/L		101	63 - 134
Chloroethane	12.5	10.9		ug/L		87	38 - 152
cis-1,2-Dichloroethene	25.0	24.2		ug/L		97	77 - 123
Tetrachloroethene	25.0	24.3		ug/L		97	76 - 123
trans-1,2-Dichloroethene	25.0	24.8		ug/L		99	75 - 124
Trichloroethene	25.0	24.3		ug/L		97	70 - 122
Vinyl chloride	12.5	11.0		ug/L		88	60 - 144

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*93*		*78 - 122*
Dibromofluoromethane (Surr)	*93*		*73 - 120*
4-Bromofluorobenzene (Surr)	*90*		*56 - 136*
1,2-Dichloroethane-d4 (Surr)	*100*		*62 - 137*

Lab Sample ID: 240-192991-4 MS
Matrix: Water
Analysis Batch: 591078

Client Sample ID: MW-16B
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	ND		25.0	24.0		ug/L		96	60 - 130
1,1-Dichloroethane	ND		25.0	23.1		ug/L		92	68 - 125
1,1-Dichloroethene	ND		25.0	25.2		ug/L		101	56 - 135
Chloroethane	ND		12.5	10.1		ug/L		81	10 - 199
cis-1,2-Dichloroethene	2.5		25.0	25.5		ug/L		92	66 - 128
Tetrachloroethene	ND		25.0	22.6		ug/L		90	62 - 131

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

Lab Sample ID: 240-192991-4 MS
Matrix: Water
Analysis Batch: 591078

Client Sample ID: MW-16B
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
trans-1,2-Dichloroethene	ND		25.0	23.9		ug/L		96	56 - 136
Trichloroethene	ND		25.0	22.5		ug/L		90	61 - 124
Vinyl chloride	7.1		12.5	18.9		ug/L		95	43 - 157

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*96*		*78 - 122*
Dibromofluoromethane (Surr)	*98*		*73 - 120*
4-Bromofluorobenzene (Surr)	*92*		*56 - 136*
1,2-Dichloroethane-d4 (Surr)	*105*		*62 - 137*

Lab Sample ID: 240-192991-4 MSD
Matrix: Water
Analysis Batch: 591078

Client Sample ID: MW-16B
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	ND		25.0	25.1		ug/L		100	60 - 130	5	17
1,1-Dichloroethane	ND		25.0	24.1		ug/L		96	68 - 125	4	13
1,1-Dichloroethene	ND		25.0	27.0		ug/L		108	56 - 135	7	26
Chloroethane	ND		12.5	10.3		ug/L		83	10 - 199	2	30
cis-1,2-Dichloroethene	2.5		25.0	26.1		ug/L		95	66 - 128	2	14
Tetrachloroethene	ND		25.0	24.5		ug/L		98	62 - 131	8	20
trans-1,2-Dichloroethene	ND		25.0	25.0		ug/L		100	56 - 136	4	15
Trichloroethene	ND		25.0	23.5		ug/L		94	61 - 124	4	15
Vinyl chloride	7.1		12.5	19.3		ug/L		98	43 - 157	2	24

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*93*		*78 - 122*
Dibromofluoromethane (Surr)	*95*		*73 - 120*
4-Bromofluorobenzene (Surr)	*89*		*56 - 136*
1,2-Dichloroethane-d4 (Surr)	*100*		*62 - 137*

Lab Sample ID: MB 240-591291/8
Matrix: Water
Analysis Batch: 591291

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.48	ug/L			10/18/23 13:35	1
1,1-Dichloroethane	ND		1.0	0.47	ug/L			10/18/23 13:35	1
1,1-Dichloroethene	ND		1.0	0.49	ug/L			10/18/23 13:35	1
Chloroethane	ND		1.0	0.83	ug/L			10/18/23 13:35	1
cis-1,2-Dichloroethene	ND		1.0	0.46	ug/L			10/18/23 13:35	1
Tetrachloroethene	ND		1.0	0.44	ug/L			10/18/23 13:35	1
trans-1,2-Dichloroethene	ND		1.0	0.51	ug/L			10/18/23 13:35	1
Trichloroethene	ND		1.0	0.44	ug/L			10/18/23 13:35	1
Vinyl chloride	ND		1.0	0.45	ug/L			10/18/23 13:35	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*104*		*78 - 122*		*10/18/23 13:35*	*1*

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

Lab Sample ID: MB 240-591291/8
Matrix: Water
Analysis Batch: 591291

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

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	*107*		*73 - 120*		*10/18/23 13:35*	*1*
4-Bromofluorobenzene (Surr)	*92*		*56 - 136*		*10/18/23 13:35*	*1*
1,2-Dichloroethane-d4 (Surr)	*116*		*62 - 137*		*10/18/23 13:35*	*1*

Lab Sample ID: LCS 240-591291/5
Matrix: Water
Analysis Batch: 591291

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	25.0	28.3		ug/L		113	64 - 131
1,1-Dichloroethane	25.0	26.9		ug/L		108	72 - 127
1,1-Dichloroethene	25.0	28.2		ug/L		113	63 - 134
Chloroethane	12.5	10.3		ug/L		82	38 - 152
cis-1,2-Dichloroethene	25.0	26.3		ug/L		105	77 - 123
Tetrachloroethene	25.0	26.2		ug/L		105	76 - 123
trans-1,2-Dichloroethene	25.0	28.1		ug/L		112	75 - 124
Trichloroethene	25.0	26.8		ug/L		107	70 - 122
Vinyl chloride	12.5	9.51		ug/L		76	60 - 144

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	*100*		*78 - 122*
Dibromofluoromethane (Surr)	*102*		*73 - 120*
4-Bromofluorobenzene (Surr)	*95*		*56 - 136*
1,2-Dichloroethane-d4 (Surr)	*108*		*62 - 137*

Lab Sample ID: 240-192991-2 MS
Matrix: Water
Analysis Batch: 591291

Client Sample ID: MW-18B
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
cis-1,2-Dichloroethene	120		83.3	208		ug/L		101	66 - 128

Surrogate	MS %Recovery	MS Qualifier	Limits
Toluene-d8 (Surr)	*90*		*78 - 122*
Dibromofluoromethane (Surr)	*94*		*73 - 120*
4-Bromofluorobenzene (Surr)	*87*		*56 - 136*
1,2-Dichloroethane-d4 (Surr)	*103*		*62 - 137*

Lab Sample ID: 240-192991-2 MSD
Matrix: Water
Analysis Batch: 591291

Client Sample ID: MW-18B
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	ND		83.3	84.5		ug/L		101	60 - 130	1	17
1,1-Dichloroethane	ND		83.3	84.3		ug/L		101	68 - 125	0	13
1,1-Dichloroethene	ND		83.3	91.7		ug/L		110	56 - 135	4	26
Chloroethane	ND		41.7	33.8		ug/L		81	10 - 199	5	30
cis-1,2-Dichloroethene	120		83.3	198		ug/L		89	66 - 128	5	14

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

Lab Sample ID: 240-192991-2 MSD
Matrix: Water
Analysis Batch: 591291

Client Sample ID: MW-18B
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Tetrachloroethene	ND		83.3	74.1		ug/L		89	62 - 131	3	20
trans-1,2-Dichloroethene	ND		83.3	86.3		ug/L		104	56 - 136	1	15
Trichloroethene	ND		83.3	79.2		ug/L		95	61 - 124	3	15
Vinyl chloride	61		41.7	88.2		ug/L		64	43 - 157	6	24

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*92*		*78 - 122*
Dibromofluoromethane (Surr)	*95*		*73 - 120*
4-Bromofluorobenzene (Surr)	*89*		*56 - 136*
1,2-Dichloroethane-d4 (Surr)	*101*		*62 - 137*

Method: RSK-175 - Dissolved Gases (GC)

Lab Sample ID: MB 240-590262/33
Matrix: Water
Analysis Batch: 590262

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		1.0	0.17	ug/L			10/10/23 22:34	1
Ethane	ND		1.0	0.29	ug/L			10/10/23 22:34	1
Ethylene	ND		1.0	0.12	ug/L			10/10/23 22:34	1
Propane	ND		1.0	0.38	ug/L			10/10/23 22:34	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,1,1-Trifluoroethane	*102*		*60 - 140*		*10/10/23 22:34*	*1*

Lab Sample ID: LCS 240-590262/34
Matrix: Water
Analysis Batch: 590262

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Methane			284	293		ug/L		103	80 - 120		
Ethane			537	514		ug/L		96	80 - 120		
Ethylene			506	488		ug/L		96	80 - 120		
Propane			787	737		ug/L		94	80 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,1,1-Trifluoroethane	*102*		*60 - 140*

Lab Sample ID: LCSD 240-590262/35
Matrix: Water
Analysis Batch: 590262

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Methane			284	297		ug/L		105	80 - 120	1	35
Ethane			537	518		ug/L		96	80 - 120	1	35
Ethylene			506	491		ug/L		97	80 - 120	1	35
Propane			787	742		ug/L		94	80 - 120	1	35

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

Lab Sample ID: LCSD 240-590262/35
Matrix: Water
Analysis Batch: 590262

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

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,1,1-Trifluoroethane	103		60 - 140

Lab Sample ID: 240-192991-4 MS
Matrix: Water
Analysis Batch: 590262

Client Sample ID: MW-16B
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethane	1.3		537	474		ug/L		88	50 - 150
Ethylene	4.4		506	457		ug/L		89	50 - 150
Propane	ND		794	678		ug/L		85	50 - 150

Surrogate	MS %Recovery	MS Qualifier	Limits
1,1,1-Trifluoroethane	98		60 - 140

Lab Sample ID: 240-192991-4 MSD
Matrix: Water
Analysis Batch: 590262

Client Sample ID: MW-16B
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ethane	1.3		537	481		ug/L		89	50 - 150	1	30
Ethylene	4.4		506	464		ug/L		91	50 - 150	1	30
Propane	ND		794	691		ug/L		87	50 - 150	2	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,1,1-Trifluoroethane	100		60 - 140

Lab Sample ID: MB 240-590452/3
Matrix: Water
Analysis Batch: 590452

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		1.0	0.17	ug/L			10/11/23 16:21	1
Ethane	ND		1.0	0.29	ug/L			10/11/23 16:21	1
Ethylene	ND		1.0	0.12	ug/L			10/11/23 16:21	1
Propane	ND		1.0	0.38	ug/L			10/11/23 16:21	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,1,1-Trifluoroethane	105		60 - 140		10/11/23 16:21	1

Lab Sample ID: LCS 240-590452/4
Matrix: Water
Analysis Batch: 590452

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Methane	284	300		ug/L		106	80 - 120
Ethane	537	519		ug/L		97	80 - 120
Ethylene	506	493		ug/L		97	80 - 120
Propane	787	742		ug/L		94	80 - 120

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

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,1,1-Trifluoroethane	102		60 - 140

Lab Sample ID: LCSD 240-590452/5
Matrix: Water
Analysis Batch: 590452

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Methane			284	304		ug/L		107	80 - 120	1	35
Ethane			537	529		ug/L		99	80 - 120	2	35
Ethylene			506	500		ug/L		99	80 - 120	1	35
Propane			787	755		ug/L		96	80 - 120	2	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,1,1-Trifluoroethane	104		60 - 140

Lab Sample ID: 240-192991-4 MS
Matrix: Water
Analysis Batch: 590452

Client Sample ID: MW-16B
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Methane	12000		2840	14700	4	ug/L		78	50 - 150		

Surrogate	MS %Recovery	MS Qualifier	Limits
1,1,1-Trifluoroethane	103		60 - 140

Lab Sample ID: 240-192991-4 MSD
Matrix: Water
Analysis Batch: 590452

Client Sample ID: MW-16B
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Methane	12000		2840	14600	4	ug/L		76	50 - 150	0	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,1,1-Trifluoroethane	105		60 - 140

Lab Sample ID: MB 240-590566/3
Matrix: Water
Analysis Batch: 590566

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		1.0	0.17	ug/L			10/12/23 12:37	1
Ethane	ND		1.0	0.29	ug/L			10/12/23 12:37	1
Ethylene	ND		1.0	0.12	ug/L			10/12/23 12:37	1
Propane	ND		1.0	0.38	ug/L			10/12/23 12:37	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,1,1-Trifluoroethane	106		60 - 140		10/12/23 12:37	1

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

Lab Sample ID: LCS 240-590566/4
Matrix: Water
Analysis Batch: 590566

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Methane			284	300		ug/L		106	80 - 120		
Ethane			537	518		ug/L		97	80 - 120		
Ethylene			506	492		ug/L		97	80 - 120		
Propane			787	738		ug/L		94	80 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,1,1-Trifluoroethane	*102*		*60 - 140*

Lab Sample ID: LCSD 240-590566/5
Matrix: Water
Analysis Batch: 590566

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Methane			284	300		ug/L		106	80 - 120	0	35
Ethane			537	526		ug/L		98	80 - 120	1	35
Ethylene			506	500		ug/L		99	80 - 120	2	35
Propane			787	749		ug/L		95	80 - 120	1	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,1,1-Trifluoroethane	*104*		*60 - 140*

Method: 6010D - Metals (ICP)

Lab Sample ID: MB 240-590068/1-A
Matrix: Water
Analysis Batch: 590274

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 590068

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		200	83	ug/L		10/09/23 14:00	10/10/23 14:36	1

Lab Sample ID: LCS 240-590068/2-A
Matrix: Water
Analysis Batch: 590274

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 590068

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Iron			10000	10100		ug/L		101	80 - 120		

Lab Sample ID: 240-192991-4 MS
Matrix: Water
Analysis Batch: 590274

Client Sample ID: MW-16B
Prep Type: Dissolved
Prep Batch: 590068

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Iron	ND		10000	9520		ug/L		95	75 - 125		

Method: 6010D - Metals (ICP) (Continued)

Lab Sample ID: 240-192991-4 MSD
Matrix: Water
Analysis Batch: 590274

Client Sample ID: MW-16B
Prep Type: Dissolved
Prep Batch: 590068

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Iron	ND		10000	9680		ug/L		97	75 - 125	2	20

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 480-686402/4
Matrix: Water
Analysis Batch: 686402

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50	0.28	mg/L			10/06/23 14:51	1
Sulfate	ND		2.0	0.35	mg/L			10/06/23 14:51	1

Lab Sample ID: LCS 480-686402/5
Matrix: Water
Analysis Batch: 686402

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	50.1	46.9		mg/L		94	90 - 110
Sulfate	50.1	48.1		mg/L		96	90 - 110

Lab Sample ID: 240-192991-4 MS
Matrix: Water
Analysis Batch: 686402

Client Sample ID: MW-16B
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	140		250	371		mg/L		94	81 - 120
Sulfate	230		250	465		mg/L		95	80 - 120

Lab Sample ID: 240-192991-4 MSD
Matrix: Water
Analysis Batch: 686402

Client Sample ID: MW-16B
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	140		250	370		mg/L		93	81 - 120	0	15
Sulfate	230		250	461		mg/L		93	80 - 120	1	15

Lab Sample ID: MB 480-686405/4
Matrix: Water
Analysis Batch: 686405

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.050	0.025	mg/L			10/06/23 14:51	1
Nitrite as N	ND		0.050	0.025	mg/L			10/06/23 14:51	1

Lab Sample ID: LCS 480-686405/5
Matrix: Water
Analysis Batch: 686405

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate as N	5.01	4.89		mg/L		98	90 - 110

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 240-192991-4 MS
Matrix: Water
Analysis Batch: 686405

Client Sample ID: MW-16B
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate as N	ND		25.0	24.8		mg/L		99	80 - 120

Lab Sample ID: 240-192991-4 MSD
Matrix: Water
Analysis Batch: 686405

Client Sample ID: MW-16B
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate as N	ND		25.0	24.4		mg/L		98	80 - 120	1	15

Method: 410.4-1993 R2.0 - COD

Lab Sample ID: MB 240-590519/9
Matrix: Water
Analysis Batch: 590519

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		10	1.8	mg/L			10/12/23 08:08	1

Lab Sample ID: LCS 240-590519/10
Matrix: Water
Analysis Batch: 590519

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chemical Oxygen Demand	46.4	44.9		mg/L		97	90 - 110

Lab Sample ID: 240-192991-4 MS
Matrix: Water
Analysis Batch: 590519

Client Sample ID: MW-16B
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chemical Oxygen Demand	32		52.6	81.0		mg/L		93	90 - 110

Lab Sample ID: 240-192991-4 MSD
Matrix: Water
Analysis Batch: 590519

Client Sample ID: MW-16B
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chemical Oxygen Demand	32		52.6	83.0		mg/L		97	90 - 110	2	20

Lab Sample ID: 240-192991-7 MS
Matrix: Water
Analysis Batch: 590519

Client Sample ID: MW-17A
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chemical Oxygen Demand	9.5	J	52.6	60.5		mg/L		97	90 - 110

Method: 410.4-1993 R2.0 - COD (Continued)

Lab Sample ID: 240-192991-7 MSD
Matrix: Water
Analysis Batch: 590519

Client Sample ID: MW-17A
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chemical Oxygen Demand	9.5	J	52.6	60.8		mg/L		98	90 - 110	1	20

Method: 4500 S2 F-2000 - Sulfide, Total

Lab Sample ID: MB 240-590115/1
Matrix: Water
Analysis Batch: 590115

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		1.0	0.27	mg/L			10/09/23 13:52	1

Lab Sample ID: LCS 240-590115/2
Matrix: Water
Analysis Batch: 590115

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfide	21.4	21.3		mg/L		100	80 - 120

Lab Sample ID: 240-192991-4 MS
Matrix: Water
Analysis Batch: 590115

Client Sample ID: MW-16B
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfide	7.9		21.4	29.3		mg/L		100	67 - 126

Lab Sample ID: 240-192991-4 MSD
Matrix: Water
Analysis Batch: 590115

Client Sample ID: MW-16B
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sulfide	7.9		21.4	28.7		mg/L		97	67 - 126	2	10

Method: 5310C-2000 - Total Organic Carbon/Persulfate - Ultrav

Lab Sample ID: MB 240-590494/32
Matrix: Water
Analysis Batch: 590494

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		1.0	0.44	mg/L			10/11/23 02:48	1

Lab Sample ID: MB 240-590494/4
Matrix: Water
Analysis Batch: 590494

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		1.0	0.44	mg/L			10/10/23 20:45	1

Method: 5310C-2000 - Total Organic Carbon/Persulfate - Ultrav (Continued)

Lab Sample ID: LCS 240-590494/31
Matrix: Water
Analysis Batch: 590494

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	18.3	18.3		mg/L		100	85 - 115

Lab Sample ID: LCS 240-590494/5
Matrix: Water
Analysis Batch: 590494

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	18.3	18.3		mg/L		100	85 - 115

Lab Sample ID: 240-192991-4 MS
Matrix: Water
Analysis Batch: 590494

Client Sample ID: MW-16B
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon	4.2		10.0	14.3		mg/L		101	65 - 134

Lab Sample ID: 240-192991-4 MSD
Matrix: Water
Analysis Batch: 590494

Client Sample ID: MW-16B
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Organic Carbon	4.2		10.0	14.2		mg/L		100	65 - 134	1	10

Method: SM 5210B - BOD, 5-Day

Lab Sample ID: USB 480-686420/1
Matrix: Water
Analysis Batch: 686420

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

Analyte	USB Result	USB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	ND		2.0	2.0	mg/L			10/06/23 11:04	1

Lab Sample ID: LCS 480-686420/2
Matrix: Water
Analysis Batch: 686420

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Biochemical Oxygen Demand	199	175		mg/L		88	85 - 115

Lab Sample ID: 240-192991-4 MS
Matrix: Water
Analysis Batch: 686420

Client Sample ID: MW-16B
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Biochemical Oxygen Demand	8.1		199	160		mg/L		76	51 - 143

Client: AECOM
Project/Site: BP Hyde Park

Job ID: 240-192991-1

Method: SM 5210B - BOD, 5-Day (Continued)

Lab Sample ID: 240-192991-4 MSD
Matrix: Water
Analysis Batch: 686420

Client Sample ID: MW-16B
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Biochemical Oxygen Demand	8.1		199	161		mg/L		77	51 - 143	0	20

GC/MS VOA

Analysis Batch: 590898

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-192991-1	MW-19B	Total/NA	Water	8260D	
240-192991-2	MW-18B	Total/NA	Water	8260D	
240-192991-3	MW-18A	Total/NA	Water	8260D	
240-192991-5	MW-17B	Total/NA	Water	8260D	
240-192991-6	MW-16A	Total/NA	Water	8260D	
240-192991-7	MW-17A	Total/NA	Water	8260D	
240-192991-8	MW-6	Total/NA	Water	8260D	
240-192991-9	TB-100523	Total/NA	Water	8260D	
MB 240-590898/8	Method Blank	Total/NA	Water	8260D	
LCS 240-590898/5	Lab Control Sample	Total/NA	Water	8260D	
LCS 240-590898/6	Lab Control Sample	Total/NA	Water	8260D	

Analysis Batch: 591078

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-192991-4	MW-16B	Total/NA	Water	8260D	
240-192991-5	MW-17B	Total/NA	Water	8260D	
MB 240-591078/8	Method Blank	Total/NA	Water	8260D	
LCS 240-591078/5	Lab Control Sample	Total/NA	Water	8260D	
240-192991-4 MS	MW-16B	Total/NA	Water	8260D	
240-192991-4 MSD	MW-16B	Total/NA	Water	8260D	

Analysis Batch: 591291

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-192991-2	MW-18B	Total/NA	Water	8260D	
240-192991-7	MW-17A	Total/NA	Water	8260D	
240-192991-8	MW-6	Total/NA	Water	8260D	
MB 240-591291/8	Method Blank	Total/NA	Water	8260D	
LCS 240-591291/5	Lab Control Sample	Total/NA	Water	8260D	
240-192991-2 MS	MW-18B	Total/NA	Water	8260D	
240-192991-2 MSD	MW-18B	Total/NA	Water	8260D	

GC VOA

Analysis Batch: 590262

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-192991-2	MW-18B	Total/NA	Water	RSK-175	
240-192991-3	MW-18A	Total/NA	Water	RSK-175	
240-192991-4	MW-16B	Total/NA	Water	RSK-175	
240-192991-5	MW-17B	Total/NA	Water	RSK-175	
240-192991-6	MW-16A	Total/NA	Water	RSK-175	
240-192991-7	MW-17A	Total/NA	Water	RSK-175	
MB 240-590262/33	Method Blank	Total/NA	Water	RSK-175	
LCS 240-590262/34	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 240-590262/35	Lab Control Sample Dup	Total/NA	Water	RSK-175	
240-192991-4 MS	MW-16B	Total/NA	Water	RSK-175	
240-192991-4 MSD	MW-16B	Total/NA	Water	RSK-175	

Analysis Batch: 590452

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-192991-4	MW-16B	Total/NA	Water	RSK-175	
240-192991-5	MW-17B	Total/NA	Water	RSK-175	

GC VOA (Continued)

Analysis Batch: 590452 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-192991-7	MW-17A	Total/NA	Water	RSK-175	
MB 240-590452/3	Method Blank	Total/NA	Water	RSK-175	
LCS 240-590452/4	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 240-590452/5	Lab Control Sample Dup	Total/NA	Water	RSK-175	
240-192991-4 MS	MW-16B	Total/NA	Water	RSK-175	
240-192991-4 MSD	MW-16B	Total/NA	Water	RSK-175	

Analysis Batch: 590566

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-192991-2	MW-18B	Total/NA	Water	RSK-175	
MB 240-590566/3	Method Blank	Total/NA	Water	RSK-175	
LCS 240-590566/4	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 240-590566/5	Lab Control Sample Dup	Total/NA	Water	RSK-175	

Metals

Prep Batch: 590068

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-192991-2	MW-18B	Dissolved	Water	3005A	
240-192991-3	MW-18A	Dissolved	Water	3005A	
240-192991-4	MW-16B	Dissolved	Water	3005A	
240-192991-5	MW-17B	Dissolved	Water	3005A	
240-192991-6	MW-16A	Dissolved	Water	3005A	
240-192991-7	MW-17A	Dissolved	Water	3005A	
MB 240-590068/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-590068/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
240-192991-4 MS	MW-16B	Dissolved	Water	3005A	
240-192991-4 MSD	MW-16B	Dissolved	Water	3005A	

Analysis Batch: 590274

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-192991-2	MW-18B	Dissolved	Water	6010D	590068
240-192991-3	MW-18A	Dissolved	Water	6010D	590068
240-192991-4	MW-16B	Dissolved	Water	6010D	590068
240-192991-5	MW-17B	Dissolved	Water	6010D	590068
240-192991-6	MW-16A	Dissolved	Water	6010D	590068
240-192991-7	MW-17A	Dissolved	Water	6010D	590068
MB 240-590068/1-A	Method Blank	Total Recoverable	Water	6010D	590068
LCS 240-590068/2-A	Lab Control Sample	Total Recoverable	Water	6010D	590068
240-192991-4 MS	MW-16B	Dissolved	Water	6010D	590068
240-192991-4 MSD	MW-16B	Dissolved	Water	6010D	590068

General Chemistry

Analysis Batch: 590115

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-192991-2	MW-18B	Total/NA	Water	4500 S2 F-2000	
240-192991-3	MW-18A	Total/NA	Water	4500 S2 F-2000	
240-192991-4	MW-16B	Total/NA	Water	4500 S2 F-2000	
240-192991-5	MW-17B	Total/NA	Water	4500 S2 F-2000	
240-192991-6	MW-16A	Total/NA	Water	4500 S2 F-2000	
240-192991-7	MW-17A	Total/NA	Water	4500 S2 F-2000	

General Chemistry (Continued)

Analysis Batch: 590115 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 240-590115/1	Method Blank	Total/NA	Water	4500 S2 F-2000	
LCS 240-590115/2	Lab Control Sample	Total/NA	Water	4500 S2 F-2000	
240-192991-4 MS	MW-16B	Total/NA	Water	4500 S2 F-2000	
240-192991-4 MSD	MW-16B	Total/NA	Water	4500 S2 F-2000	

Analysis Batch: 590494

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-192991-2	MW-18B	Total/NA	Water	5310C-2000	
240-192991-3	MW-18A	Total/NA	Water	5310C-2000	
240-192991-4	MW-16B	Total/NA	Water	5310C-2000	
240-192991-5	MW-17B	Total/NA	Water	5310C-2000	
240-192991-6	MW-16A	Total/NA	Water	5310C-2000	
240-192991-7	MW-17A	Total/NA	Water	5310C-2000	
MB 240-590494/32	Method Blank	Total/NA	Water	5310C-2000	
MB 240-590494/4	Method Blank	Total/NA	Water	5310C-2000	
LCS 240-590494/31	Lab Control Sample	Total/NA	Water	5310C-2000	
LCS 240-590494/5	Lab Control Sample	Total/NA	Water	5310C-2000	
240-192991-4 MS	MW-16B	Total/NA	Water	5310C-2000	
240-192991-4 MSD	MW-16B	Total/NA	Water	5310C-2000	

Analysis Batch: 590519

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-192991-2	MW-18B	Total/NA	Water	410.4-1993 R2.0	
240-192991-3	MW-18A	Total/NA	Water	410.4-1993 R2.0	
240-192991-4	MW-16B	Total/NA	Water	410.4-1993 R2.0	
240-192991-5	MW-17B	Total/NA	Water	410.4-1993 R2.0	
240-192991-6	MW-16A	Total/NA	Water	410.4-1993 R2.0	
240-192991-7	MW-17A	Total/NA	Water	410.4-1993 R2.0	
MB 240-590519/9	Method Blank	Total/NA	Water	410.4-1993 R2.0	
LCS 240-590519/10	Lab Control Sample	Total/NA	Water	410.4-1993 R2.0	
240-192991-4 MS	MW-16B	Total/NA	Water	410.4-1993 R2.0	
240-192991-4 MSD	MW-16B	Total/NA	Water	410.4-1993 R2.0	
240-192991-7 MS	MW-17A	Total/NA	Water	410.4-1993 R2.0	
240-192991-7 MSD	MW-17A	Total/NA	Water	410.4-1993 R2.0	

Analysis Batch: 686402

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-192991-2	MW-18B	Total/NA	Water	300.0	
240-192991-3	MW-18A	Total/NA	Water	300.0	
240-192991-4	MW-16B	Total/NA	Water	300.0	
240-192991-5	MW-17B	Total/NA	Water	300.0	
240-192991-6	MW-16A	Total/NA	Water	300.0	
240-192991-7	MW-17A	Total/NA	Water	300.0	
MB 480-686402/4	Method Blank	Total/NA	Water	300.0	
LCS 480-686402/5	Lab Control Sample	Total/NA	Water	300.0	
240-192991-4 MS	MW-16B	Total/NA	Water	300.0	
240-192991-4 MSD	MW-16B	Total/NA	Water	300.0	

Analysis Batch: 686405

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-192991-2	MW-18B	Total/NA	Water	300.0	

General Chemistry (Continued)

Analysis Batch: 686405 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-192991-3	MW-18A	Total/NA	Water	300.0	
240-192991-4	MW-16B	Total/NA	Water	300.0	
240-192991-5	MW-17B	Total/NA	Water	300.0	
240-192991-6	MW-16A	Total/NA	Water	300.0	
240-192991-7	MW-17A	Total/NA	Water	300.0	
MB 480-686405/4	Method Blank	Total/NA	Water	300.0	
LCS 480-686405/5	Lab Control Sample	Total/NA	Water	300.0	
240-192991-4 MS	MW-16B	Total/NA	Water	300.0	
240-192991-4 MSD	MW-16B	Total/NA	Water	300.0	

Analysis Batch: 686420

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-192991-2	MW-18B	Total/NA	Water	SM 5210B	
240-192991-3	MW-18A	Total/NA	Water	SM 5210B	
240-192991-4	MW-16B	Total/NA	Water	SM 5210B	
240-192991-5	MW-17B	Total/NA	Water	SM 5210B	
240-192991-6	MW-16A	Total/NA	Water	SM 5210B	
240-192991-7	MW-17A	Total/NA	Water	SM 5210B	
USB 480-686420/1	Method Blank	Total/NA	Water	SM 5210B	
LCS 480-686420/2	Lab Control Sample	Total/NA	Water	SM 5210B	
240-192991-4 MS	MW-16B	Total/NA	Water	SM 5210B	
240-192991-4 MSD	MW-16B	Total/NA	Water	SM 5210B	

Lab Chronicle

Client: AECOM
Project/Site: BP Hyde Park

Job ID: 240-192991-1

Client Sample ID: MW-19B
Date Collected: 10/05/23 09:30
Date Received: 10/05/23 15:30

Lab Sample ID: 240-192991-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	590898	MRL	EET CLE	10/16/23 16:45

Client Sample ID: MW-18B
Date Collected: 10/05/23 09:35
Date Received: 10/05/23 15:30

Lab Sample ID: 240-192991-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	590898	MRL	EET CLE	10/16/23 17:10
Total/NA	Analysis	8260D		3.333	591291	MRL	EET CLE	10/18/23 18:11
Total/NA	Analysis	RSK-175		1	590262	JBN	EET CLE	10/11/23 03:40
Total/NA	Analysis	RSK-175		20	590566	JBN	EET CLE	10/12/23 16:01
Dissolved	Prep	3005A			590068	S4FJ	EET CLE	10/09/23 14:00
Dissolved	Analysis	6010D		1	590274	KLC	EET CLE	10/10/23 15:53
Total/NA	Analysis	300.0		5	686402	AF	EET BUF	10/06/23 15:27
Total/NA	Analysis	300.0		5	686405	AF	EET BUF	10/06/23 15:27
Total/NA	Analysis	410.4-1993 R2.0		1	590519	QUY8	EET CLE	10/12/23 08:08
Total/NA	Analysis	4500 S2 F-2000		1	590115	BLW	EET CLE	10/09/23 13:52
Total/NA	Analysis	5310C-2000		1	590494	JWW	EET CLE	10/11/23 00:13
Total/NA	Analysis	SM 5210B		1	686420	CG	EET BUF	10/06/23 11:04

Client Sample ID: MW-18A
Date Collected: 10/05/23 11:00
Date Received: 10/05/23 15:30

Lab Sample ID: 240-192991-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	590898	MRL	EET CLE	10/16/23 17:35
Total/NA	Analysis	RSK-175		1	590262	JBN	EET CLE	10/11/23 03:57
Dissolved	Prep	3005A			590068	S4FJ	EET CLE	10/09/23 14:00
Dissolved	Analysis	6010D		1	590274	KLC	EET CLE	10/10/23 15:58
Total/NA	Analysis	300.0		5	686402	AF	EET BUF	10/06/23 15:45
Total/NA	Analysis	300.0		5	686405	AF	EET BUF	10/06/23 15:45
Total/NA	Analysis	410.4-1993 R2.0		1	590519	QUY8	EET CLE	10/12/23 08:08
Total/NA	Analysis	4500 S2 F-2000		1	590115	BLW	EET CLE	10/09/23 13:52
Total/NA	Analysis	5310C-2000		1	590494	JWW	EET CLE	10/11/23 00:26
Total/NA	Analysis	SM 5210B		1	686420	CG	EET BUF	10/06/23 11:04

Client Sample ID: MW-16B
Date Collected: 10/05/23 11:05
Date Received: 10/05/23 15:30

Lab Sample ID: 240-192991-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	591078	MRL	EET CLE	10/17/23 16:44
Total/NA	Analysis	RSK-175		1	590262	JBN	EET CLE	10/11/23 04:31

Client Sample ID: MW-16B
Lab Sample ID: 240-192991-4

Date Collected: 10/05/23 11:05
Matrix: Water
Date Received: 10/05/23 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	RSK-175		10	590452	JBN	EET CLE	10/11/23 18:54
Dissolved	Prep	3005A			590068	S4FJ	EET CLE	10/09/23 14:00
Dissolved	Analysis	6010D		1	590274	KLC	EET CLE	10/10/23 15:05
Total/NA	Analysis	300.0		5	686402	AF	EET BUF	10/06/23 16:58
Total/NA	Analysis	300.0		5	686405	AF	EET BUF	10/06/23 16:58
Total/NA	Analysis	410.4-1993 R2.0		1	590519	QUY8	EET CLE	10/12/23 08:08
Total/NA	Analysis	4500 S2 F-2000		1	590115	BLW	EET CLE	10/09/23 13:52
Total/NA	Analysis	5310C-2000		1	590494	JWW	EET CLE	10/11/23 03:26
Total/NA	Analysis	SM 5210B		1	686420	CG	EET BUF	10/06/23 11:04

Client Sample ID: MW-17B
Lab Sample ID: 240-192991-5

Date Collected: 10/05/23 12:40
Matrix: Water
Date Received: 10/05/23 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	590898	MRL	EET CLE	10/16/23 18:26
Total/NA	Analysis	8260D		1	591078	MRL	EET CLE	10/17/23 15:29
Total/NA	Analysis	RSK-175		1	590262	JBN	EET CLE	10/11/23 05:22
Total/NA	Analysis	RSK-175		20	590452	JBN	EET CLE	10/11/23 20:02
Dissolved	Prep	3005A			590068	S4FJ	EET CLE	10/09/23 14:00
Dissolved	Analysis	6010D		1	590274	KLC	EET CLE	10/10/23 16:02
Total/NA	Analysis	300.0		5	686402	AF	EET BUF	10/06/23 16:04
Total/NA	Analysis	300.0		5	686405	AF	EET BUF	10/06/23 16:04
Total/NA	Analysis	410.4-1993 R2.0		1	590519	QUY8	EET CLE	10/12/23 08:08
Total/NA	Analysis	4500 S2 F-2000		1	590115	BLW	EET CLE	10/09/23 13:52
Total/NA	Analysis	5310C-2000		1	590494	JWW	EET CLE	10/11/23 00:39
Total/NA	Analysis	SM 5210B		1	686420	CG	EET BUF	10/06/23 11:04

Client Sample ID: MW-16A
Lab Sample ID: 240-192991-6

Date Collected: 10/05/23 12:45
Matrix: Water
Date Received: 10/05/23 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	590898	MRL	EET CLE	10/16/23 18:50
Total/NA	Analysis	RSK-175		1	590262	JBN	EET CLE	10/11/23 05:39
Dissolved	Prep	3005A			590068	S4FJ	EET CLE	10/09/23 14:00
Dissolved	Analysis	6010D		1	590274	KLC	EET CLE	10/10/23 16:06
Total/NA	Analysis	300.0		5	686402	AF	EET BUF	10/06/23 16:22
Total/NA	Analysis	300.0		5	686405	AF	EET BUF	10/06/23 16:22
Total/NA	Analysis	410.4-1993 R2.0		1	590519	QUY8	EET CLE	10/12/23 08:08
Total/NA	Analysis	4500 S2 F-2000		1	590115	BLW	EET CLE	10/09/23 13:52
Total/NA	Analysis	5310C-2000		1	590494	JWW	EET CLE	10/11/23 00:52

Lab Chronicle

Client: AECOM
Project/Site: BP Hyde Park

Job ID: 240-192991-1

Client Sample ID: MW-16A
Date Collected: 10/05/23 12:45
Date Received: 10/05/23 15:30

Lab Sample ID: 240-192991-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	SM 5210B		1	686420	CG	EET BUF	10/06/23 11:04

Client Sample ID: MW-17A
Date Collected: 10/05/23 14:05
Date Received: 10/05/23 15:30

Lab Sample ID: 240-192991-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	590898	MRL	EET CLE	10/16/23 19:16
Total/NA	Analysis	8260D		2	591291	MRL	EET CLE	10/18/23 19:26
Total/NA	Analysis	RSK-175		1	590262	JBN	EET CLE	10/11/23 05:56
Total/NA	Analysis	RSK-175		10	590452	JBN	EET CLE	10/11/23 20:19
Dissolved	Prep	3005A			590068	S4FJ	EET CLE	10/09/23 14:00
Dissolved	Analysis	6010D		1	590274	KLC	EET CLE	10/10/23 16:11
Total/NA	Analysis	300.0		5	686402	AF	EET BUF	10/06/23 16:40
Total/NA	Analysis	300.0		5	686405	AF	EET BUF	10/06/23 16:40
Total/NA	Analysis	410.4-1993 R2.0		1	590519	QUY8	EET CLE	10/12/23 08:08
Total/NA	Analysis	4500 S2 F-2000		1	590115	BLW	EET CLE	10/09/23 13:52
Total/NA	Analysis	5310C-2000		1	590494	JWW	EET CLE	10/11/23 01:05
Total/NA	Analysis	SM 5210B		1	686420	CG	EET BUF	10/06/23 11:04

Client Sample ID: MW-6
Date Collected: 10/05/23 14:25
Date Received: 10/05/23 15:30

Lab Sample ID: 240-192991-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	590898	MRL	EET CLE	10/16/23 19:40
Total/NA	Analysis	8260D		2	591291	MRL	EET CLE	10/18/23 19:50

Client Sample ID: TB-100523
Date Collected: 10/05/23 00:00
Date Received: 10/05/23 15:30

Lab Sample ID: 240-192991-9
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	590898	MRL	EET CLE	10/16/23 14:40

Laboratory References:

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

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

Accreditation/Certification Summary

Client: AECOM
Job ID: 240-192991-1
Project/Site: BP Hyde Park

Laboratory: Eurofins Cleveland

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

Authority	Program	Identification Number	Expiration Date
New York	NELAP	10975	04-02-24

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
5310C-2000		Water	Total Organic Carbon
RSK-175		Water	Ethane
RSK-175		Water	Ethylene
RSK-175		Water	Methane
RSK-175		Water	Propane

Laboratory: Eurofins Buffalo

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

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	88-0686	07-06-23 *
Connecticut	State	PH-0568	03-31-24
Florida	NELAP	E87672	06-30-23 *
Georgia	State	10026 (NY)	03-31-24
Georgia	State Program	N/A	03-31-09 *
Illinois	NELAP	200003	09-30-23 *
Iowa	State	374	03-01-25
Iowa	State Program	374	03-01-09 *
Kansas	NELAP	E-10187	02-01-24
Kentucky (DW)	State	90029	01-01-24
Kentucky (UST)	State	108092	04-01-24
Kentucky (WW)	State	KY90029	12-31-23
Louisiana	NELAP	02031	06-30-23 *
Louisiana (All)	NELAP	02031	06-30-23 *
Maine	State	NY00044	12-04-24
Maryland	State	294	06-30-24
Massachusetts	State	M-NY044	07-01-24
Michigan	State	9937	04-01-24
Michigan	State Program	9937	04-01-09 *
New Hampshire	NELAP	2973	09-11-19 *
New Hampshire	NELAP	2337	11-17-23
New Jersey	NELAP	NY455	06-30-24
New York	NELAP	10026	03-31-24
Pennsylvania	NELAP	68-00281	08-31-24
Rhode Island	State	LAO00328	12-30-23
Texas	NELAP	T104704412-18-10	07-31-23 *
USDA	US Federal Programs	P330-18-00039	03-25-24
Virginia	NELAP	460185	09-14-23 *
Washington	State	C784	02-10-24
Wisconsin	State	998310390	08-31-24

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

3.9
3.7

Laboratory Management Program LaMP Chain of Custody Record

BP/ARC Project Name: BP IPO
BP/ARC Facility No: BP Hyde Park
Req Due Date (mm/dd/yy):
Lab Work Order Number:
Rush TAT: Yes ___ No X

Lab Name:	Test America (Canton, OH)	BP/ARC Facility Address:	3425 Hyde Park Blvd	Consultant/Contractor:	AECOM
Lab Address:	4101 Shuffel Street NW, North Canton, OH 44720	City, State, ZIP Code:	Niagara, NY 14305	Consultant/Contractor Project No:	60481767.~~17.11~~ 103
Lab PM:	Lab Contact: Opal Johnson	Lead Regulatory Agency:	NYSDEC	Address:	~~257 West Genesee St. Suite 400 Buffalo, NY 14202~~ 50 Lakefront Blvd, Suite 311 14202
Lab Phone:	330-497-9396 / 330-497-0772	California Global ID No.:		Consultant/Contractor PM:	James Kaczor
Lab Shipping Accnt:		Enfos Proposal No:		Phone:	716-923-1300
Lab Bottle Order No:		Accounting Mode:	Provision ___ OOC-BU ___ OOC-RM ___	Email EDD To:	James.Kaczor@aecom.com
Other Info:		Stage:	Activity:	Invoice To:	BP/ARC ___ Contractor X
BP/ARC EBM:					
EBM Phone:					
EBM Email:					

Lab No.	Sample Description	Date	Time	Matrix: Soil / Solid	Water / Liquid	Air / Vapor		No. Containers / Preservative: Total Number of Containers	Unpreserved	HNO3	HCl	NaOH/Zn-acetate	H_2SO_4		Requested Analyses: 8260C - VOCs	SM-4500_S2_F - Sulfide	410.4 - COD	RSK 175 - Dissolved Gases	5310 C - TOC	5210-BOD (TA-Buffalo)	300, 353.2, nitrate-nitrite 300.0_28D chloride, sulfate (TA - Buffalo)	6010C - Dissolved Iron (field filtered)			Report Type & QC Level
	MW-19B	10/5/23	0930		X			3			3				3										
	MW-18B	10/5/23	0935		X			13	2	1	6	1	3		3	1	1	3	2	1	1	1			
	MW-18A	10/5/23	1100		X			13	2	1	6	1	3		3	1	1	3	2	1	1	1			
	MW-16B	10/5/23	1105		X			13	2	1	6	1	3		3	1	1	3	2	1	1	1			
	MW-16B-MS	10/5/23	1105		X			13	2	1	6	1	3		3	1	1	3	2	1	1	1			
	MW-16B-MSD	10/5/23	1105		X			13	2	1	6	1	3		3	1	1	3	2	1	1	1			
	MW-17B	10/5/23	1240		X			13	2	1	6	1	3		3	1	1	3	2	1	1	1			
	MW-16A	10/5/23	1245		X			13	2	1	6	1	3		3	1	1	3	2	1	1	1			
	MW-17A	10/5/23	1405		X			13	2	1	6	1	3		3	1	1	3	2	1	1	1			
	MW-6	10/5/23	1425		X			3			3				3										

Report Type & QC Level: Standard ___ Full Data Package ___

Comments: Note: If s... Sample... and initi... ...te "No ...rike out ...scription

240-192991 Chain of Custody

Sampler's Name:	Tom Orban, Colin Hardcastle, Alyssa Sands	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation / Date / Time
Sampler's Company:	AECOM	[signature] AECOM	10/5/23	1530	[signature] 10/5/23 1530
Shipment Method:	Dropoff at TA Buffalo, NY	[signature]	10/5/23	1700	[signature] 10/6/23 10:00
Shipment Tracking No:					
Ship Date:					

Special Instructions: PO #93607 Line 2: TA Buffalo to ship to TA Canton except short hold bottles 5210-BOD, 300, 353.2, 300.0_28D :

THIS LINE - LAB USE ONLY: Custody Seals In Place: Yes / No | Temp Blank: Yes / No | Cooler Temp on Receipt: _____ °F/C | Trip Blank: Yes / No | MS/MSD Sample Submitted: Yes / No

10/19/2023

Laboratory Management Program LaMP **Chain of Custody Record**

BP/ARC Project Name: BP IPO
BP/ARC Facility No: BP Hyde Park
Req Due Date (mm/dd/yy): _____ **Rush TAT:** Yes ___ No X
Lab Work Order Number: _____

Lab Name:	Test America (Canton, OH)	BP/ARC Facility Address:	3425 Hyde Park Blvd	Consultant/Contractor:	AECOM
Lab Address:	4101 Shuffel Street NW, North Canton, OH 44720	City, State, ZIP Code:	Niagara, NY 14305	Consultant/Contractor Project No:	60481767.~~17.14~~ 10.5
Lab PM:	Lab Contact: Opal Johnson	Lead Regulatory Agency:	NYSDEC	Address:	50 Lakefront Blvd ~~257 West Genesee St.~~, Suite ~~400~~ 111 Buffalo, NY 14202
Lab Phone:	330-497-9396 / 330-497-0772	California Global ID No.:		Consultant/Contractor PM:	James Kaczor
Lab Shipping Accnt:		Enfos Proposal No:		Phone:	716-923-1300
Lab Bottle Order No:		Accounting Mode:	Provision ___ OOC-BU ___ OOC-RM ___	Email EDD To:	James.Kaczor@aecom.com
Other Info:		Stage:	Activity:	Invoice To:	BP/ARC ___ Contractor X
BP/ARC EBM:					
EBM Phone:					
EBM Email:					

Lab No.	Sample Description	Date	Time	Matrix: Soil / Solid	Matrix: Water / Liquid	Matrix: Air / Vapor	Matrix:	No. Containers / Preservative: Total Number of Containers	Unpreserved	HNO3	HCl	NaoH/Zn-acetate	H3PO4		Requested Analyses: 8260C -VOCs	SM-4500_S2_F -Sulfide	410.4 - COD	RSK 175 - Dissolved Gases	5310 C - TOC	5210-BOD (TA-Buffalo)	300, 353.2, nitrate-nitrite 300.0_28D chloride, sulfate (TA - Buffalo)	6010C - Dissolved Iron (field filtered)			Report Type & QC Level: Comments
	TB-100523	10/5/23	—		X			3			3				3										Trip Blank

Report Type & QC Level: Standard ___ Full Data Package ___

Comments: Note: If sample not collected, indicate "No Sample" in comments and single-strike out and initial any preprinted sample description.

Sampler's Name:	Tom Orban, Collin Horlacks, Alyssa Sands	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Company:	AECOM	Collin Horlacks AECOM	10/5/23	1530	Thomas Orban Tmo	10/5/23	1530
Shipment Method:	Dropoff at TA Buffalo, NY	Thomas Orban Tmo	10/5/23	1700	J. Koon	10-6-23	10:00
Shipment Tracking No:	Ship Date:						

Special Instructions: PO #93607 Line 2: TA Buffalo to ship to TA Canton except short hold bottles 5210-BOD, 300, 353.2, 300.0_28D :

THIS LINE - LAB USE ONLY: Custody Seals In Place: Yes / No | Temp Blank: Yes / No | Cooler Temp on Receipt: _____ °F/C | Trip Blank: Yes / No | MS/MSD Sample Submitted: Yes / No

10/19/2023

Eurofins – Cleveland Sample Receipt Form/Narrative **Login # :** _____
Barberton Facility

Client BP Site Name _____ Cooler unpacked by: M. Loch

Cooler Received on 10-6-23 Opened on 10-6-23

FedEx: 1st Grd Exp UPS FAS Waypoint Client Drop Off Eurofins Courier Other _____

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

Eurofins Cooler # EC Foam Box Client Cooler Box Other _____

Packing material used: Bubble Wrap Foam Plastic Bag None Other _____

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☐ See Multiple Cooler Form

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

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity _____	Yes	No
-Were the seals on the outside of the cooler(s) signed & dated?	Yes	No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes	No
-Were tamper/custody seals intact and uncompromised?	Yes	No NA
3. Shippers' packing slip attached to the cooler(s)?	Yes	No
4. Did custody papers accompany the sample(s)?	Yes	No
5. Were the custody papers relinquished & signed in the appropriate place?	Yes	No
6. Was/were the person(s) who collected the samples clearly identified on the COC?	Yes	No
7. Did all bottles arrive in good condition (Unbroken)?	Yes	No
8. Could all bottle labels (ID/Date/Time) be reconciled with the COC?	Yes	No
9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)?		
10. Were correct bottle(s) used for the test(s) indicated?	Yes	No
11. Sufficient quantity received to perform indicated analyses?	Yes	No
12. Are these work share samples and all listed on the COC?	Yes	No
If yes, Questions 13-17 have been checked at the originating laboratory.		
13. Were all preserved sample(s) at the correct pH upon receipt?	Yes	No NA pH Strip Lot# HC312502
14. Were VOAs on the COC?	Yes	No
15. Were air bubbles >6 mm in any VOA vials? ● ⬅ Larger than this.	Yes	No NA
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____	Yes	No
17. Was a LL Hg or Me Hg trip blank present? _____	Yes	No

Tests that are not checked for pH by Receiving:

VOAs
Oil and Grease
TOC

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

Concerning _____

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page

Samples processed by:

_____

_____

_____

_____

19. SAMPLE CONDITION

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

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

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

20. SAMPLE PRESERVATION

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

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

VOA Sample Preservation - Date/Time VOAs Frozen: _____

5

Login # : _____

Eurofins - Canton Sample Receipt Multiple Cooler Form

Cooler Description (Circle)	IR Gun # (Circle)	Observed Temp °C	Corrected Temp °C	Coolant (Circle)
EC Client Box Other	IR GUN #: _____	4.7	4.5	Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____	3.9	3.7	Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____	0.9	0.7	Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____	2.4	2.2	Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____	0.9	0.7	Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: _____			Wet Ice Blue Ice Dry Ice Water None

☐ See Temperature Excursion Form

WI-NC-099 Cooler Receipt Form Page 2 – Multiple Coolers


FedEx
this tag.
eurofins
ORIGIN ID:DKKA (716) 691-2600
BUFFALO LAB
EUROFINS BUFFALO
10 HAZELWOOD DRIVE
AMHERST, NY 14228
UNITED STATES US
SHIP DATE: 05OCT23
ACTWGT: 48.65 LB
CAD: 846654/CAFE3753
DIMS: 26x15x14 IN
BILL RECIPIENT
TO SAMPLE CONTROL
EUROFINS CANTON
180 SOUTH VAN BUREN
BARBERTON OH 44203
(330) 497-9396
REF: TA BARBERTON
FedEx Express
5 of 5
MPS# 0263 6758 4754 7202
Mstr# 6758 4754 7165
0201
FRI - 06 OCT 10:30A
PRIORITY OVERNIGHT
NX CAKA
44203
OH-US CLE
240-192991 Waybill

Laboratory Management Program LaMP Chain of Custody Record

BP/ARC Project Name: BP IPO
BP/ARC Facility No: BP Hyde Park
Req Due Date (mm/dd/yy):
Rush TAT: Yes ___ No X
Lab Work Order Number:

Lab Name: Test America (Canton, OH)	BP/ARC Facility Address: 3425 Hyde Park Blvd	Consultant/Contractor: AECOM	
Lab Address: 4101 Shuffel Street NW, North Canton, OH 44720	City, State, ZIP Code: Niagara, NY 14305	Consultant/Contractor Project No: 60481767.17.44 105	
Lab PM: Lab Contact: Opal Johnson	Lead Regulatory Agency: NYSDEC	Address: ~~257 West Genesee St, Suite 400 Buffalo, NY 14202~~ 50 Lakefront Blvd, Suite 411 14202	
Lab Phone: 330-497-9396 / 330-497-0772	California Global ID No.:	Consultant/Contractor PM: James Kaczor	
Lab Shipping Accnt:	Enfos Proposal No:	Phone: 716-923-1300	
Lab Bottle Order No:	Accounting Mode: Provision ___ OOC-BU ___ OOC-RM ___	Email EDD To: James.Kaczor@aecom.com	
Other Info:	Stage: Activity:	Invoice To: BP/ARC ___ Contractor X	
BP/ARC EBM:			
EBM Phone:			
EBM Email:			

Lab No.	Sample Description	Date	Time	Matrix: Soil / Solid	Water / Liquid	Air / Vapor	No. Containers / Preservative: Total Number of Containers	Unpreserved	HNO3	HCl	NaoH/Zn-acetate	~~H2PO4~~ H2SO4	Requested Analyses: 8260C -VOCs	SM-4500_S2_F -Sulfide	410.4 - COD	RSK 175 - Dissolved Gases	5310 C - TOC	5210-BOD (TA-Buffalo)	300, 353.2, nitrate-nitrite 300.0_28D chloride, sulfate (TA - Buffalo)	6010C - Dissloved Iron (field filtered)			Report Type & QC Level
	MW-19B	10/5/23	0930		X		3			3			W										Standard ___
	MW-18B	10/5/23	0935		X		13	2	1	6	1	3	3	1	1	3	2	1	1	1			Full Data Package ___
	MW-18A	10/5/23	1100		X		13	2	1	6	1	3	3	1	1	3	2	1	1	1			
	MW-16B	10/5/23	1105		X		13	2	1	6	1	3	3	1	1	3	2	1	1	1			
	MW-16B-MS	10/5/23	1105		X		13	2	1	6	1	3	3	1	1	3	2	1	1	1			
	MW-16B-MSD	10/5/23	1105		X		13	2	1	6	1	3	3	1	1	3	2	1	1	1			
	MW-17B	10/5/23	1240		X		13	2	1	6	1	3	3	1	1	3	2	1	1	1			
	MW-16A	10/5/23	1245		X		13	2	1	6	1	3	3	1	1	3	2	1	1	1			
	MW-17A	10/5/23	1405		X		13	2	1	6	1	3	3	1	1	3	2	1	1	1			
	MW-6	10/5/23	1425		X		3			3			3										

Comments

Note: If sample not collected, indicate "No Sample" in comments and single-strike out and initial. Add description.

240-192991 Chain of Custody

Sampler's Name: Tom Orban, Collin Horrocks, Alyssa Sands
Sampler's Company: AECOM
Shipment Method: Dropoff at TA Buffalo, NY
Ship Date:
Shipment Tracking No:

Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
[signature] /AECOM	10/5/23	1530	[signature]	10/5/23	1530

Special Instructions: PO #93607 Line 2: TA Buffalo to ship to TA Canton except short hold bottles 5210-BOD, 300, 353.2, 300.0_28D

THIS LINE - LAB USE ONLY: Custody Seals In Place: Yes / No | Temp Blank: Yes / No | Cooler Temp on Receipt: 2.1 °F/C | Trip Blank: Yes / No | MS/MSD Sample Submitted: Yes / No

10/19/2023

Laboratory Management Program LaMP Chain of Custody Record

BP/ARC Project Name: BP IPO
BP/ARC Facility No: BP Hyde Park
Req Due Date (mm/dd/yy):
Rush TAT: Yes ___ No X
Lab Work Order Number:

Lab Name: Test America (Canton, OH)	BP/ARC Facility Address: 3425 Hyde Park Blvd	Consultant/Contractor: AECOM
Lab Address: 4101 Shuffel Street NW, North Canton, OH 44720	City, State, ZIP Code: Niagara, NY 14305	Consultant/Contractor Project No: 60481767.~~17~~ 105
Lab PM: Lab Contact: Opal Johnson	Lead Regulatory Agency: NYSDEC	Address: 50 Linkwood Front Blvd ~~257 West Genesee St., Suite 400~~ Buffalo, NY 14202
Lab Phone: 330-497-9396 / 330-497-0772	California Global ID No.:	Consultant/Contractor PM: James Kaczor
Lab Shipping Accnt:	Enfos Proposal No:	Phone: 716-923-1300
Lab Bottle Order No:	Accounting Mode: Provision ___ OOC-BU ___ OOC-RM ___	Email EDD To: James.Kaczor@aecom.com
Other Info:	Stage: Activity:	Invoice To: BP/ARC ___ Contractor X
BP/ARC EBM:		
EBM Phone:		
EBM Email:		

Lab No.	Sample Description	Date	Time	Matrix: Soil / Solid	Matrix: Water / Liquid	Matrix: Air / Vapor	Matrix	No. Containers / Preservative: Total Number of Containers	Unpreserved	HNO3	HCl	NaOH/Zn-acetate	H3PO4	Requested Analyses: 8260C -VOCs	SM-4500_S2_F -Sulfide	410.4 - COD	RSK 175 - Dissolved Gases	5310 C - TOC	5210-BOD (TA-Buffalo)	300, 353.2, nitrate-nitrite 300.0_28D chloride, sulfate (TA - Buffalo)	6010C - Dissolved Iron (field filtered)			Report Type & QC Level / Comments
	TB-100523	10/5/23	—		X			3			3			3										Trip Blank

Standard ___
Full Data Package ___

Comments
Note: If sample not collected, indicate "No Sample" in comments and single-strike out and initial any preprinted sample description.

Sampler's Name: Tea Orban, Collin Horlacks, Alyssa Sands	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Company: AECOM	Collin Horlacks AECOM	10/5/23	1530	[illegible]	10/5/23	1530
Shipment Method: Dropoff at TA Buffalo, NY						
Shipment Tracking No:						

Special Instructions: PO #93607 Line 2: TA Buffalo to ship to TA Canton except short hold bottles 5210-BOD, 300, 353.2, 300.0_28D :

THIS LINE - LAB USE ONLY: Custody Seals In Place: Yes / No | Temp Blank: Yes / No | Cooler Temp on Receipt: _____ °F/C | Trip Blank: Yes / No | MS/MSD Sample Submitted: Yes / No

BP/ARC LaMP COC Rev. 6 01/01/2009

10/19/2023

Login Sample Receipt Checklist

Client: AECOM

Job Number: 240-192991-1

Login Number: 192991
List Number: 2
Creator: Kolb, Chris M

List Source: Eurofins Buffalo
List Creation: 10/06/23 12:04 PM

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	2.1 ir gun #1 ice
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	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Ms. Ann Marie Kropovitch
AECOM
50 Lakefront Bouelvard
Suite 111
Buffalo, New York 14202

Generated 10/19/2023 2:58:22 PM

JOB DESCRIPTION

BP Hyde Park

JOB NUMBER

240-193122-1

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton OH 44203

See page two for job notes and contact information.

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 North Central, LLC Project Manager.

Authorization

Generated
10/19/2023 2:58:22 PM

Authorized for release by
Opal Johnson, Project Manager II
Opal.Johnson@et.eurofinsus.com
(330)966-9279

Table of Contents

Definitions/Glossary

Client: AECOM
Job ID: 240-193122-1
Project/Site: BP Hyde Park

Qualifiers

General Chemistry

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.

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: AECOM
Project/Site: BP Hyde Park

Job ID: 240-193122-1

Job ID: 240-193122-1

Laboratory: Eurofins Cleveland

Narrative

Job Narrative
240-193122-1

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 are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample 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 10/6/2023 5:00 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice.

General Chemistry
Method 300.0_28D: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-7A (240-193122-1) and MW-7B (240-193122-2). Elevated reporting limits (RLs) are provided.

Method 300_48HR: The following samples were diluted due to the abundance of non-target analytes: MW-7A (240-193122-1), MW-7B (240-193122-2) and (480-213342-I-12). Elevated reporting limits (RLs) are provided.

Method 300_48HR: The following samples were analyzed outside of analytical holding time due to received outside of holding time : MW-7A (240-193122-1) and MW-7B (240-193122-2).

Method 5210B: The following samples were analyzed outside of analytical holding time due to lab error: MW-7A (240-193122-1) and MW-7B (240-193122-2).

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

Method Summary

Client: AECOM
Job ID: 240-193122-1
Project/Site: BP Hyde Park

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	EPA	EET BUF
SM 5210B	BOD, 5-Day	SM	EET BUF

Protocol References:

EPA = US Environmental Protection Agency

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

Laboratory References:

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

Sample Summary

Client: AECOM
Job ID: 240-193122-1
Project/Site: BP Hyde Park

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-193122-1	MW-7A	Water	10/06/23 09:30	10/06/23 17:00
240-193122-2	MW-7B	Water	10/06/23 09:30	10/06/23 17:00

Detection Summary

Client: AECOM
Project/Site: BP Hyde Park

Job ID: 240-193122-1

Client Sample ID: MW-7A — Lab Sample ID: 240-193122-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	14		2.5	1.4	mg/L	5		300.0	Total/NA
Sulfate	140		10	1.7	mg/L	5		300.0	Total/NA
Biochemical Oxygen Demand	3.8	H	2.0	2.0	mg/L	1		SM 5210B	Total/NA

Client Sample ID: MW-7B — Lab Sample ID: 240-193122-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	250		2.5	1.4	mg/L	5		300.0	Total/NA
Nitrite as N	0.58	H	0.25	0.13	mg/L	5		300.0	Total/NA
Sulfate	160		10	1.7	mg/L	5		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

Client: AECOM
Project/Site: BP Hyde Park

Job ID: 240-193122-1

Client Sample ID: MW-7A
Date Collected: 10/06/23 09:30
Date Received: 10/06/23 17:00

Lab Sample ID: 240-193122-1
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**14**		2.5	1.4	mg/L			10/09/23 17:10	5
Nitrate as N (EPA 300.0)	ND	H	0.25	0.13	mg/L			10/09/23 17:10	5
Nitrite as N (EPA 300.0)	ND	H	0.25	0.13	mg/L			10/09/23 17:10	5
Sulfate (EPA 300.0)	**140**		10	1.7	mg/L			10/09/23 17:10	5
Biochemical Oxygen Demand (SM 5210B)	**3.8**	**H**	2.0	2.0	mg/L			10/11/23 13:49	1

Client: AECOM
Project/Site: BP Hyde Park

Job ID: 240-193122-1

Client Sample ID: MW-7B
Date Collected: 10/06/23 09:30
Date Received: 10/06/23 17:00

Lab Sample ID: 240-193122-2
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**250**		2.5	1.4	mg/L			10/09/23 17:29	5
Nitrate as N (EPA 300.0)	ND	H	0.25	0.13	mg/L			10/09/23 17:29	5
Nitrite as N (EPA 300.0)	**0.58**	**H**	0.25	0.13	mg/L			10/09/23 17:29	5
Sulfate (EPA 300.0)	**160**		10	1.7	mg/L			10/09/23 17:29	5
Biochemical Oxygen Demand (SM 5210B)	ND	H	2.0	2.0	mg/L			10/11/23 13:49	1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 480-686646/4
Matrix: Water
Analysis Batch: 686646

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50	0.28	mg/L			10/09/23 16:34	1
Sulfate	ND		2.0	0.35	mg/L			10/09/23 16:34	1

Lab Sample ID: LCS 480-686646/5
Matrix: Water
Analysis Batch: 686646

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	50.1	47.4		mg/L		95	90 - 110
Sulfate	50.1	48.3		mg/L		96	90 - 110

Lab Sample ID: MB 480-686649/4
Matrix: Water
Analysis Batch: 686649

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.050	0.025	mg/L			10/09/23 16:34	1
Nitrite as N	ND		0.050	0.025	mg/L			10/09/23 16:34	1

Lab Sample ID: LCS 480-686649/5
Matrix: Water
Analysis Batch: 686649

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate as N	5.01	5.12		mg/L		102	90 - 110

Method: SM 5210B - BOD, 5-Day

Lab Sample ID: USB 480-687041/1
Matrix: Water
Analysis Batch: 687041

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

Analyte	USB Result	USB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	ND		2.0	2.0	mg/L			10/11/23 13:49	1

Lab Sample ID: LCS 480-687041/2
Matrix: Water
Analysis Batch: 687041

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Biochemical Oxygen Demand	198	175		mg/L		88	85 - 115

QC Association Summary

Client: AECOM
Project/Site: BP Hyde Park

Job ID: 240-193122-1

General Chemistry

Analysis Batch: 686646

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-193122-1	MW-7A	Total/NA	Water	300.0	
240-193122-2	MW-7B	Total/NA	Water	300.0	
MB 480-686646/4	Method Blank	Total/NA	Water	300.0	
LCS 480-686646/5	Lab Control Sample	Total/NA	Water	300.0	

Analysis Batch: 686649

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-193122-1	MW-7A	Total/NA	Water	300.0	
240-193122-2	MW-7B	Total/NA	Water	300.0	
MB 480-686649/4	Method Blank	Total/NA	Water	300.0	
LCS 480-686649/5	Lab Control Sample	Total/NA	Water	300.0	

Analysis Batch: 687041

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-193122-1	MW-7A	Total/NA	Water	SM 5210B	
240-193122-2	MW-7B	Total/NA	Water	SM 5210B	
USB 480-687041/1	Method Blank	Total/NA	Water	SM 5210B	
LCS 480-687041/2	Lab Control Sample	Total/NA	Water	SM 5210B	

Lab Chronicle

Client: AECOM
Project/Site: BP Hyde Park

Job ID: 240-193122-1

Client Sample ID: MW-7A

Date Collected: 10/06/23 09:30
Date Received: 10/06/23 17:00

Lab Sample ID: 240-193122-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		5	686646	AF	EET BUF	10/09/23 17:10
Total/NA	Analysis	300.0		5	686649	AF	EET BUF	10/09/23 17:10
Total/NA	Analysis	SM 5210B		1	687041	CG	EET BUF	10/11/23 13:49

Client Sample ID: MW-7B

Date Collected: 10/06/23 09:30
Date Received: 10/06/23 17:00

Lab Sample ID: 240-193122-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		5	686646	AF	EET BUF	10/09/23 17:29
Total/NA	Analysis	300.0		5	686649	AF	EET BUF	10/09/23 17:29
Total/NA	Analysis	SM 5210B		1	687041	CG	EET BUF	10/11/23 13:49

Laboratory References:

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

Accreditation/Certification Summary

Client: AECOM
Job ID: 240-193122-1
Project/Site: BP Hyde Park

Laboratory: Eurofins Buffalo

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

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	88-0686	07-06-23 *
Connecticut	State	PH-0568	03-31-24
Florida	NELAP	E87672	06-30-23 *
Georgia	State	10026 (NY)	03-31-24
Georgia	State Program	N/A	03-31-09 *
Illinois	NELAP	200003	09-30-23 *
Iowa	State	374	03-01-25
Iowa	State Program	374	03-01-09 *
Kansas	NELAP	E-10187	02-01-24
Kentucky (DW)	State	90029	01-01-24
Kentucky (UST)	State	108092	04-01-24
Kentucky (WW)	State	KY90029	12-31-23
Louisiana	NELAP	02031	06-30-23 *
Louisiana (All)	NELAP	02031	06-30-23 *
Maine	State	NY00044	12-04-24
Maryland	State	294	06-30-24
Massachusetts	State	M-NY044	07-01-24
Michigan	State	9937	04-01-24
Michigan	State Program	9937	04-01-09 *
New Hampshire	NELAP	2973	09-11-19 *
New Hampshire	NELAP	2337	11-17-23
New Jersey	NELAP	NY455	06-30-24
New York	NELAP	10026	03-31-24
Pennsylvania	NELAP	68-00281	08-31-24
Rhode Island	State	LAO00328	12-30-23
Texas	NELAP	T104704412-18-10	07-31-23 *
USDA	US Federal Programs	P330-18-00039	03-25-24
Virginia	NELAP	460185	09-14-23 *
Washington	State	C784	02-10-24
Wisconsin	State	998310390	08-31-24

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Laboratory Management Program LaMP Chain of Custody Record

Page 1 of 1

BP/ARC Project Name: BP IPO
BP/ARC Facility No: BP Hyde Park
Req Due Date (mm/dd/yy):
Rush TAT: Yes ___ No X
Lab Work Order Number:

Lab Name:	Test America (Canton, OH)	BP/ARC Facility Address:	3425 Hyde Park Blvd
Lab Address:	4101 Shuffel Street NW, North Canton, OH 44720	City, State, ZIP Code:	Niagara, NY 14305
Lab PM:	Lab Contact: Opal Johnson	Lead Regulatory Agency:	NYSDEC
Lab Phone:	330-497-9396 / 330-497-0772	California Global ID No.:	
Lab Shipping Accnt:		Enfos Proposal No:	
Lab Bottle Order No:		Accounting Mode:	Provision ___ OOC-BU ___ OOC-RM ___
Other Info:		Stage:	Activity:
BP/ARC EBM:			
EBM Phone:			
EBM Email:			

Consultant/Contractor:	AECOM	
Consultant/Contractor Project No:	60481767.17.14	
Address:	~~257 West Genesee St.~~, Suite ~~400~~ Buffalo, NY 14202	50 Lakefront Blvd 101
Consultant/Contractor PM:	James Kaczor	
Phone:	716-923-1300	
Email EDD To:	James.Kaczor@aecom.com	
Invoice To:	BP/ARC ___ Contractor X	

Lab No.	Sample Description	Date	Time	Matrix: Soil / Solid	Matrix: Water / Liquid	Matrix: Air / Vapor	No. Containers / Preservative: Total Number of Containers	Unpreserved	HNO3	HCl	NaOH/Zn-acetate	~~H3PO4~~ H_2SO_4	Requested Analyses: 8260C -VOCs	SM-4500_S2_F -Sulfide	410.4 - COD	RSK 175 - Dissolved Gases	5310 C - TOC	5210-BOD (TA-Buffalo)	300, 353.2, nitrate-nitrite 300.0_28D chloride, sulfate (TA - Buffalo)	6010C - Dissolved Iron (field filtered)			Report Type & QC Level
	MW-7A	10/6/23	0930		X		13	2	1	6	1	3	3	1	1	3	2	1	1	1			Standard ___
	MW-7B	10/6/23	0930		X		13	2	1	6	1	3	3	1	1	3	2	1	1	1			Full Data Package ___
	TB-100623	10/6/23	—		X		1			1			1										Trip Blank

Comments
Note: If sample not collected, indicate "No Sample" in comments and single-strike out and initial any preprinted sample description.

240-193122 Chain of Custody

Sampler's Name:	Tom Urban, Alyssa Sands, Collin Horrocks	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation / Date / Time
Sampler's Company:	AECOM	Chris Kenna / AECOM	10/6/23	1100	TAB 10-6-23 1100
Shipment Method:	Dropoff at TA Buffalo, NY	Ship Date:			
Shipment Tracking No:					

Special Instructions: PO #93607 Line 2: TA Buffalo to ship to TA Canton except short hold bottles 5210-BOD, 300, 353.2, 300.0_28D

THIS LINE - LAB USE ONLY: Custody Seals In Place: Yes / No | Temp Blank: Yes / No | Cooler Temp on Receipt: 3.1 #F/C N ICE | Trip Blank: Yes / No | MS/MSD Sample Submitted: Yes / No

BP/ARC LaMP COC Rev. 6, 01/01/2009

Login Sample Receipt Checklist

Client: AECOM

Job Number: 240-193122-1

Login Number: 193122
List Number: 2
Creator: Kolb, Chris M

List Source: Eurofins Buffalo
List Creation: 10/09/23 09:32 AM

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	3.1 ir gun #1 ice
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	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Ms. Ann Marie Kropovitch
AECOM
50 Lakefront Bouelvard
Suite 111
Buffalo, New York 14202

Generated 10/23/2023 3:27:00 PM

JOB DESCRIPTION

BP Hyde Park

JOB NUMBER

240-193238-1

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton OH 44203

See page two for job notes and contact information.

myEOL

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 North Central, LLC Project Manager.

Authorization

Generated
10/23/2023 3:27:00 PM

Authorized for release by
Opal Johnson, Project Manager II
Opal.Johnson@et.eurofinsus.com
(330)966-9279

Table of Contents

Definitions/Glossary

Client: AECOM
Project/Site: BP Hyde Park

Job ID: 240-193238-1

Qualifiers

General Chemistry

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.
H3	Sample was received and analyzed past holding time. This does not meet regulatory requirements.

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

Job ID: 240-193238-1

Laboratory: Eurofins Cleveland

Narrative

Job Narrative
240-193238-1

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 are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample 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 10/10/2023 9:40 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 3.7°C

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

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

Metals
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.

Method Summary

Client: AECOM
Project/Site: BP Hyde Park

Job ID: 240-193238-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET CLE
RSK-175	Dissolved Gases (GC)	RSK	EET CLE
6010D	Metals (ICP)	SW846	EET CLE
300.0	Anions, Ion Chromatography	EPA	EET CLE
353.2-1993 R2.0	Nitrogen, Nitrate-Nitrite	MCAWW	EET CLE
410.4-1993 R2.0	COD	MCAWW	EET CLE
4500 S2 F-2000	Sulfide, Total	SM	EET CLE
5310C-2000	Total Organic Carbon/Persulfate - Ultrav	SM	EET CLE
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	EET CLE
5030C	Purge and Trap	SW846	EET CLE

Protocol References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique, RSKSOP-175, Rev. 0, 8/11/94, USEPA Research Lab

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

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

Laboratory References:

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

Sample Summary

Client: AECOM
Project/Site: BP Hyde Park

Job ID: 240-193238-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-193238-1	MW-7A	Water	10/06/23 09:30	10/10/23 09:40
240-193238-2	MW-7B	Water	10/06/23 09:30	10/10/23 09:40
240-193238-3	TB-100623	Water	10/06/23 00:00	10/10/23 09:40

Detection Summary

Client: AECOM
Project/Site: BP Hyde Park

Job ID: 240-193238-1

Client Sample ID: MW-7A — Lab Sample ID: 240-193238-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethane	26		1.0	0.47	ug/L	1		8260D	Total/NA
Chloroethane	7.0		1.0	0.83	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene	3.5		1.0	0.46	ug/L	1		8260D	Total/NA
Vinyl chloride	8.5		1.0	0.45	ug/L	1		8260D	Total/NA
Methane	7800		10	1.7	ug/L	10		RSK-175	Total/NA
Ethane	26		1.0	0.29	ug/L	1		RSK-175	Total/NA
Ethylene	6.1		1.0	0.12	ug/L	1		RSK-175	Total/NA
Iron	1200		200	83	ug/L	1		6010D	Dissolved
Chloride	14		1.0	0.13	mg/L	1		300.0	Total/NA
Sulfate	130		1.0	0.35	mg/L	1		300.0	Total/NA
Chemical Oxygen Demand	32		10	1.8	mg/L	1		410.4-1993 R2.0	Total/NA
Sulfide	2.9		1.0	0.27	mg/L	1		4500 S2 F-2000	Total/NA
Total Organic Carbon	6.5		1.0	0.44	mg/L	1		5310C-2000	Total/NA

Client Sample ID: MW-7B — Lab Sample ID: 240-193238-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.7		1.0	0.46	ug/L	1		8260D	Total/NA
Vinyl chloride	9.6		1.0	0.45	ug/L	1		8260D	Total/NA
Methane	170		1.0	0.17	ug/L	1		RSK-175	Total/NA
Ethylene	1.9		1.0	0.12	ug/L	1		RSK-175	Total/NA
Chloride	260		5.0	0.64	mg/L	5		300.0	Total/NA
Sulfate	160		1.0	0.35	mg/L	1		300.0	Total/NA
Chemical Oxygen Demand	13		10	1.8	mg/L	1		410.4-1993 R2.0	Total/NA
Sulfide	2.3		1.0	0.27	mg/L	1		4500 S2 F-2000	Total/NA
Total Organic Carbon	3.6		1.0	0.44	mg/L	1		5310C-2000	Total/NA

Client Sample ID: TB-100623 — Lab Sample ID: 240-193238-3

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-7A

Date Collected: 10/06/23 09:30
Date Received: 10/10/23 09:40

Lab Sample ID: 240-193238-1

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.48	ug/L			10/17/23 22:17	1
1,1-Dichloroethane	**26**		1.0	0.47	ug/L			10/17/23 22:17	1
1,1-Dichloroethene	ND		1.0	0.49	ug/L			10/17/23 22:17	1
Chloroethane	**7.0**		1.0	0.83	ug/L			10/17/23 22:17	1
cis-1,2-Dichloroethene	**3.5**		1.0	0.46	ug/L			10/17/23 22:17	1
Tetrachloroethene	ND		1.0	0.44	ug/L			10/17/23 22:17	1
trans-1,2-Dichloroethene	ND		1.0	0.51	ug/L			10/17/23 22:17	1
Trichloroethene	ND		1.0	0.44	ug/L			10/17/23 22:17	1
Vinyl chloride	**8.5**		1.0	0.45	ug/L			10/17/23 22:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*108*		*78 - 122*		*10/17/23 22:17*	*1*
Dibromofluoromethane (Surr)	*109*		*73 - 120*		*10/17/23 22:17*	*1*
4-Bromofluorobenzene (Surr)	*82*		*56 - 136*		*10/17/23 22:17*	*1*
1,2-Dichloroethane-d4 (Surr)	*114*		*62 - 137*		*10/17/23 22:17*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	**7800**		10	1.7	ug/L			10/13/23 17:47	10
Ethane	**26**		1.0	0.29	ug/L			10/13/23 03:04	1
Ethylene	**6.1**		1.0	0.12	ug/L			10/13/23 03:04	1
Propane	ND		1.0	0.38	ug/L			10/13/23 03:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,1,1-Trifluoroethane	*97*		*60 - 140*		*10/13/23 03:04*	*1*
1,1,1-Trifluoroethane	*101*		*60 - 140*		*10/13/23 17:47*	*10*

Method: SW846 6010D - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**1200**		200	83	ug/L		10/11/23 14:00	10/12/23 13:12	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**14**		1.0	0.13	mg/L			10/10/23 20:55	1
Nitrite as N (EPA 300.0)	ND	H H3	0.10	0.014	mg/L			10/10/23 20:55	1
Nitrate as N (EPA 300.0)	ND	H H3	0.10	0.015	mg/L			10/10/23 20:55	1
Sulfate (EPA 300.0)	**130**		1.0	0.35	mg/L			10/10/23 20:55	1
Nitrate Nitrite as N (MCAWW 353.2-1993 R2.0)	ND		0.050	0.031	mg/L			10/17/23 13:59	1
Chemical Oxygen Demand (MCAWW 410.4-1993 R2.0)	**32**		10	1.8	mg/L			10/12/23 13:55	1
Sulfide (SM 4500 S2 F-2000)	**2.9**		1.0	0.27	mg/L			10/12/23 12:09	1
Total Organic Carbon (SM 5310C-2000)	**6.5**		1.0	0.44	mg/L			10/16/23 21:32	1

Client: AECOM
Project/Site: BP Hyde Park

Job ID: 240-193238-1

Client Sample ID: MW-7B

Date Collected: 10/06/23 09:30
Date Received: 10/10/23 09:40

Lab Sample ID: 240-193238-2

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.48	ug/L			10/17/23 22:42	1
1,1-Dichloroethane	ND		1.0	0.47	ug/L			10/17/23 22:42	1
1,1-Dichloroethene	ND		1.0	0.49	ug/L			10/17/23 22:42	1
Chloroethane	ND		1.0	0.83	ug/L			10/17/23 22:42	1
cis-1,2-Dichloroethene	**1.7**		1.0	0.46	ug/L			10/17/23 22:42	1
Tetrachloroethene	ND		1.0	0.44	ug/L			10/17/23 22:42	1
trans-1,2-Dichloroethene	ND		1.0	0.51	ug/L			10/17/23 22:42	1
Trichloroethene	ND		1.0	0.44	ug/L			10/17/23 22:42	1
Vinyl chloride	**9.6**		1.0	0.45	ug/L			10/17/23 22:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*108*		*78 - 122*		*10/17/23 22:42*	*1*
Dibromofluoromethane (Surr)	*113*		*73 - 120*		*10/17/23 22:42*	*1*
4-Bromofluorobenzene (Surr)	*83*		*56 - 136*		*10/17/23 22:42*	*1*
1,2-Dichloroethane-d4 (Surr)	*115*		*62 - 137*		*10/17/23 22:42*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	**170**		1.0	0.17	ug/L			10/13/23 03:21	1
Ethane	ND		1.0	0.29	ug/L			10/13/23 03:21	1
Ethylene	**1.9**		1.0	0.12	ug/L			10/13/23 03:21	1
Propane	ND		1.0	0.38	ug/L			10/13/23 03:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,1,1-Trifluoroethane	*99*		*60 - 140*		*10/13/23 03:21*	*1*

Method: SW846 6010D - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		200	83	ug/L		10/11/23 14:00	10/12/23 13:17	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**260**		5.0	0.64	mg/L			10/18/23 23:23	5
Nitrite as N (EPA 300.0)	ND	H H3	0.10	0.014	mg/L			10/10/23 21:17	1
Nitrate as N (EPA 300.0)	ND	H H3	0.10	0.015	mg/L			10/10/23 21:17	1
Sulfate (EPA 300.0)	**160**		1.0	0.35	mg/L			10/10/23 21:17	1
Nitrate Nitrite as N (MCAWW 353.2-1993 R2.0)	ND		0.050	0.031	mg/L			10/17/23 14:00	1
Chemical Oxygen Demand (MCAWW 410.4-1993 R2.0)	**13**		10	1.8	mg/L			10/12/23 13:55	1
Sulfide (SM 4500 S2 F-2000)	**2.3**		1.0	0.27	mg/L			10/12/23 12:09	1
Total Organic Carbon (SM 5310C-2000)	**3.6**		1.0	0.44	mg/L			10/16/23 22:12	1

Client: AECOM
Project/Site: BP Hyde Park

Job ID: 240-193238-1

Client Sample ID: TB-100623
Date Collected: 10/06/23 00:00
Date Received: 10/10/23 09:40

Lab Sample ID: 240-193238-3
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.48	ug/L			10/17/23 16:25	1
1,1-Dichloroethane	ND		1.0	0.47	ug/L			10/17/23 16:25	1
1,1-Dichloroethene	ND		1.0	0.49	ug/L			10/17/23 16:25	1
Chloroethane	ND		1.0	0.83	ug/L			10/17/23 16:25	1
cis-1,2-Dichloroethene	ND		1.0	0.46	ug/L			10/17/23 16:25	1
Tetrachloroethene	ND		1.0	0.44	ug/L			10/17/23 16:25	1
trans-1,2-Dichloroethene	ND		1.0	0.51	ug/L			10/17/23 16:25	1
Trichloroethene	ND		1.0	0.44	ug/L			10/17/23 16:25	1
Vinyl chloride	ND		1.0	0.45	ug/L			10/17/23 16:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*108*		*78 - 122*		*10/17/23 16:25*	*1*
Dibromofluoromethane (Surr)	*112*		*73 - 120*		*10/17/23 16:25*	*1*
4-Bromofluorobenzene (Surr)	*83*		*56 - 136*		*10/17/23 16:25*	*1*
1,2-Dichloroethane-d4 (Surr)	*114*		*62 - 137*		*10/17/23 16:25*	*1*

Surrogate Summary

Client: AECOM
Project/Site: BP Hyde Park

Job ID: 240-193238-1

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

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		TOL	DBFM	BFB	DCA
Lab Sample ID	Client Sample ID	(78-122)	(73-120)	(56-136)	(62-137)
240-193238-1	MW-7A	108	109	82	114
240-193238-2	MW-7B	108	113	83	115
240-193238-3	TB-100623	108	112	83	114
LCS 240-591128/5	Lab Control Sample	110	107	99	103
MB 240-591128/8	Method Blank	107	111	84	113

Surrogate Legend

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

Method: RSK-175 - Dissolved Gases (GC)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		TFE1
Lab Sample ID	Client Sample ID	(60-140)
240-193238-1	MW-7A	97
240-193238-1	MW-7A	101
240-193238-2	MW-7B	99
LCS 240-590567/36	Lab Control Sample	102
LCS 240-590689/4	Lab Control Sample	103
LCSD 240-590567/37	Lab Control Sample Dup	103
LCSD 240-590689/5	Lab Control Sample Dup	103
MB 240-590567/35	Method Blank	104
MB 240-590689/3	Method Blank	103

Surrogate Legend

TFE = 1,1,1-Trifluoroethane

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

Lab Sample ID: MB 240-591128/8
Matrix: Water
Analysis Batch: 591128

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.48	ug/L			10/17/23 15:35	1
1,1-Dichloroethane	ND		1.0	0.47	ug/L			10/17/23 15:35	1
1,1-Dichloroethene	ND		1.0	0.49	ug/L			10/17/23 15:35	1
Chloroethane	ND		1.0	0.83	ug/L			10/17/23 15:35	1
cis-1,2-Dichloroethene	ND		1.0	0.46	ug/L			10/17/23 15:35	1
Tetrachloroethene	ND		1.0	0.44	ug/L			10/17/23 15:35	1
trans-1,2-Dichloroethene	ND		1.0	0.51	ug/L			10/17/23 15:35	1
Trichloroethene	ND		1.0	0.44	ug/L			10/17/23 15:35	1
Vinyl chloride	ND		1.0	0.45	ug/L			10/17/23 15:35	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*107*		*78 - 122*		*10/17/23 15:35*	*1*
Dibromofluoromethane (Surr)	*111*		*73 - 120*		*10/17/23 15:35*	*1*
4-Bromofluorobenzene (Surr)	*84*		*56 - 136*		*10/17/23 15:35*	*1*
1,2-Dichloroethane-d4 (Surr)	*113*		*62 - 137*		*10/17/23 15:35*	*1*

Lab Sample ID: LCS 240-591128/5
Matrix: Water
Analysis Batch: 591128

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	25.0	22.5		ug/L		90	64 - 131
1,1-Dichloroethane	25.0	23.8		ug/L		95	72 - 127
1,1-Dichloroethene	25.0	26.7		ug/L		107	63 - 134
Chloroethane	12.5	12.1		ug/L		97	38 - 152
cis-1,2-Dichloroethene	25.0	23.4		ug/L		94	77 - 123
Tetrachloroethene	25.0	27.5		ug/L		110	76 - 123
trans-1,2-Dichloroethene	25.0	24.2		ug/L		97	75 - 124
Trichloroethene	25.0	24.7		ug/L		99	70 - 122
Vinyl chloride	12.5	11.0		ug/L		88	60 - 144

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*110*		*78 - 122*
Dibromofluoromethane (Surr)	*107*		*73 - 120*
4-Bromofluorobenzene (Surr)	*99*		*56 - 136*
1,2-Dichloroethane-d4 (Surr)	*103*		*62 - 137*

Method: RSK-175 - Dissolved Gases (GC)

Lab Sample ID: MB 240-590567/35
Matrix: Water
Analysis Batch: 590567

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		1.0	0.17	ug/L			10/12/23 21:41	1
Ethane	ND		1.0	0.29	ug/L			10/12/23 21:41	1
Ethylene	ND		1.0	0.12	ug/L			10/12/23 21:41	1
Propane	ND		1.0	0.38	ug/L			10/12/23 21:41	1

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

Lab Sample ID: MB 240-590567/35
Matrix: Water
Analysis Batch: 590567

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

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,1,1-Trifluoroethane	104		60 - 140		10/12/23 21:41	1

Lab Sample ID: LCS 240-590567/36
Matrix: Water
Analysis Batch: 590567

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Methane	284	291		ug/L		102	80 - 120
Ethane	537	501		ug/L		93	80 - 120
Ethylene	506	479		ug/L		95	80 - 120
Propane	787	700		ug/L		89	80 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,1,1-Trifluoroethane	102		60 - 140

Lab Sample ID: LCSD 240-590567/37
Matrix: Water
Analysis Batch: 590567

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Methane	284	294		ug/L		103	80 - 120	1	35
Ethane	537	506		ug/L		94	80 - 120	1	35
Ethylene	506	484		ug/L		95	80 - 120	1	35
Propane	787	703		ug/L		89	80 - 120	0	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,1,1-Trifluoroethane	103		60 - 140

Lab Sample ID: MB 240-590689/3
Matrix: Water
Analysis Batch: 590689

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		1.0	0.17	ug/L			10/13/23 10:42	1
Ethane	ND		1.0	0.29	ug/L			10/13/23 10:42	1
Ethylene	ND		1.0	0.12	ug/L			10/13/23 10:42	1
Propane	ND		1.0	0.38	ug/L			10/13/23 10:42	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,1,1-Trifluoroethane	103		60 - 140		10/13/23 10:42	1

Lab Sample ID: LCS 240-590689/4
Matrix: Water
Analysis Batch: 590689

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Methane	284	292		ug/L		103	80 - 120
Ethane	537	519		ug/L		97	80 - 120

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

Lab Sample ID: LCS 240-590689/4
Matrix: Water
Analysis Batch: 590689

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylene	506	489		ug/L		97	80 - 120
Propane	787	772		ug/L		98	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,1,1-Trifluoroethane	*103*		*60 - 140*

Lab Sample ID: LCSD 240-590689/5
Matrix: Water
Analysis Batch: 590689

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Methane	284	302		ug/L		106	80 - 120	3	35
Ethane	537	529		ug/L		98	80 - 120	2	35
Ethylene	506	502		ug/L		99	80 - 120	3	35
Propane	787	755		ug/L		96	80 - 120	2	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,1,1-Trifluoroethane	*103*		*60 - 140*

Method: 6010D - Metals (ICP)

Lab Sample ID: MB 240-590420/1-A
Matrix: Water
Analysis Batch: 590553

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 590420

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		200	83	ug/L		10/11/23 14:00	10/12/23 12:02	1

Lab Sample ID: LCS 240-590420/2-A
Matrix: Water
Analysis Batch: 590553

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 590420

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Iron	10000	9340		ug/L		93	80 - 120

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 240-590284/3
Matrix: Water
Analysis Batch: 590284

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0	0.13	mg/L			10/10/23 18:02	1
Sulfate	ND		1.0	0.35	mg/L			10/10/23 18:02	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 240-590284/4
Matrix: Water
Analysis Batch: 590284

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	50.0	47.9		mg/L		96	90 - 110
Sulfate	50.0	49.4		mg/L		99	90 - 110

Lab Sample ID: MB 240-590285/3
Matrix: Water
Analysis Batch: 590285

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	ND		0.10	0.014	mg/L			10/10/23 18:02	1
Nitrate as N	ND		0.10	0.015	mg/L			10/10/23 18:02	1

Lab Sample ID: LCS 240-590285/4
Matrix: Water
Analysis Batch: 590285

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrite as N	2.50	2.54		mg/L		102	90 - 110
Nitrate as N	2.50	2.42		mg/L		97	90 - 110

Lab Sample ID: MB 240-591145/3
Matrix: Water
Analysis Batch: 591145

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0	0.13	mg/L			10/18/23 12:54	1
Sulfate	ND		1.0	0.35	mg/L			10/18/23 12:54	1

Lab Sample ID: LCS 240-591145/4
Matrix: Water
Analysis Batch: 591145

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	50.0	48.7		mg/L		97	90 - 110
Sulfate	50.0	50.4		mg/L		101	90 - 110

Method: 353.2-1993 R2.0 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 240-591153/13
Matrix: Water
Analysis Batch: 591153

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.050	0.031	mg/L			10/17/23 13:51	1

Lab Sample ID: LCS 240-591153/14
Matrix: Water
Analysis Batch: 591153

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	0.962	0.867		mg/L		90	90 - 110

Method: 410.4-1993 R2.0 - COD

Lab Sample ID: MB 240-590615/3
Matrix: Water
Analysis Batch: 590615

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		10	1.8	mg/L			10/12/23 13:55	1

Lab Sample ID: LCS 240-590615/4
Matrix: Water
Analysis Batch: 590615

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chemical Oxygen Demand	46.4	46.9		mg/L		101	90 - 110

Method: 4500 S2 F-2000 - Sulfide, Total

Lab Sample ID: MB 240-590598/1
Matrix: Water
Analysis Batch: 590598

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		1.0	0.27	mg/L			10/12/23 12:09	1

Lab Sample ID: LCS 240-590598/2
Matrix: Water
Analysis Batch: 590598

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfide	20.4	20.5		mg/L		101	80 - 120

Method: 5310C-2000 - Total Organic Carbon/Persulfate - Ultrav

Lab Sample ID: MB 240-591176/4
Matrix: Water
Analysis Batch: 591176

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		1.0	0.44	mg/L			10/16/23 19:36	1

Lab Sample ID: LCS 240-591176/5
Matrix: Water
Analysis Batch: 591176

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	18.3	18.9		mg/L		103	85 - 115

QC Association Summary

Client: AECOM
Project/Site: BP Hyde Park

Job ID: 240-193238-1

GC/MS VOA

Analysis Batch: 591128

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-193238-1	MW-7A	Total/NA	Water	8260D	
240-193238-2	MW-7B	Total/NA	Water	8260D	
240-193238-3	TB-100623	Total/NA	Water	8260D	
MB 240-591128/8	Method Blank	Total/NA	Water	8260D	
LCS 240-591128/5	Lab Control Sample	Total/NA	Water	8260D	

GC VOA

Analysis Batch: 590567

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-193238-1	MW-7A	Total/NA	Water	RSK-175	
240-193238-2	MW-7B	Total/NA	Water	RSK-175	
MB 240-590567/35	Method Blank	Total/NA	Water	RSK-175	
LCS 240-590567/36	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 240-590567/37	Lab Control Sample Dup	Total/NA	Water	RSK-175	

Analysis Batch: 590689

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-193238-1	MW-7A	Total/NA	Water	RSK-175	
MB 240-590689/3	Method Blank	Total/NA	Water	RSK-175	
LCS 240-590689/4	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 240-590689/5	Lab Control Sample Dup	Total/NA	Water	RSK-175	

Metals

Prep Batch: 590420

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-193238-1	MW-7A	Dissolved	Water	3005A	
240-193238-2	MW-7B	Dissolved	Water	3005A	
MB 240-590420/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-590420/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 590553

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-193238-1	MW-7A	Dissolved	Water	6010D	590420
240-193238-2	MW-7B	Dissolved	Water	6010D	590420
MB 240-590420/1-A	Method Blank	Total Recoverable	Water	6010D	590420
LCS 240-590420/2-A	Lab Control Sample	Total Recoverable	Water	6010D	590420

General Chemistry

Analysis Batch: 590284

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-193238-1	MW-7A	Total/NA	Water	300.0	
240-193238-2	MW-7B	Total/NA	Water	300.0	
MB 240-590284/3	Method Blank	Total/NA	Water	300.0	
LCS 240-590284/4	Lab Control Sample	Total/NA	Water	300.0	

Analysis Batch: 590285

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-193238-1	MW-7A	Total/NA	Water	300.0	
240-193238-2	MW-7B	Total/NA	Water	300.0	

General Chemistry (Continued)

Analysis Batch: 590285 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 240-590285/3	Method Blank	Total/NA	Water	300.0	
LCS 240-590285/4	Lab Control Sample	Total/NA	Water	300.0	

Analysis Batch: 590598

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-193238-1	MW-7A	Total/NA	Water	4500 S2 F-2000	
240-193238-2	MW-7B	Total/NA	Water	4500 S2 F-2000	
MB 240-590598/1	Method Blank	Total/NA	Water	4500 S2 F-2000	
LCS 240-590598/2	Lab Control Sample	Total/NA	Water	4500 S2 F-2000	

Analysis Batch: 590615

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-193238-1	MW-7A	Total/NA	Water	410.4-1993 R2.0	
240-193238-2	MW-7B	Total/NA	Water	410.4-1993 R2.0	
MB 240-590615/3	Method Blank	Total/NA	Water	410.4-1993 R2.0	
LCS 240-590615/4	Lab Control Sample	Total/NA	Water	410.4-1993 R2.0	

Analysis Batch: 591145

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-193238-2	MW-7B	Total/NA	Water	300.0	
MB 240-591145/3	Method Blank	Total/NA	Water	300.0	
LCS 240-591145/4	Lab Control Sample	Total/NA	Water	300.0	

Analysis Batch: 591153

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-193238-1	MW-7A	Total/NA	Water	353.2-1993 R2.0	
240-193238-2	MW-7B	Total/NA	Water	353.2-1993 R2.0	
MB 240-591153/13	Method Blank	Total/NA	Water	353.2-1993 R2.0	
LCS 240-591153/14	Lab Control Sample	Total/NA	Water	353.2-1993 R2.0	

Analysis Batch: 591176

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-193238-1	MW-7A	Total/NA	Water	5310C-2000	
240-193238-2	MW-7B	Total/NA	Water	5310C-2000	
MB 240-591176/4	Method Blank	Total/NA	Water	5310C-2000	
LCS 240-591176/5	Lab Control Sample	Total/NA	Water	5310C-2000	

Lab Chronicle

Client: AECOM
Project/Site: BP Hyde Park

Job ID: 240-193238-1

Client Sample ID: MW-7A
Date Collected: 10/06/23 09:30
Date Received: 10/10/23 09:40

Lab Sample ID: 240-193238-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	591128	CDG	EET CLE	10/17/23 22:17
Total/NA	Analysis	RSK-175		1	590567	JBN	EET CLE	10/13/23 03:04
Total/NA	Analysis	RSK-175		10	590689	BPM	EET CLE	10/13/23 17:47
Dissolved	Prep	3005A			590420	S4FJ	EET CLE	10/11/23 14:00
Dissolved	Analysis	6010D		1	590553	KLC	EET CLE	10/12/23 13:12
Total/NA	Analysis	300.0		1	590284	JWW	EET CLE	10/10/23 20:55
Total/NA	Analysis	300.0		1	590285	JWW	EET CLE	10/10/23 20:55
Total/NA	Analysis	353.2-1993 R2.0		1	591153	BLW	EET CLE	10/17/23 13:59
Total/NA	Analysis	410.4-1993 R2.0		1	590615	QUY8	EET CLE	10/12/23 13:55
Total/NA	Analysis	4500 S2 F-2000		1	590598	RP	EET CLE	10/12/23 12:09
Total/NA	Analysis	5310C-2000		1	591176	JWW	EET CLE	10/16/23 21:32

Client Sample ID: MW-7B
Date Collected: 10/06/23 09:30
Date Received: 10/10/23 09:40

Lab Sample ID: 240-193238-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	591128	CDG	EET CLE	10/17/23 22:42
Total/NA	Analysis	RSK-175		1	590567	JBN	EET CLE	10/13/23 03:21
Dissolved	Prep	3005A			590420	S4FJ	EET CLE	10/11/23 14:00
Dissolved	Analysis	6010D		1	590553	KLC	EET CLE	10/12/23 13:17
Total/NA	Analysis	300.0		1	590284	JWW	EET CLE	10/10/23 21:17
Total/NA	Analysis	300.0		1	590285	JWW	EET CLE	10/10/23 21:17
Total/NA	Analysis	300.0		5	591145	JWW	EET CLE	10/18/23 23:23
Total/NA	Analysis	353.2-1993 R2.0		1	591153	BLW	EET CLE	10/17/23 14:00
Total/NA	Analysis	410.4-1993 R2.0		1	590615	QUY8	EET CLE	10/12/23 13:55
Total/NA	Analysis	4500 S2 F-2000		1	590598	RP	EET CLE	10/12/23 12:09
Total/NA	Analysis	5310C-2000		1	591176	JWW	EET CLE	10/16/23 22:12

Client Sample ID: TB-100623
Date Collected: 10/06/23 00:00
Date Received: 10/10/23 09:40

Lab Sample ID: 240-193238-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	591128	CDG	EET CLE	10/17/23 16:25

Laboratory References:
EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

Accreditation/Certification Summary

Client: AECOM
Job ID: 240-193238-1
Project/Site: BP Hyde Park

Laboratory: Eurofins Cleveland

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

Authority	Program	Identification Number	Expiration Date
New York	NELAP	10975	04-02-24

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
300.0		Water	Chloride
300.0		Water	Nitrate as N
300.0		Water	Nitrite as N
300.0		Water	Sulfate
5310C-2000		Water	Total Organic Carbon
RSK-175		Water	Ethane
RSK-175		Water	Ethylene
RSK-175		Water	Methane
RSK-175		Water	Propane

3-8|37

Laboratory Management Program LaMP **Chain of Custody Record**

BP/ARC Project Name: BP IPO
BP/ARC Facility No: BP Hyde Park
Req Due Date (mm/dd/yy):
Rush TAT: Yes ___ No X
Lab Work Order Number:

Lab Name:	Test America (Canton, OH)	BP/ARC Facility Address:	3425 Hyde Park Blvd	Consultant/Contractor:	AECOM
Lab Address:	4101 Shuffel Street NW, North Canton, OH 44720	City, State, ZIP Code:	Niagara, NY 14305	Consultant/Contractor Project No:	60481767.17.14
Lab PM:	Lab Contact: Opal Johnson	Lead Regulatory Agency:	NYSDEC	Address:	~~257 West Genesee St.~~, Suite ~~400~~ Buffalo, NY 14202 50 Lakefront Blvd
Lab Phone:	330-497-9396 / 330-497-0772	California Global ID No:		Consultant/Contractor PM:	James Kaczor
Lab Shipping Accnt:		Enfos Proposal No:		Phone:	716-923-1300
Lab Bottle Order No:		Accounting Mode:	Provision ___ OOC-BU ___ OOC-RM ___	Email EDD To:	James.Kaczor@aecom.com
Other Info:		Stage:	Activity:	Invoice To:	BP/ARC ___ Contractor X
BP/ARC EBM:					
EBM Phone:					
EBM Email:					

Lab No.	Sample Description	Date	Time	Soil / Solid	Water / Liquid	Air / Vapor	Total Number of Containers	Unpreserved	HNO3	HCl	NaoH/Zn-acetate	~~H2SO4~~ H_2SO_4	8260C -VOCs	SM-4500_S2_F -Sulfide	410.4 - COD	RSK 175 - Dissolved Gases	5310 C - TOC	5210-BOD (TA-Buffalo)	300, 353.2, nitrate-nitrite 300.0_28D chloride, sulfate (TA - Buffalo)	6010C - Dissolved Iron (field filtered)	Comments
	MW-7A	10/6/23	0930		X		13	2	1	6	1	3	3	1	1	3	2	1	1	1	
	MW-7B	10/6/23	0930		X		13	2	1	6	1	3	3	1	1	3	2	1	1	1	
	TB-100623	10/6/23	—		X		1			1			1								Trip Blank

Report Type & QC Level
Standard ___
Full Data Package ___

Comments
Note: If sample not collected, indicate "No Sample" in comments and single-strike out and initial any preprinted sample description.

240-193238 Chain of Custody

Sampler's Name:	Tom Urban, Alyssa Sands, Collin Horrocks	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Company:	AECOM	[signature] / AECOM	10/6/23	1100	[signature] TAB	10-6-23	1100
Shipment Method:	Dropoff at TA Buffalo, NY	[signature]	10/7/23	1200	[signature]	10-10-23	940
Shipment Tracking No:	Ship Date:						

Special Instructions: PO #93607 Line 2: TA Buffalo to ship to TA Canton except short hold bottles 5210-BOD, 300, 353.2, 300.0_28D :

THIS LINE - LAB USE ONLY: Custody Seals In Place: Yes / No | Temp Blank: Yes / No | Cooler Temp on Receipt: _____ °F/C | Trip Blank: Yes / No | MS/MSD Sample Submitted: Yes / No

10/23/2023

Christopher Kolb

From: Christopher Kolb
Sent: Friday, October 6, 2023 3:32 PM
To: Opal d Johnson; Canton - Sample Receiving
Cc: Buffalo - Sample Receiving
Subject: BP Hyde Park 24018856
Attachments: SMETALS_36823100616390.pdf

See attached for samples received today 10/6 for BP Hyde Park, project 24018856. Will need a 240 job number to process tc on our end when possible. Guy who dropped off mentioned this should be it for sampling.

From: IT - NoReply <ITNoReply@et.eurofinsus.com>
Sent: Friday, October 6, 2023 4:40 PM
To: Christopher Kolb <Chris.Kolb@et.eurofinsus.com>
Subject: Message from KM_368

eurofins | Environment Testing TestAmerica

Part # 159469-434 MTW EXP 0924

ORIGIN ID:DKKA (716) 691-2600
BUFFALO LAB
EUROFINS BUFFALO
10 HAZELWOOD DRIVE

AMHERST, NY 14228
UNITED STATES US

SHIP DATE: 09OCT23
ACTWGT: 19.60 LB
CAD: 8466554/CAFE3753
DIMS: 26x15x14 IN

BILL SENDER

585C9/3B0A/9ED7

TO SAMPLE CONTROL
EUROFINS CANTON
180 SOUTH VAN BUREN

BARBERTON OH 44203
(330) 497-9396
REF: TA BARBERTON

FedEx Express

J2330230512010v

TRK# 0201 6758 4754 8389

TUE - 10 OCT 10:30A
PRIORITY OVERNIGHT

XP CAKA

44203
OH-US CLE

Appendix D

Monitoring Well Analytical Data Summary, 2007 to 2023

MONITORING WELL GROUNDWATER ANALYTICAL RESULT SUMMARY
HYDE PARK FACILITY
NIAGARA, NEW YORK

Well ID: MW- 1A

Date	PCE (µg/L)	TCE (µg/L)	Cis-1,2-DCE (µg/L)	Trans-1,2-DCE (µg/L)	1,1-DCE (µg/L)	Vinyl Chloride (µg/L)	Ethane (µg/L)	Ethene (µg/L)	Methane (µg/L)	1,1,1-Trichloroethane (µg/L)	1,1-Dichloroethane (µg/L)	Chloroethane (µg/L)	Dissolved Iron (mg/L)	BOD (mg/L)	COD (mg/L)	TOC (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)
10/31/2007	5 U	5 U	5 U	5 U	5 U	2 U				5 U	5 U	5 U									
4/23/2008	5 U	5 U	5 U	5 U	5 U	2 U	1 U	1 U	2.6	5 U	5 U	5 U		2 U	6.02	1.53	112	109	1 U	0.05 U	0.05 U
10/27/2009	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	30	5 U	5 U	5 U		1.7 U	16.5 J	2	140 J	141	0.16 U	0 R	0.05 U

J Indicates an estimated value.
U Analyte was not detected above the reporting limit.
UJ The analyte was not detected. The reporting limit is an approximate value.
J- Indicates estimated value, biased low.
J+ Indicates estimated value, biased high.
D Result reported from a secondary dilution analysis.
R The sample results are rejected.

MONITORING WELL GROUNDWATER ANALYTICAL RESULT SUMMARY
HYDE PARK FACILITY
NIAGARA, NEW YORK

Well ID: MW- 1B

Date	PCE (µg/L)	TCE (µg/L)	Cis-1,2-DCE (µg/L)	Trans-1,2-DCE (µg/L)	1,1-DCE (µg/L)	Vinyl Chloride (µg/L)	Ethane (µg/L)	Ethene (µg/L)	Methane (µg/L)	1,1,1-Trichloroethane (µg/L)	1,1-Dichloroethane (µg/L)	Chloroethane (µg/L)	Dissolved Iron (mg/L)	BOD (mg/L)	COD (mg/L)	TOC (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)
10/30/2007	5 U	5 U	11	5 U	5 U	16	0.36 J	0.97 J	160	5 U	5 U	5 U		2 U	5 UJ	4.23	97.6	301	1 U		
4/23/2008	5 U	5 U	1.2 J	5 U	5 U	1.9 J	1 U	1 U	64	5 U	0.71 J	5 U		2 U	13	4.06	70	181	1 U	0.05 U	0.05 U
10/27/2009	5 U	5 U	1.3 J	5 U	5 U	1.7 J	5 U	5 U	59	5 U	5 U	5 U		1.6 U	32.5 J	4.5	71.8 J	218	0.16 U	0 R	0.05 U

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J+ Indicates estimated value, biased high.
D Result reported from a secondary dilution analysis.
R The sample results are rejected.

MONITORING WELL GROUNDWATER ANALYTICAL RESULT SUMMARY
HYDE PARK FACILITY
NIAGARA, NEW YORK

Well ID: MW- 2A

Date	PCE (µg/L)	TCE (µg/L)	Cis-1,2-DCE (µg/L)	Trans-1,2-DCE (µg/L)	1,1-DCE (µg/L)	Vinyl Chloride (µg/L)	Ethane (µg/L)	Ethene (µg/L)	Methane (µg/L)	1,1,1-Trichloroethane (µg/L)	1,1-Dichloroethane (µg/L)	Chloroethane (µg/L)	Dissolved Iron (mg/L)	BOD (mg/L)	COD (mg/L)	TOC (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)
11/1/2007	5 U	0.91 J	9.8	5 U	5 U	1.9 J				5 U	7.1	4.9 J									
4/28/2008	5 U	5 U	0.38 J	5 U	2.4 J	2 U				2 J	14	1.2 J									
10/28/2009	5 U	5 U	5 U	5 U	6	1.3 J				7.6	26	1.2 J									
5/11/2010	5 U	5 U	5 U	5 U	4.3 J	1.2 J	5 U	5 U	30	4.9 J	18	1.7 J									

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J+ Indicates estimated value, biased high.
D Result reported from a secondary dilution analysis.
R The sample results are rejected.

MONITORING WELL GROUNDWATER ANALYTICAL RESULT SUMMARY
HYDE PARK FACILITY
NIAGARA, NEW YORK

Well ID: MW- 2B

Date	PCE (µg/L)	TCE (µg/L)	Cis-1,2-DCE (µg/L)	Trans-1,2-DCE (µg/L)	1,1-DCE (µg/L)	Vinyl Chloride (µg/L)	Ethane (µg/L)	Ethene (µg/L)	Methane (µg/L)	1,1,1-Trichloroethane (µg/L)	1,1-Dichloroethane (µg/L)	Chloroethane (µg/L)	Dissolved Iron (mg/L)	BOD (mg/L)	COD (mg/L)	TOC (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)
11/1/2007	5 U	5 U	48	5 U	5 U	59				5 U	5 U	5 U									
4/28/2008	5 U	5 U	41	5 U	5 U	62				5 U	5 U	5 U									
10/28/2009	5 U	5 U	9.1	5 U	5 U	16				5 U	5 U	5 U									
5/11/2010	5 U	5 U	3.7 J	5 U	5 U	7.6	1.9 J	55	2300	5 U	5 U	5 U									
10/20/2011	5 U	5 U	1.8 J	5 U	5 U	2.6 J				5 U	5 U	5 U									
6/13/2012	5 U	5 U	2.7 J	5 U	5 U	8.6				5 U	5 U	5 U									
8/30/2013	5 U	5 U	2.3 J	5 U	5 U	4 J				5 U	5 U	5 U									
4/3/2014	1 U	1 U	1	0.72 J	1 U	2.2				1 UJ	0.92 J	1 U									
11/20/2015	1 U	1 U	0.87 J	0.56 J	1 U	3.4				1 U	0.65 J	1 U									
4/19/2016	1.0 U	1.0 U	0.95 J	1.0 U	1.0 U	2.2				1.0 U	0.96 J	1.0 U									
9/12/2017	1.0 U	1.0 U	0.77 J	1.0 U	1.0 U	1.8				1.0 U	0.5 J	1.0 U									
4/25/2018	1.0 U	1.0 U	1.3	1.0 U	1.0 U	2.6				1.0 U	1.0 U	1.0 U									

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J+ Indicates estimated value, biased high.
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R The sample results are rejected.

MONITORING WELL GROUNDWATER ANALYTICAL RESULT SUMMARY
HYDE PARK FACILITY
NIAGARA, NEW YORK

Well ID: MW- 3A

Date	PCE (µg/L)	TCE (µg/L)	Cis-1,2-DCE (µg/L)	Trans-1,2-DCE (µg/L)	1,1-DCE (µg/L)	Vinyl Chloride (µg/L)	Ethane (µg/L)	Ethene (µg/L)	Methane (µg/L)	1,1,1-Trichloroethane (µg/L)	1,1-Dichloroethane (µg/L)	Chloroethane (µg/L)	Dissolved Iron (mg/L)	BOD (mg/L)	COD (mg/L)	TOC (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)
10/31/2007	5 U	5 U	0.9 J	5 U	5 U	2 U	0.54 J	1 U	6	5 U	5 U	5 U		2 U	19 J	3.21	16.4	319	3.64		
4/24/2008	5 U	0.21 J	0.71 J	5 U	5 U	2 U	1 U	1 U	12	5 U	5 U	5 U		2 U	6.92	2.89	0.2 U	292	1 U	0.05 U	0.05 U
8/12/2008	5 U	5 U	0.89 J	5 U	5 U	5 U	5 U	5 U	25	5 U	5 U					2.6	17.6	318			
10/6/2008	5 U	1.9 J	11	5 U	5 U	5 U	5 U	5 U	19 J	5 U	5 U	5 U				2.3	19.4 J	347			
12/8/2008	5 U	1.4 J	5 U	5 U	5 U	5 U	5 U	5 U	7.7 J	5 U	5 U	5 U				4.9	23.3	444			
1/26/2009	5 U	5 U	1 J	5 U	5 U	5 U	5 U	5 U	7.3 J	5 U	5 U	5 U									
3/16/2009	5 U	5 U	0.99 J	5 U	5 U	5 U	5 U	5 U	5 J	5 U	5 U	5 U				3.7	27.3	334			
10/27/2009	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	14 J	5 U	5 U	5 U		1.9 U	25.6 J	2.2	15.9 J	250	0.16 U	0 R	0.05 U

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D Result reported from a secondary dilution analysis.
R The sample results are rejected.

MONITORING WELL GROUNDWATER ANALYTICAL RESULT SUMMARY
HYDE PARK FACILITY
NIAGARA, NEW YORK

Well ID: MW- 3B

Date	PCE (µg/L)	TCE (µg/L)	Cis-1,2-DCE (µg/L)	Trans-1,2-DCE (µg/L)	1,1-DCE (µg/L)	Vinyl Chloride (µg/L)	Ethane (µg/L)	Ethene (µg/L)	Methane (µg/L)	1,1,1-Trichloroethane (µg/L)	1,1-Dichloroethane (µg/L)	Chloroethane (µg/L)	Dissolved Iron (mg/L)	BOD (mg/L)	COD (mg/L)	TOC (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)
10/31/2007	5 U	5 U	1.9 J	5 U	5 U	2.2	1 U	1 U	220	5 U	5 U	5 U		2 U	5 UJ	3.19	134	395	1 U		
4/25/2008	5 U	5 U	2.1 J	5 U	5 U	2.2	0.6 J	1 U	180	5 U	5 U	5 U		4.17	14.1	3.64	132	333	1 U	0.05 U	0.05 U
10/27/2009	5 U	5 U	1.5 J	5 U	5 U	2.9 J	5 U	5 U	170	5 U	5 U	5 U		2.2 U	16.5 J	3.8	121 J	254	0.9	0 R	0.05 U

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R The sample results are rejected.

MONITORING WELL GROUNDWATER ANALYTICAL RESULT SUMMARY
HYDE PARK FACILITY
NIAGARA, NEW YORK

Well ID: MW- 4A

Date	PCE (µg/L)	TCE (µg/L)	Cis-1,2-DCE (µg/L)	Trans-1,2-DCE (µg/L)	1,1-DCE (µg/L)	Vinyl Chloride (µg/L)	Ethane (µg/L)	Ethene (µg/L)	Methane (µg/L)	1,1,1-Trichloroethane (µg/L)	1,1-Dichloroethane (µg/L)	Chloroethane (µg/L)	Dissolved Iron (mg/L)	BOD (mg/L)	COD (mg/L)	TOC (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)
10/31/2007	5 U	34	200	3.2 J	1.8 J	56	0.55 J	5.6	130	5 U	12	5 U		2 U	5 UJ	1.87	106	242	1 U		
4/29/2008	5 U	34	200	3.1 J	1.6 J	53	0.55 J	5.6	130	5 U	15	5 U		2 U	6.62	1.52	117	231	1 U	0.05 U	0.05 U
11/3/2009	5 U	130	110	5.7	2.5 J	41	5 U	4.6 J	83	5 U	17	5 U		2.6 U	50 U	1.7 J	97.1	244	0.16 U	0.1 U	0.05 U
5/14/2010	5 U	94	250	4.9 J	2.6 J	45	5 U	5.7	110	5 U	21	5 U		2.1 U	50 U	1.8	109	249	0.16 U	0.1 U	0.05 U
10/25/2011	5 U	160	150	8.1	3.8 J	73	5 U	12	170	5 U	18	5 U	0.0146 J	3.1 U	50 U	2.1	95.9 J	263 J	0.16 U	0.1 U	0.05 U
3/14/2012																					
3/15/2012	50 UJ	65 J	97 J	9.5 J	50 UJ	14 J	5.7	20	1200	50 UJ	18 J	50 UJ	0.0523 J			999	160	46.3			
6/12/2012	5 U	7.5	140	2.9 J	0.81 J	20	5 U	3.9 J	3700	5 U	5.4	7.8	3.22		1350	434	89.8	5 U		0.1 U	0.05 U
6/13/2012																			0.34		
6/25/2012														796							
11/29/2012	5 U	5.5	120	4.2 J	0.92 J	39	5 U	48	7900	5 U	3.6 J	21	4.85			397	37.8	5 U			
9/3/2013	5 U	4.2 J	31	3.5 J	5 U	11	1.4 J	60 J	11000	5 U	1.3 J	17		551 J	1040 J	251	82.9	1.6 J	0.074 J	0.1 UJ	0.05 U
1/22/2014	5 U	1.1 J	7.5	2.4 J	5 U	7.2	5 U	65	22000	5 U	5 U	12	39.4			362	87.3	5 U	0.16 U		
4/3/2014	1 U	1.2	3.7	2.1	1 U	4.1	4.2 J	47	25000	1 U	1 U	12	36.2	342	640	205	99	5 U	0.17	0.1 UJ	0.018 J
10/14/2014	1 U	0.57 J	5.3	2.2	1 U	5.8	3.5 J	56	19000 J	1 UJ	1.1	9.1	57.6			159	83.8	2.5 J	0.16 U		
11/18/2015	1 U	1.2	1.3	1 U	1 U	1.1	5.2	18	17000	1 U	1	3	14.5	70.6	443	36.6	123	5.6	0.085 J	0.1 U	0.05 U
4/21/2016	1.0 U	3.4	2.8	1.0 U	1.0 U	1.1	4.3 J	8.6	26000 D	1.0 U	1.4	3	9.67	34.3	181	20.4	179	7.6	0.069 J	0.10 U	0.050 U
9/11/2017	1.0 U	1.3	0.68 J	1.0 U	1.0 UJ	2.6	3.9	5.5	5400 D	1.0 U	1.4	2.7	11	27	48	17	26	2.1 J	1.0 U	0.25 U	0.050 UJ
4/23/2018	1.0 U	0.44 J	1.1	0.51 J	1.0 U	0.96 J	10 U	10 U	21000	1.0 U	1.8	2.5	14	7.6	23	7.2	110	3.7 J	1.0 U	0.25 U	0.050 UJ

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UJ The analyte was not detected. The reporting limit is an approximate value.
J- Indicates estimated value, biased low.
J+ Indicates estimated value, biased high.
D Result reported from a secondary dilution analysis.
R The sample results are rejected.

MONITORING WELL GROUNDWATER ANALYTICAL RESULT SUMMARY
HYDE PARK FACILITY
NIAGARA, NEW YORK

Well ID: MW- 4B

Date	PCE (µg/L)	TCE (µg/L)	Cis-1,2-DCE (µg/L)	Trans-1,2-DCE (µg/L)	1,1-DCE (µg/L)	Vinyl Chloride (µg/L)	Ethane (µg/L)	Ethene (µg/L)	Methane (µg/L)	1,1,1-Trichloroethane (µg/L)	1,1-Dichloroethane (µg/L)	Chloroethane (µg/L)	Dissolved Iron (mg/L)	BOD (mg/L)	COD (mg/L)	TOC (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)
10/31/2007	5 U	5 U	23	5 U	5 U	11	0.39 J	0.39 J	200	5 U	1.4 J	5 U		2 U	5.52 J	3.15	152	316	2.59		
4/29/2008	5 U	5 U	12	5 U	5 U	13	0.43 J	0.66 J	260	5 U	5 U	5 U		2 U	8.98	3.29	152	247	1 U	0.05 U	0.05 U
11/3/2009	5 U	5 U	9.7	5 U	5 U	9.5	5 U	5 U	140	5 U	5 U	5 U		3 U	25.6 J	2.9 J	190	267	0.16 J	0.1 U	0.05 U
5/14/2010	5 U	5 U	2.8 J	5 U	5 U	12	5 U	5 U	160	5 U	5 U	5 U		2.7 U	13.3 J	3.4	165	305	0.16 U	0.1 U	0.05 U
1/16/2014	5 U	5 U	11	5 U	5 U	15	5 U	2.8 J	150	5 U	1.1 J	5 U	0.459			3.9	142	298 J+	0.16 U		

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J+ Indicates estimated value, biased high.
D Result reported from a secondary dilution analysis.
R The sample results are rejected.

MONITORING WELL GROUNDWATER ANALYTICAL RESULT SUMMARY
HYDE PARK FACILITY
NIAGARA, NEW YORK

Well ID: MW- 5A

Date	PCE (µg/L)	TCE (µg/L)	Cis-1,2-DCE (µg/L)	Trans-1,2-DCE (µg/L)	1,1-DCE (µg/L)	Vinyl Chloride (µg/L)	Ethane (µg/L)	Ethene (µg/L)	Methane (µg/L)	1,1,1-Trichloroethane (µg/L)	1,1-Dichloroethane (µg/L)	Chloroethane (µg/L)	Dissolved Iron (mg/L)	BOD (mg/L)	COD (mg/L)	TOC (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)
10/29/2007															5 UJ						
10/30/2007	5 U	0.59 J	2.6 J	5 U	5 U	2 U	1 U	1 U	0.74 J	5 U	5 U	5 U		2 U		1.14	569	172	1 U		
4/22/2008	5 U	0.47 J	37	0.35 J	5 U	16	2	4.7	22	5 U	5 U	5 U		2 U	12.2	1.44	542	164	1 U	0.613	0.05 U
10/29/2009	5 U	5 U	5.9	5 U	5 U	1.8 J	5 U	5 U	5.5 J	5 U	5 U	5 U		1.7 U	23.3 J	1.1	263	148 J	0.16 U	0.85	0.05 U
5/13/2010	5 U	5 U	110	0.97 J	5 U	84	1.8 J	45	100	5 U	5 U	5 U		1.6 U	15.6 J	1.3	188	126	0.16 U	0.7	0.05 U
10/21/2011	5 U	5 U	5.7	5 U	5 U	3.3 J	5 U	1.5 J	9.6 J	5 U	5 U	5 U	0.0265 J	3.1 U	50 U	1.5	204	164	0.16 U	0.75	0.05 U
6/12/2012	5 U	5 U	88	1 J	5 U	82	2.8 J	34	130	5 U	5 U	1 J	0.2 U	3.2 U	50 U	0.98 J	120	116	0.16 U	0.57	0.05 U
8/28/2013	5 U	5 U	110	1.4 J	5 U	190	9.5	100	460	5 U	1.3 J	5 U		4.3 U	50 U	1.2	106 J	91.7	0.16 U	0.35	0.05 U
4/2/2014	1 U	1 U	240	2.3	1 U	300	16	110	1100	1 UJ	3.3	2.1	0.4 U	4.1 U	50 U	2.3	128 J-	63.3 J+	0.16 U	0.13	0.05 U
11/17/2015	1 U	1 U	150	1.6	1 U	140	5.4	39	2000	1 U	1.4	1.5	0.4 U		50 U	1 U	102	102	0.16 U	0.61	0.05 U
11/20/2015														6 U							
4/19/2016	1.0 U	1.0 U	340 D	5.4	1.0 U	340 D	12	87	7500	1.0 U	4.2	1.0 U	0.400 U	7.3	24.4 J	1.2	151	70.2	0.10 U	0.56	0.050 U
9/13/2017	2.0 U	2.0 U	61	0.74 J	2.0 U	68	2.1	9.8	460	2.0 U	0.88 J	2.0 U	0.100 U	2.0 U	12	0.76 J	69	99	1.0 U	0.25 U	0.050 U
4/24/2018	13 U	13 U	250	13 U	13 U	310	18	69	4200	13 U	3.3 J	13 U	0.200 U	4	4.2 J	1.5	120	60	1.0 U	0.13 J	0.050 UJ
12/3/2019	1.0 U	0.47 J	9.5	1.0 U	1.0 U	11	2.1	3.7	140	1.0 U	1.0 U	1.0 U	0.20 U	2.0 U	4.1 J	0.68 J	89	97	1.0 U	0.59	
3/18/2020	5.0 U	0.52 J	130	1.2 J	5.0 U	180	38	47	2600	5.0 U	2.5 J	5.0 U	0.2 U	1.3 J	12	1.2	130	67	1.0 U	0.098 J	0.10 U
12/6/2021	1.0 U	1.0 U	52	1.0 U	1.0 U	62	7.2 J	7.1	470	1.0 U	1	0.6 J	0.05 U	2.0 U	17	1.5	76	87	1.0 U	0.47	0.10 U
5/10/2022	1.0 U	1.0 U	78	0.62 J	1.0 U	70 D	32	32	2100	1.0 U	1.9	1.0 U	0.2 U	6.0 U	6.8 J	1.0 U	85	77	1.0 U	0.24	0.10 U
10/4/2023	1.0 U	0.49 J	67	1.0 U	1.0 U	150 D	29	35	2100	1.0 U	1.7	1.0 U	200 U	2.0 U	10 U	0.97 J	110	66	1.0 U	0.25 U	0.25 U

J Indicates an estimated value.
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UJ The analyte was not detected. The reporting limit is an approximate value.
J- Indicates estimated value, biased low.
J+ Indicates estimated value, biased high.
D Result reported from a secondary dilution analysis.
R The sample results are rejected.

MONITORING WELL GROUNDWATER ANALYTICAL RESULT SUMMARY
HYDE PARK FACILITY
NIAGARA, NEW YORK

Well ID: MW- 5B

Date	PCE (µg/L)	TCE (µg/L)	Cis-1,2-DCE (µg/L)	Trans-1,2-DCE (µg/L)	1,1-DCE (µg/L)	Vinyl Chloride (µg/L)	Ethane (µg/L)	Ethene (µg/L)	Methane (µg/L)	1,1,1-Trichloroethane (µg/L)	1,1-Dichloroethane (µg/L)	Chloroethane (µg/L)	Dissolved Iron (mg/L)	BOD (mg/L)	COD (mg/L)	TOC (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)
10/29/2007	5 U	0.76 J	61	0.66 J	5 U	49	1 U	0.6 J	86	5 U	0.38 J	5 U		2 U	5 UJ	4.26	83.2	230	1 U		
4/22/2008	5 U	0.51 J	58	0.5 J	5 U	57	0.37 J	0.76 J	80	5 U	5 U	5 U		2 U	9.57	4.49	81	223	1.94	0.05 U	0.05 U
10/29/2009	5 U	5 U	39	5 U	5 U	37	5 U	5 U	50	5 U	5 U	5 U		1.7 U	14.2 J	4.9	112	229 J	0.16 U	0.1 U	0.05 U
5/13/2010	5 U	1.1 J	36	5 U	5 U	39	5 U	5 U	63	5 U	5 U	5 U		1.2 U	15.6 J	4.7	98.5	234	0.16 U	0.1 U	0.05 U
11/9/2010	5 U	5 U	43	5 U	5 U	45	5 U	1.1 J	81	5 U	5 U	5 U				4.1	111	254			
10/21/2011	5 U	5 U	48	5 U	5 U	63	5 U	5 U	72	5 U	5 U	5 U	0.0196 J	2.5 U	17.9 J	4.9	130	358	0.16 U	0.1 U	0.05 U
6/13/2012	5 U	5 U	33	5 U	5 U	34	5 U	5 U	50	5 U	5 U	5 U	0.2 U	3.7 U	33.3 J	3.4	187	255	0.16 U	0.1 U	0.05 U
11/30/2012	5 U	5 U	39	5 U	5 U	44	5 U	5 U	66	5 U	5 U	5 U				3	166	267			
8/28/2013	5 U	5 U	32	5 U	5 U	44	5 U	5 U	41	5 U	5 U	5 U		2.8 U	15.6 J	4.5	119 J	299	0.16 U	0.1 U	0.05 U
4/3/2014	1 U	1	16	1 U	1 U	29	5 U	5 U	63	1 UJ	1 U	1 U	0.379 J	4.4 U	50 U	5.3	100	240	0.16 U	0.1 UJ	0.05 U
11/17/2015	1 U	0.58 J	34	1 U	1 U	65	5 U	2.3 J	120	1 U	1 U	1 U	0.502	5.1 U	17.5 J	3.1	117	251	0.16 U	0.1 U	0.05 U
4/19/2016	1.0 U	1.0 U	32	1.0 U	1.0 U	71	5.0 U	1.6 J	86	1.0 U	1.0 U	1.0 U	0.332 J	3.3 U	24.4 J	3	166	259	0.10 U	0.10 U	0.050 U
9/13/2017	5.0 U	5.0 U	36	5.0 U	5.0 U	91	0.50 U	2.2	110	5.0 U	5.0 U	5.0 U	0.54	2.0 U	17	3.4	110	240	1.0 U	0.50 U	0.050 U
4/24/2018	1.0 U	1.0 U	32	1.0 U	1.0 U	78	1.0 U	3.3	160	1.0 U	0.3 J	1.0 U	0.4	2.0 U	8.3 J	3.6	110	240	1.0 U	0.25 UJ	0.050 UJ
12/3/2019	2.0 U	2.0 U	32	2.0 U	2.0 U	90	0.66 J	4.8	270	2.0 U	2.0 U	2.0 U	0.41	2.0 U	9.4 J	3.3	110	240	1.1	0.25 U	
3/18/2020	2.0 U	2.0 U	26	2.0 U	2.0 U	68	1.0 U	2.9	160	2.0 U	2.0 U	2.0 U	0.37	2.0 U	10	3.2	140	220	1.0 U	0.50 U	0.10 U
12/6/2021	2.0 U	2.0 U	40	2.0 U	2.0 U	140	7.5 U	2.4 J	300	2.0 U	2.0 U	2.0 U	0.24	2.0 U	35	4.5	120	230	1.0 U	0.25 U	0.25 U
5/10/2022	1.0 U	1.0 U	35	1.0 U	1.0 U	71 D	0.68 J	3.2	250	1.0 U	1.0 U	1.0 U	0.14 J	12 U	9.5 J	2.6	140	200	1.0 U	0.25 U	0.25 U
10/4/2023	1.0 U	1.0 U	24	1.0 U	1.0 U	140 D	0.37 J	2.6	210	1.0 U	1.0 U	1.0 U	200 U	2.0 U	2.8 J	3.2	140	240	1.0 U	0.25 U	0.25 U

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D Result reported from a secondary dilution analysis.
R The sample results are rejected.

MONITORING WELL GROUNDWATER ANALYTICAL RESULT SUMMARY
HYDE PARK FACILITY
NIAGARA, NEW YORK

Well ID: MW- 6

Date	PCE (µg/L)	TCE (µg/L)	Cis-1,2-DCE (µg/L)	Trans-1,2-DCE (µg/L)	1,1-DCE (µg/L)	Vinyl Chloride (µg/L)	Ethane (µg/L)	Ethene (µg/L)	Methane (µg/L)	1,1,1-Trichloroethane (µg/L)	1,1-Dichloroethane (µg/L)	Chloroethane (µg/L)	Dissolved Iron (mg/L)	BOD (mg/L)	COD (mg/L)	TOC (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)
11/1/2007	5 U	5 U	130	0.52 J	5 U	82				5 U	5 U	5 U									
4/29/2008	5 U	5 U	150	0.39 J	5 U	100				5 U	5 U	5 U									
10/30/2009	5 U	5 U	85	5 U	5 U	69				5 U	5 U	5 U									
5/12/2010	5 U	5 U	39	5 U	5 U	48	5 U	23	310	5 U	5 U	5 U		3.6 U	22.4 J	3.9	140 J	217	3.4	0.1 U	0.05 U
10/20/2011	5 U	5 U	33	5 U	5 U	57				5 U	5 U	5 U									
6/13/2012	5 U	5 U	30	5 U	5 U	47				5 U	5 U	5 U									
8/30/2013	5 U	5 U	24	5 U	5 U	42				5 U	5 U	5 U									
4/3/2014	1 U	1 U	18	1 U	1 U	39				1 U	1 U	1 U									
11/20/2015	1 U	1 U	20	1 U	1 U	57				1 U	1 U	1 U									
4/21/2016	1.0 U	1.0 U	18	1.0 U	1.0 U	59				1.0 U	1.0 U	1.0 U									
9/12/2017	5.0 U	5.0 U	16	5.0 U	5.0 U	79				5.0 U	5.0 U	5.0 U									
4/26/2018	1.0 U	1.0 U	12	1.0 U	1.0 U	48				1.0 U	1.0 U	1.0 U									
12/4/2019	1.0 U	1.0 U	10	1.0 U	1.0 U	78				1.0 U	1.0 U	1.0 U									
3/19/2020	1.0 U	1.0 U	11	1.0 U	1.0 U	72				1.0 U	1.0 U	1.0 U									
12/8/2021	2.0 U	2.0 U	13	2.0 U	2.0 U	98				2.0 U	2.0 U	2.0 U									
5/11/2022	1.0 U	1.0 U	12	1.0 U	1.0 U	61 DJ				1.0 U	1.0 U	1.0 U									
10/5/2023	1.0 U	1.0 U	12	1.0 U	1.0 U	59 DJ				1.0 U	1.0 U	1.0 UJ									

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D Result reported from a secondary dilution analysis.
R The sample results are rejected.

MONITORING WELL GROUNDWATER ANALYTICAL RESULT SUMMARY
HYDE PARK FACILITY
NIAGARA, NEW YORK

Well ID: MW- 7A

Date	PCE (µg/L)	TCE (µg/L)	Cis-1,2-DCE (µg/L)	Trans-1,2-DCE (µg/L)	1,1-DCE (µg/L)	Vinyl Chloride (µg/L)	Ethane (µg/L)	Ethene (µg/L)	Methane (µg/L)	1,1,1-Trichloroethane (µg/L)	1,1-Dichloroethane (µg/L)	Chloroethane (µg/L)	Dissolved Iron (mg/L)	BOD (mg/L)	COD (mg/L)	TOC (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)
11/1/2007	25 U	36	580	25 U	9 J	60	0.95 J	8.5	10	25 U	80	25 U		2 U	7.97 J	2.74	21	250	1 U		
4/28/2008	5 U	210	1700	6.1 J	24	130	0.44 J	5.3	8.6	1.3 J	220	5 U		2 U	5.42	2.23	17.3	210	1 U	0.05 U	0.24
8/13/2008	13 U	270	1800	5.9 J	34	130	5 U	7.2	21	4.1 J	280					3.2	22.3	282			
10/8/2008	5 U	58	1800	3.5 J	25	210	5 U	12	21 J	5 U	250	5 U				143	21.3 J	60.4			
12/9/2008	10 U	4.3 J	1100	1.7 J	9.6 J	180	5 U	27	24	10 U	150	10 U				25.1	24.1	295			
1/27/2009	5 U	3.2 J	840	2.4 J	7.6	390	5 U	51	110	5 U	230	5 U									
3/17/2009	5 U	2.9 J	620	1.5 J	3.6 J	250	5 U	69	210	5 U	140	5 U				8.8	25	253			
10/15/2009	5 U	2.7 J	120	5 U	5 U	240	5 U	110	760	5 U	56	5 U				4.7	21.1	228			
10/30/2009	5 U	1.8 J	210	5 U	5 U	150	5 U	51	260	5 U	49	5 U		4.2 U	23.3 J	3.2	21.8	233 J	2.2	0.1 U	0.05 U
11/18/2009																1150					
12/14/2009	5 U	5 U	140	5 U	5 U	100	5.1	100	1900	5 U	47	5 U				207	23.3 J	56.2 J			
2/9/2010	5 U	5 U	77	5 U	5 U	84	1.1 J	92	1200	5 U	48	5 U				40.1 J	24.1	87.6			
4/1/2010	5 U	5 U	22	5 U	5 U	49				5 UJ	39	5 U									
5/6/2010	5 U	5 U	65	5 U	5 U	50	5 U	5 U	15 U	5 U	33	5 U				95.5	20.9 J	52.2 J			
11/10/2010	5 U	5 U	44	5 U	5 U	18	43 J	65 J	16000	5 U	15	23				261	26.7	31.8			
10/27/2011	5 U	5 U	20	5 U	5 U	19	57	25	20000	5 U	22	13	0.115 J			25.1	28.7	57.1			
3/14/2012	25 U	25 U	11 J	25 U	25 U	25 U	20	8	6700	25 U	18 J	15 J	4.09			1380	34.3	5			
6/14/2012	5 U	1.2 J	3.8 J	5 U	5 U	5 U	5.8	3.3 J	6300	5 U	9.1	22	3.6			573	24.3	5 U			
11/28/2012	5 U	5 U	2.7 J	5 U	5 U	1.3 J	10	1.1 J	16000	5 U	13	16	0.691			204	26.2	5.7			
8/30/2013	5 U	5 U	3.9 J	5 U	5 U	2.2 J	11	3.5 J	13000	5 U	15	7.8		277 J	576	151	26	8.7	0.16 J	0.1 U	0.05 U
1/15/2014	5 U	5 U	4 J	5 U	5 U	1.8 J	8.4	2.7 J	17000	5 U	16	13	39.4			1340	50.4 J+	5 U	0.34		
4/2/2014	1 U	1 U	3	1 U	1 U	1	6.3	1.2 J	20000	1 U	12	16	22.9	589	1250	453	25.5	2.3 J	0.067 J	0.1 U	0.05 U
10/9/2014	1 U	1 U	0.92 J	1 U	1 U	0.94 J	4.7 J	5 U	16000	1 U	8.1	11	14.1			132	27.9	4 J	0.11 J		
11/19/2015	1 U	1 U	1.5	1 U	1 U	3.1	2.8 J	1.1 J	5900	1 U	11	4.8	7.85	99.3	293 J-	84.3	24.6	20.2	0.22	0.1 U	0.05 U
4/20/2016	1.0 U	1.0 U	1.9	1.0 U	1.0 U	3.7	4 J	1.3 J	16000 D	1.0 U	12	4.2	2.18	62	217	50.1	27.4	5.1	0.5	0.10 U	0.050 U
9/12/2017	2.0 U	2.0 U	26	2.0 U	2.0 U	33	2.9	4.1	3400 D	2.0 U	61 J	19	1.7	61	170	52	25	93	1.0 U	0.25 U	0.050 UJ
4/25/2018	5.0 U	5.0 U	46	5.0 U	5.0 U	42	61	63	14000	5.0 U	140	23	0.55	9.2 J	97	32	25	56	1.1	0.25 U	0.027 J
12/4/2019	2.5 U	2.5 U	21 J	2.5 U	2.5 U	35 J	95	25	13000 D	2.5 U	69	44	1.5	14 J-	42	17	12	70	1.0 U	0.25 U	
3/19/2020	2.0 U	2.0 U	50	2.0 U	2.0 U	45	80	20	16000 D	2.0 U	59	23	0.91		36	12	8	82	2.1	0.50 UJ	0.10 UJ
12/8/2021	4.0 U	7.3	150	4.0 U	4.0 U	150	170 U	150 U	13000	4.0 U	90	16	1.5	7.9	36	14	14	89	0.8 J	0.25 U	0.25 U
5/12/2022	1.0 U	1.0 U	17	1.0 U	1.0 U	33	53	46	13000 D	1.0 U	76 D	16	0.95	6.7	39	7.4	11	120	3.1	0.10 UJ	0.050 UJ
10/6/2023	1.0 U	1.0 U	3.5	1.0 U	1.0 U	8.5	26	6.1	7800	1.0 U	26	7	1200	3.8 J	32	6.5	14	140	2.9	0.25 UJ	0.25 UJ

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J+ Indicates estimated value, biased high.
D Result reported from a secondary dilution analysis.
R The sample results are rejected.

MONITORING WELL GROUNDWATER ANALYTICAL RESULT SUMMARY
HYDE PARK FACILITY
NIAGARA, NEW YORK

Well ID: MW- 7B

Date	PCE (µg/L)	TCE (µg/L)	Cis-1,2-DCE (µg/L)	Trans-1,2-DCE (µg/L)	1,1-DCE (µg/L)	Vinyl Chloride (µg/L)	Ethane (µg/L)	Ethene (µg/L)	Methane (µg/L)	1,1,1-Trichloroethane (µg/L)	1,1-Dichloroethane (µg/L)	Chloroethane (µg/L)	Dissolved Iron (mg/L)	BOD (mg/L)	COD (mg/L)	TOC (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)
11/1/2007	5 U	5 U	11	5 U	5 U	31	0.31 J	1.9	220	5 U	5 U	5 U		2 U	6.58 J	3.41	157	298	1 U		
4/28/2008	5 U	5 U	10	5 U	5 U	45	0.44 J	2.8	230	5 U	5 U	5 U		2 U	11.6	3.45	130	278	1 U	0.05 U	0.05 U
10/7/2008	5 UJ	5 UJ	19 J	5 UJ	5 UJ	29 J	5 U	3.1 J	220 J	5 UJ	5 UJ	5 UJ				5	164 J	271			
12/9/2008	5 U	5 U	21	5 U	5 U	33	5 U	4.1 J	250	5 U	5 U	5 U				9	153	384			
1/27/2009	5 U	5 U	13	5 U	5 U	29	5 U	3.3 J	220	5 U	5 U	5 U									
3/17/2009	5 U	5 U	20	5 U	5 U	30	5 U	2.1 J	150	5 U	5 U	5 U				5.3	179	296			
10/15/2009	5 U	5 U	7.1	5 U	5 U	39	5 U	3.3 J	340	5 U	5 U	5 U				6.4	146	250			
10/30/2009	5 U	5 U	7.3	5 U	5 U	24				5 U	5 U	5 U									
12/14/2009	5 U	5 U	7.7	5 U	5 U	24	5 U	3.6 J	260	5 U	5 U	5 U				26.8	171 J	220 J			
2/9/2010	5 U	5 U	3.2 J	5 U	5 U	21	5 U	6.1	650	5 U	5 U	5 U				13.9 J	157	248			
3/31/2010	5 U	5 U	3.8 J	5 U	5 U	29				5 U	5 U	5 U									
5/6/2010	5 U	5 U	4.5 J	5 U	5 U	31	5 U	5 U	15 U	5 U	5 U	5 U				60.6	130 J	244 J			
11/11/2010	5 U	5 U	6.7	5 U	5 U	24	5 U	4.2 J	1200	5 U	5 U	5 U				17.5	168	239			
10/26/2011	5 U	5 U	6	5 U	5 U	25	5 U	3.6 J	3400	5 U	5 U	5 U	0.0747 J			8.4	168	218 J			
3/15/2012	50 U	50 U	50 U	50 U	50 U	11 J	5 U	9.3	4500	50 U	50 U	50 U	0.0443 J			68.1	153	122			
6/14/2012	5 U	5 U	1.6 J	5 U	5 U	9.2	5 U	7.9	2400	5 U	5 U	5 U	0.2 U			19.3	150	143			
11/27/2012	5 U	5 U	1.5 J	5 U	5 U	9.5	5 U	11	3300	5 U	5 U	5 U	0.2 U			8.7	173	178			
9/3/2013	5 U	5 U	1.2 J	5 U	5 U	7.5	5 U	11	6400	5 U	5 U	5 U		17.4	95 J	11.5	146 J	139	10.3	0.1 UJ	0.05 U
1/13/2014	5 U	5 U	5 U	5 U	5 U	2 J	5 U	9.4	18000	5 U	5 U	5 U	0.4 U			70.1	145	61.7	47.9		
4/2/2014	1 U	1 U	1 U	1 U	1 U	5.5	5 U	11	19000	1 U	1 U	1 U	0.4 U	366	772	132	136	117	33.3	1 U	0.026 J
10/10/2014	1 U	1 U	1.5	1 U	1 U	8	5 U	7	13000	1 U	1 U	1 U	0.4 U			22.2	164	129	22.6		
11/23/2015	1 U	1 U	1.2	1 U	1 U	6.1	5 U	4.3 J	11000	1 U	1 U	1 U	0.4 U	22.2	97.8	10.8	189	146	20.4	0.1 U	0.05 U
4/20/2016	1.0 U	1.0 U	0.82 J	1.0 U	1.0 U	10	5.0 U	5.6	5000 D	1.0 U	1.0 U	1.0 U	0.400 U	27.1	142	6.9	172	162	16.5	0.10 U	0.050 U
9/12/2017	1.0 U	1.0 U	2.2	1.0 U	1.0 U	18	0.50 U	1.9	370	1.0 U	1.0 U	1.0 U	0.100 U	9.6	41	4.8	170	180	1.1	0.25 U	0.050 UJ
4/25/2018	1.0 U	1.0 U	2.2	1.0 U	1.0 U	17	1.0 U	6.4	240	1.0 U	1.0 U	1.0 U	0.200 U	2	29	4.7	140	260	1.0 U	0.25 U	0.050 U
12/3/2019	1.0 U	1.0 U	1.3	1.0 U	1.0 U	10	0.58 J	3.3	290	1.0 U	1.0 U	1.0 U	0.20 U	2.0 U	12	3.3	180	190	7.1	0.25 U	
3/19/2020	1.0 U	1.0 U	5.4	1.0 U	1.0 U	18	1.0 U	6.4	230	1.0 U	1.0 U	1.0 U	0.2 U		11	3.2	130	260	1.7	0.50 UJ	0.10 UJ
12/8/2021	1.0 U	1.0 U	1.5	1.0 U	1.0 U	18	7.5 U	7.0 U	160	1.0 U	1.0 U	1.0 U	0.05 U	2.0 U	10 U	4.6	240	200	0.8 J	0.25 U	0.25 U
5/12/2022	1.0 U	1.0 U	1.9	1.0 U	1.0 U	12	0.61 J	3.4	170	1.0 U	1.0 U	1.0 U	0.2 U	6.0 U	16	3	170	270	0.73 J	0.10 UJ	0.050 UJ
10/6/2023	1.0 U	1.0 U	1.7	1.0 U	1.0 U	9.6	1.0 U	1.9	170	1.0 U	1.0 U	1.0 U	200 U	2.0 UJ	13	3.6	250	160	2.3	0.25 UJ	0.58 J

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J+ Indicates estimated value, biased high.
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R The sample results are rejected.

MONITORING WELL GROUNDWATER ANALYTICAL RESULT SUMMARY
HYDE PARK FACILITY
NIAGARA, NEW YORK

Well ID: MW- 8

Date	PCE (µg/L)	TCE (µg/L)	Cis-1,2-DCE (µg/L)	Trans-1,2-DCE (µg/L)	1,1-DCE (µg/L)	Vinyl Chloride (µg/L)	Ethane (µg/L)	Ethene (µg/L)	Methane (µg/L)	1,1,1-Trichloroethane (µg/L)	1,1-Dichloroethane (µg/L)	Chloroethane (µg/L)	Dissolved Iron (mg/L)	BOD (mg/L)	COD (mg/L)	TOC (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)
10/31/2007	5 U	5 U	2.2 J	5 U	5 U	1.8 J				5 U	5 U	5 U									
4/25/2008	5 U	5 U	2.5 J	5 U	5 U	2.6				5 U	5 U	5 U									
11/2/2009	5 U	5 U	2.1 J	5 U	5 U	2.6 J				5 U	5 U	5 U									
5/12/2010	5 U	5 U	2.3 J	5 U	5 U	2.2 J	5 U	5 U	140	5 U	5 U	5 U									
10/24/2011	5 U	5 U	1.9 J	5 U	5 U	2.1 J				5 U	5 U	5 U									
6/12/2012	5 U	5 U	1.6 J	5 U	5 U	1.1 J				5 U	5 U	5 U									
8/30/2013	5 U	5 U	1.7 J	5 U	5 U	1.8 J				5 U	5 U	5 U									
4/3/2014	1 U	1 U	1.6	1 U	1 U	1.5				1 U	1 U	1 U									
11/23/2015	1 U	1 U	1.7	1 U	1 U	1.9				1 U	1 U	1 U									
4/22/2016	1.0 U	1.0 U	1.9	1.0 U	1.0 U	1.8				1.0 U	1.0 U	1.0 U									
9/13/2017	1.0 U	1.0 U	1.7	1.0 U	1.0 U	1.4				1.0 U	1.0 U	1.0 U									
4/23/2018	1.0 U	1.0 U	1.9	1.0 U	1.0 U	1.6				1.0 U	1.0 U	1.0 U									

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R The sample results are rejected.

MONITORING WELL GROUNDWATER ANALYTICAL RESULT SUMMARY
HYDE PARK FACILITY
NIAGARA, NEW YORK

Well ID: MW-10A

Date	PCE (µg/L)	TCE (µg/L)	Cis-1,2-DCE (µg/L)	Trans-1,2-DCE (µg/L)	1,1-DCE (µg/L)	Vinyl Chloride (µg/L)	Ethane (µg/L)	Ethene (µg/L)	Methane (µg/L)	1,1,1-Trichloroethane (µg/L)	1,1-Dichloroethane (µg/L)	Chloroethane (µg/L)	Dissolved Iron (mg/L)	BOD (mg/L)	COD (mg/L)	TOC (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)
10/29/2007	5 U	5 U	300	12	0.68 J	67	0.52 J	4.6	19	5 U	4.5 J	5 U		2 U	8.32 J	1.93	815	332	1 U		
4/22/2008	5 U	5 U	390	10	1.6 J	97	4.4	11	60	5 U	5.8	5 U		2 U	10.1	2.99	884	294	1 U	0.05 U	0.05 U
10/29/2009	5 U	5 U	400	9.4	1.5 J	140	5 U	10	38	5 U	6.4	5 U		1.8 U	46.2 J	1.6	903	279 J	0.16 U	0.1 U	0.05 U
5/11/2010	5 U	5 U	390	7.6	1.3 J	140	5 U	17	71	5 U	5.7	5 U		1.7 U	38.4 J	1.5	784	250	0.16 U	0.1 U	0.05 U
10/25/2011	5 U	5 U	630	11	1.2 J	250	5 U	29	66	5 U	7.7	5 U	0.0808 J	2.8 U	27 J	1.9	770 J	254 J	0.16 U	0.1 U	0.05 U
6/13/2012	5 U	5 U	620	13	1 J	170	1.5 J	43	120	5 U	7	5 U	0.2 U	3.2 U	31 J	0.98 J	621	264	0.16 U	0.1 U	0.05 U
8/29/2013	5 U	5 U	570	9.9	5 U	130	5 U	28	130	5 U	5.6	5 U		2.9 UJ	27 J	1.8	481	193	0.16 U	0.1 U	0.05 U
4/2/2014	1 U	1 U	560	8	0.6 J	95	5 U	24	170	1 UJ	4.4	1 U	0.719	3.9 U	17.2 J	2	438 J-	228 J+	0.16 U	0.1 U	0.05 U
11/18/2015	1 U	1 U	710	9.1	0.52 J	130	5 U	17	220	1 U	5.3	1 U	1.81	2.9 U	22.1 J	0.87 J	434	170	0.16 U	0.1 U	0.05 U
4/19/2016	1.0 U	0.57 J	960 D	12	0.71 J	83	5.0 U	6.4	88	1.0 U	5.4	1.0 U	0.831	3.4 U	33.6 J	0.9 J	523	216	0.10 U	0.10 U	0.050 U
9/13/2017	20 U	20 U	590	6.8 J	20 U	130	0.38 J	11	400	20 U	20 UJ	20 U	1.4	2.0 U	13	1.1	310	170	1.0 U	0.50 U	0.050 U
4/25/2018	20 U	20 U	540	20 U	20 U	94	1.0 U	12	640	20 U	20 U	20 U	1.2	2.0 U	10	1.4	260	160	1.0 U	0.25 U	0.050 U
12/4/2019	25 U	5 J	500	25 U	25 U	130	2.4	36	2000	25 U	25 U	25 U	1.1	2.0 UJ	4.2 J	1.4	200	150	1.0 U	0.25 U	
3/18/2020	20 U	7.6 J	570	4.4 J	20 U	130	2.7	34	2400	20 U	20 U	20 U	0.88	2.0 U	8.3 J	1.4	190	120	1.0 U	0.50 U	0.10 U
12/6/2021	25 U	13 J	650	25 U	25 U	180	7.5 U	14	880	25 U	25 U	25 U	1.4	2.0 U	26	2	220	150	1.0 U	0.25 U	0.25 U
5/10/2022	13 U	8.7 J	540	13 U	13 U	85	2.2	20	1800	13 U	13 U	13 U	0.84	6.0 U	2.8 J	1.0 U	160	140	1.0 U	0.25 U	0.25 U
10/4/2023	10 U	7.5 J	580	10 U	10 U	190	5.3	37	3500	10 U	10 U	10 U	1200	2.2	200	2.8	150	130	1.0 U	0.25 U	0.25 U

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R The sample results are rejected.

MONITORING WELL GROUNDWATER ANALYTICAL RESULT SUMMARY
HYDE PARK FACILITY
NIAGARA, NEW YORK

Well ID: MW-10B

Date	PCE (µg/L)	TCE (µg/L)	Cis-1,2-DCE (µg/L)	Trans-1,2-DCE (µg/L)	1,1-DCE (µg/L)	Vinyl Chloride (µg/L)	Ethane (µg/L)	Ethene (µg/L)	Methane (µg/L)	1,1,1-Trichloroethane (µg/L)	1,1-Dichloroethane (µg/L)	Chloroethane (µg/L)	Dissolved Iron (mg/L)	BOD (mg/L)	COD (mg/L)	TOC (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)
10/29/2007	5 U	0.7 J	220	1.9 J	0.38 J	130	0.43 J	1.5	100	5 U	0.69 J	5 U		2 U	5 UJ	3.81	226	236	1 U		
4/22/2008	5 U	0.46 J	180	1.3 J	5 U	76	0.48 J	1 J	96	5 U	0.54 J	5 U		2 U	12.7	4.22	87.4	198	1 U	0.05 U	0.05 U
4/23/2008																					
10/16/2009	5 U	5 U	420	3.1 J	5 U	120	5 U	2.7 J	110	5 U	5 U	5 U				3.8	121	239			
10/29/2009	5 U	5 U	370	3.8 J	5 U	150	5 U	2.2 J	94	5 U	5 U	5 U		2.1 U	16.5 J	4.6	107	245 J	0.16 U	0.1 U	0.05 U
12/16/2009	5 U	5 U	750	9	5 U	260	5 U	12	110	5 U	5 U	5 U				4.2	123 J	268 J			
2/10/2010	5 U	5 U	300	4 J	5 U	120	5 U	3.7 J	92	5 U	5 U	5 U				4.2 J	87.5	253			
3/30/2010	5 U	5 U	270	3.1 J	5 U	90				5 U	5 U	5 U									
5/6/2010	5 U	5 U	220	2 J	5 U	83	5 U	5 U	15 U	5 U	5 U	5 U		3.5 U	50 U	4.9	89.5 J	244 J	0.071 J	0.1 U	0.05 U
11/9/2010	5 U	5 U	1100	13	1.9 J	200	1.8 J	13	130	5 U	5 U	5 U				3.2	272	225			
10/26/2011	10 U	10 U	960	11	1.8 J	180	2.7 J	24	300	10 U	10 U	10 U	0.0459 J	3.5 U	13.4 J	3.4	189	259 J	0.16 U	0.1 U	0.05 U
3/12/2012	5 U	5 U	260	3 J	5 U	49	5 U	1.2 J	53	5 U	5 U	5 U	0.2 U			3.8	104	245			
6/14/2012	5 U	5 U	280	1.7 J	5 U	110	5 U	5.7	120	5 U	5 U	5 U	0.2 U	3.3 U	12.9 J	3.8	141	261	0.16 U	0.1 U	0.05 U
11/27/2012	5 U	5 U	630	5.8	5 U	130	5 U	11	160	5 U	5 U	5 U	0.2 U			3	194	265			
8/29/2013	5 U	5 U	230	1.5 J	5 U	120	5 U	9.2	220	5 U	5 U	5 U		3.1 UJ	24.7 J	2	156	246	0.16 U	0.1 U	0.05 U
1/17/2014	5 U	5 U	150	5 U	5 U	27	5 U	2 J	38	5 U	5 U	5 U	0.0884 J			7.9	128	250	0.16 U		
4/2/2014	1 U	1 U	190	0.7 J	1 U	22	5 U	2.3 J	38	1 U	1 U	1 U	0.076 J	3.2 U	50 U	4.8	133	256	0.16 U	0.1 U	0.05 U
10/14/2014	1 U	1 U	160	1 U	1 U	89	1.1 J	210	1100	1 UJ	1 U	1 U	0.05 J			5	137	215	1.3		
11/16/2015	1 U	1 U	190	0.68 J	1 U	190	2.1 J	190	2900	1 U	0.9 J	1 U	0.4 U	6 U	17.5 J	3	145	207	0.71	0.1 U	0.05 U
4/19/2016	1.0 U	1.0 U	220	1.1	1.0 U	6.1	5.0 U	5.0 U	9.1	1.0 U	1.0 U	1.0 U	0.400 U	3.6 U	26.7 J	2.9	160	272	0.10 U	0.087 J	0.050 U
9/13/2017	10 U	10 U	360	10 U	10 U	270	4.5	130	3900	10 U	10 UJ	10 U	0.24	2.0 U	17	3.2	150	230	1.0 U	0.50 U	0.050 U
4/25/2018	8.0 U	8.0 U	210	8.0 U	8.0 U	12	1.0 U	1.0 U	25	8.0 U	8.0 U	8.0 U	0.14 J	2.4 UJ	10 U	3.6	130	240	1.0 U	0.25 U	0.050 U
12/4/2019	20 U	20 U	420	4 J	20 U	180	1.8	27	1500	20 U	20 U	20 U	0.68	2.0 U	10 U	3	220	260	1.0 U	0.25 U	
3/18/2020	5.0 U	5.0 U	210	5.0 U	5.0 U	23	1.0 U	1.9	78	5.0 U	5.0 U	5.0 U	0.086 J	2.0 U	12	3.2	140	230	1.0 U	0.50 U	0.10 U
12/6/2021	10 U	10 U	220	10 U	10 U	370	170 U	150 U	1900	10 U	10 U	10 U	0.33	2.0 U	40	4.6	140	220	1.0 U	0.25 U	0.25 U
5/10/2022	6.3 U	6.3 U	320	6.3 U	6.3 U	140	1.1	25	2100	6.3 U	6.3 U	6.3 U	0.19 J	12 U	11	2.9	140	220	1.0 U	0.25 U	0.25 U
10/4/2023	5.0 U	5.0 U	320	5.0 U	5.0 U	260	1.3	40	3400	5.0 U	5.0 U	5.0 U	120 J	2.0 U	2.4 J	3.5	160	230	0.27 J	0.25 U	0.25 U

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R The sample results are rejected.

MONITORING WELL GROUNDWATER ANALYTICAL RESULT SUMMARY
HYDE PARK FACILITY
NIAGARA, NEW YORK

Well ID: MW-11A

Date	PCE (µg/L)	TCE (µg/L)	Cis-1,2-DCE (µg/L)	Trans-1,2-DCE (µg/L)	1,1-DCE (µg/L)	Vinyl Chloride (µg/L)	Ethane (µg/L)	Ethene (µg/L)	Methane (µg/L)	1,1,1-Trichloroethane (µg/L)	1,1-Dichloroethane (µg/L)	Chloroethane (µg/L)	Dissolved Iron (mg/L)	BOD (mg/L)	COD (mg/L)	TOC (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)
10/29/2007	5 U	5 U	5 U	5 U	5 U	2 U				5 U	5 U	5 U									
4/22/2008	5 U	5 U	5 U	5 U	5 U	0.7 J				5 U	5 U	5 U									
10/30/2009	5 U	5 U	5 U	5 U	5 U	5 U				5 U	5 U	5 U									
5/11/2010	5 U	5 U	5 U	5 U	5 U	3.2 J	5 U	5 U	51	5 U	5 U	5 U									

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MONITORING WELL GROUNDWATER ANALYTICAL RESULT SUMMARY
HYDE PARK FACILITY
NIAGARA, NEW YORK

Well ID: MW-11B

Date	PCE (µg/L)	TCE (µg/L)	Cis-1,2-DCE (µg/L)	Trans-1,2-DCE (µg/L)	1,1-DCE (µg/L)	Vinyl Chloride (µg/L)	Ethane (µg/L)	Ethene (µg/L)	Methane (µg/L)	1,1,1-Trichloroethane (µg/L)	1,1-Dichloroethane (µg/L)	Chloroethane (µg/L)	Dissolved Iron (mg/L)	BOD (mg/L)	COD (mg/L)	TOC (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)
10/29/2007	5 U	5 U	140	1 J	5 U	80				5 U	0.39 J	5 U									
4/22/2008	5 U	5 U	100	0.77 J	5 U	64				5 U	5 U	5 U									
3/18/2009																3.8					
10/16/2009	5 U	5 U	64	5 U	5 U	73	5 U	14	170	5 U	5 U	5 U				3.4	172	221			
10/30/2009	5 U	5 U	56	5 U	5 U	48	5 U	15	150	5 U	5 U	5 U		1.8 U	21 J	3.4	165	207 J	0.3	0.1 U	0.05 U
12/16/2009	5 U	5 U	5.3	5 U	5 U	17	5 U	81	190	5 U	5 U	5 U				7.4	148 J	221 J			
2/10/2010	5 U	5 U	2.3 J	5 U	5 U	11	5 U	130	760	5 U	5 U	5 U				11.7 J	146	50.2			
3/30/2010	5 U	5 U	2.1 J	5 U	5 U	7.1				5 U	5 U	5 U									
5/6/2010	5 U	5 U	1.9 J	5 U	5 U	7.4	5 U	5 U	15 U	5 U	1.3 J	5 U		64.7 J	132	14.1	114 J	101 J	48.3	0.1 U	0.05 U
11/9/2010	5 U	5 U	1.4 J	5 U	5 U	4.3 J	5 U	57	1100	5 U	1.2 J	5 U				3.9	125	208			
10/26/2011	5 U	5 U	2.2 J	5 U	5 U	4.6 J	5 U	90	1500	5 U	1.8 J	5 U	0.0859 J	8.9	31.5 J	3.8	157	245 J	8.5	0.043 J	0.05 U
3/12/2012	5 U	5 U	1.4 J	5 U	5 U	6.7	1.3 J	72	5200	5 U	1.5 J	5 U	0.0711 J			9.5	117	118			
6/14/2012	5 U	5 U	1.8 J	5 U	5 U	6.1	2.6 J	110	7400	5 U	1.4 J	5 U	0.2 U	32	76.5	4.3	121	135	44.4	0.1 U	0.05 U
11/27/2012	5 U	5 U	0.83 J	5 U	5 U	2.5 J	3.9 J	130	6800	5 U	1.4 J	5 U	0.2 U			3.9	143	164			
8/29/2013	5 U	5 U	5 U	5 U	5 U	1.4 J				5 U	1.9 J	5 U									
1/14/2014	5 U	5 U	5 U	1.1 J	5 U	1.2 J	4 J	260	10000	5 U	2.5 J	5 U	0.4 U			8	141	120	23.8		
4/2/2014	1 U	1 U	1 U	0.92 J	1 U	1.2	3.5 J	280	8300	1 U	2	1 U	0.4 U			5.2	141	158	27.8		
10/14/2014	1 U	1 U	1 U	0.66 J	1 U	2.5	1.4 J	86	4200	1 UJ	1.2	1 U	0.4 U			5.3	143	160	11.1		
11/17/2015	1 U	1 U	0.56 J	0.57 J	1 U	1.7				1 U	1	1 U									
4/22/2016	1.0 U	1.0 U	0.54 J	0.76 J	1.0 U	9.7				1.0 U	1.7	1.0 U									
9/14/2017	1.0 U	1.0 U	1.1	1.0 U	1.0 U	6.5				1.0 U	0.95 J	1.0 U									
4/24/2018	1.0 U	1.0 U	0.65 J	0.74 J	1.0 U	1.9				1.0 U	1.9	1.0 U									

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D Result reported from a secondary dilution analysis.
R The sample results are rejected.

MONITORING WELL GROUNDWATER ANALYTICAL RESULT SUMMARY
HYDE PARK FACILITY
NIAGARA, NEW YORK

Well ID: MW-12A

Date	PCE (µg/L)	TCE (µg/L)	Cis-1,2-DCE (µg/L)	Trans-1,2-DCE (µg/L)	1,1-DCE (µg/L)	Vinyl Chloride (µg/L)	Ethane (µg/L)	Ethene (µg/L)	Methane (µg/L)	1,1,1-Trichloroethane (µg/L)	1,1-Dichloroethane (µg/L)	Chloroethane (µg/L)	Dissolved Iron (mg/L)	BOD (mg/L)	COD (mg/L)	TOC (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)
10/29/2007	5 U	5 U	150	1.3 J	0.49 J	39				5 U	3.2 J	5 U									
4/22/2008	5 U	5 U	130	1 J	0.32 J	23				5 U	2 J	5 U									
11/2/2009	5 U	5 U	64	5 U	5 U	38				5 U	2.7 J	5 U									
5/11/2010	5 U	5 U	16	5 U	5 U	16	5 U	14	140	5 U	1.6 J	5 U									
10/20/2011	5 U	5 U	19	5 U	5 U	16				5 U	1.8 J	5 U									
6/13/2012	5 U	5 U	19	5 U	5 U	13				5 U	1.8 J	5 U									
8/29/2013	5 U	5 U	22	5 U	5 U	14	5.6	7.2	210	5 U	1.9 J	5 U		4.4 U	311	5.5	80.7	204	0.16 U	0.1 U	0.05 U
4/3/2014	1 U	1 U	8.9	1 U	1 U	6.8	5 U	2.4 J	140	1 U	0.89 J	1 U	0.962	4.7 U	15 J	5.6	69	179	0.16 U	0.14 J-	0.05 U
11/17/2015	1 U	1 U	1.6	1 U	1 U	9.6	5 U	5 U	140	1 U	0.7 J	1 U	2.27	3.8 U	26.7 J	7.7	63.6	119	0.079 J	0.1 U	0.05 U
4/22/2016	1.0 U	1.0 U	9.5	1.0 U	1.0 U	8.8	5.0 U	1.8 J	170	1.0 U	1.1	1.0 U	0.847	3.4 UJ	19.8 J	3.4	96	192	0.10 U	0.10 U	0.050 U
9/14/2017	1.0 U	1.0 U	21	0.34 J	1.0 U	13	0.31 J	2.7	210	1.0 U	1.6	1.0 U	1.5	2.0 U	49	4.2	330	650	1.0 U	1.0 U	0.050 U
4/24/2018	1.0 U	1.0 U	16	1.0 U	1.0 U	9.2	1.0 U	2	200	1.0 U	0.91 J	1.0 U	0.6	2.0 U	11	3.9	82	190	1.0 U	0.25 UJ	0.050 UJ

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MONITORING WELL GROUNDWATER ANALYTICAL RESULT SUMMARY
HYDE PARK FACILITY
NIAGARA, NEW YORK

Well ID: MW-12B

Date	PCE (µg/L)	TCE (µg/L)	Cis-1,2-DCE (µg/L)	Trans-1,2-DCE (µg/L)	1,1-DCE (µg/L)	Vinyl Chloride (µg/L)	Ethane (µg/L)	Ethene (µg/L)	Methane (µg/L)	1,1,1-Trichloroethane (µg/L)	1,1-Dichloroethane (µg/L)	Chloroethane (µg/L)	Dissolved Iron (mg/L)	BOD (mg/L)	COD (mg/L)	TOC (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)
10/29/2007	5 U	5 U	110	1 J	5 U	76				5 U	1.8 J	5 U									
4/21/2008	5 U	5 U	140	1.6 J	0.31 J	70				5 U	1.6 J	5 U									
11/2/2009	5 U	5 U	2.6 J	5 U	5 U	5 U				5 U	5 U	5 U									
5/11/2010	5 U	5 U	11	5 U	5 U	5 U	5 U	5 U	15 U	5 U	5 U	5 U									
11/9/2010	5 U	5 U	59	5 U	5 U	71	1.2 J	3.3 J	120	5 U	5 U	5 U				3.2	149	312			
10/20/2011	5 U	5 U	0.98 J	5 U	5 U	5 U				5 U	5 U	5 U									
6/13/2012	5 U	5 U	5.6	5 U	5 U	10				5 U	5 U	5 U									
8/29/2013	5 U	5 U	45	5 U	5 U	73	5 U	15	160	5 U	5 U	5 U		4.2 U	17.9 J	4.1	143	230	0.093 J	0.1 U	0.05 U
4/3/2014	1 U	1 U	57	1 U	1 U	75	5 U	9.7	190	1 U	1 U	1 U	0.4 U	4.1 U	50 U	5.4	149	201	0.16 U	0.1 UJ	0.05 U
11/16/2015	1 U	1 U	13	1 U	1 U	9.1	5 U	5 U	25	1 U	1 U	1 U	0.111 J	4.7 U	22.1 J	9.2	148	244	0.16 U	0.2 J+	0.039 J
4/22/2016	1.0 U	1.0 U	73	1.0 U	1.0 U	59	5.0 U	2.6 J	200	1.0 U	1.0 U	1.0 U	0.0618 J	3.5 UJ	19.8 J	3	177	204	0.10 U	0.10 U	0.050 U
9/14/2017	2.0 U	2.0 U	52	2.0 U	2.0 U	110	0.45 J	3.9	140	2.0 U	0.66 J	2.0 U	0.032 J	2.0 U	17	2.7	280	530	1.0 U	0.50 U	0.050 U
4/25/2018	2.5 U	2.5 U	62	2.5 U	2.5 U	73	1.0 U	4.4	340	2.5 U	2.5 U	2.5 U	0.027 J	2.0 U	12	3.5	150	190	1.0 U	0.25 U	0.050 U
12/5/2019	2.5 U	2.5 U	65	2.5 U	2.5 U	94	0.89 J	5.3	210	2.5 U	2.5 U	2.5 U	0.20 U	2.0 U	10 U	2.8	150	240	1.0 U	0.25 U	
3/19/2020	2.0 U	2.0 U	51	2.0 U	2.0 U	85	1.0 U	5.9	410	2.0 U	0.41 J	2.0 U	0.2 U		7.3 J	3.1	150	220	0.67 J	0.50 UJ	0.10 UJ
12/7/2021	1.0 UJ	1.0 UJ	73 J-	1.0 UJ	1.0 UJ	49 DJ-	7.5 U	4.1 J	330	1.0 UJ	0.4 J-	1.0 UJ	0.048 J	2.0 U	100	6.3	77	72	1.0 U	0.24	0.050 U
5/11/2022	1.0 U	1.0 U	52	1.0 U	1.0 U	73 DJ	0.91 J	6.2	360	1.0 U	0.48 J	1.0 U	0.2 U	6.0 U	13	2.8	180	220	1.0 U	0.10 UJ	0.050 UJ
10/4/2023	1.0 U	1.0 U	53	1.0 U	1.0 U	100 D	0.81 J	6.9	240	1.0 U	1.0 U	1.0 U	200 U	2.0 U	10 U	3.1	170	240	1.0 U	0.25 UJ	0.25 UJ

J Indicates an estimated value.
U Analyte was not detected above the reporting limit.
UJ The analyte was not detected. The reporting limit is an approximate value.
J- Indicates estimated value, biased low.
J+ Indicates estimated value, biased high.
D Result reported from a secondary dilution analysis.
R The sample results are rejected.

MONITORING WELL GROUNDWATER ANALYTICAL RESULT SUMMARY
HYDE PARK FACILITY
NIAGARA, NEW YORK

Well ID: MW-13A

Date	PCE (µg/L)	TCE (µg/L)	Cis-1,2-DCE (µg/L)	Trans-1,2-DCE (µg/L)	1,1-DCE (µg/L)	Vinyl Chloride (µg/L)	Ethane (µg/L)	Ethene (µg/L)	Methane (µg/L)	1,1,1-Trichloroethane (µg/L)	1,1-Dichloroethane (µg/L)	Chloroethane (µg/L)	Dissolved Iron (mg/L)	BOD (mg/L)	COD (mg/L)	TOC (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)
10/30/2007	5 U	5 U	5 U	5 U	5 U	2 U				5 U	5 U	5 U									
4/29/2008																					
10/29/2009	5 U	5 U	5 U	5 U	5 U	5 U				5 U	5 U	5 U									

J Indicates an estimated value.
U Analyte was not detected above the reporting limit.
UJ The analyte was not detected. The reporting limit is an approximate value.
J- Indicates estimated value, biased low.
J+ Indicates estimated value, biased high.
D Result reported from a secondary dilution analysis.
R The sample results are rejected.

MONITORING WELL GROUNDWATER ANALYTICAL RESULT SUMMARY
HYDE PARK FACILITY
NIAGARA, NEW YORK

Well ID: MW-13B

Date	PCE (µg/L)	TCE (µg/L)	Cis-1,2-DCE (µg/L)	Trans-1,2-DCE (µg/L)	1,1-DCE (µg/L)	Vinyl Chloride (µg/L)	Ethane (µg/L)	Ethene (µg/L)	Methane (µg/L)	1,1,1-Trichloroethane (µg/L)	1,1-Dichloroethane (µg/L)	Chloroethane (µg/L)	Dissolved Iron (mg/L)	BOD (mg/L)	COD (mg/L)	TOC (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)
10/30/2007	5 U	0.78 J	82	1.1 J	5 U	59				5 U	0.61 J	5 U									
4/24/2008	5 U	0.65 J	65	0.51 J	5 U	56				5 U	0.48 J	5 U									
10/29/2009	5 U	5 U	88	5 U	5 U	68				5 U	5 U	5 U									
5/13/2010	5 U	5 U	46	5 U	5 U	47	5 U	1 J	65	5 U	5 U	5 U									
10/21/2011	5 U	5 U	17	5 U	5 U	24				5 U	5 U	5 U									
6/13/2012	5 U	5 U	27	5 U	5 U	57				5 U	5 U	5 U									
8/30/2013	5 U	5 U	8.6	5 U	5 U	48				5 U	5 U	5 U									
4/3/2014	1 U	1 U	19	1 U	1 U	15				1 UJ	1 U	1 U									
11/17/2015	1 U	1 U	18	1 U	1 U	21				1 U	1 U	1 U									
4/21/2016	1.0 U	1.0 U	9.9	1.0 U	1.0 U	12				1.0 U	1.0 U	1.0 U									
9/13/2017	1.0 U	1.0 U	22	1.0 U	1.0 U	38				1.0 U	1.0 UJ	1.0 U									
4/24/2018	1.0 U	1.0 U	7.8	1.0 U	1.0 U	9.7				1.0 U	1.0 U	1.0 U									
12/3/2019	1.0 U	0.19 J	16	1.0 U	1.0 U	21				1.0 U	0.17 J	1.0 U									
3/19/2020	1.0 U	1.0 U	1.6	1.0 U	1.0 U	2				1.0 U	1.0 U	1.0 U									
12/6/2021	2.0 U	2.0 U	3.7	2.0 U	2.0 U	6.4				2.0 U	2.0 U	2.0 U									
5/11/2022	1.0 U	1.0 U	4.1	1.0 U	1.0 U	5.2				1.0 U	1.0 U	1.0 U									
10/4/2023	1.0 U	1.0 U	9.9	1.0 U	1.0 U	18				1.0 U	1.0 U	1.0 U									

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U Analyte was not detected above the reporting limit.
UJ The analyte was not detected. The reporting limit is an approximate value.
J- Indicates estimated value, biased low.
J+ Indicates estimated value, biased high.
D Result reported from a secondary dilution analysis.
R The sample results are rejected.

MONITORING WELL GROUNDWATER ANALYTICAL RESULT SUMMARY
HYDE PARK FACILITY
NIAGARA, NEW YORK

Well ID: MW-14A

Date	PCE (µg/L)	TCE (µg/L)	Cis-1,2-DCE (µg/L)	Trans-1,2-DCE (µg/L)	1,1-DCE (µg/L)	Vinyl Chloride (µg/L)	Ethane (µg/L)	Ethene (µg/L)	Methane (µg/L)	1,1,1-Trichloroethane (µg/L)	1,1-Dichloroethane (µg/L)	Chloroethane (µg/L)	Dissolved Iron (mg/L)	BOD (mg/L)	COD (mg/L)	TOC (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)
10/30/2007	5 U	5 U	1.6 J	5 U	5 U	2.4				5 U	5 U	5 U									
4/24/2008	5 U	5 U	1.5 J	5 U	5 U	1.6 J	0.64 J	1 U	15	5 U	5 U	5 U		2 U	18.8	5.38	68	118	1 U	0.05 U	0.05 U
10/29/2009	5 U	5 U	1.4 J	5 U	5 U	2.7 J	5 U	5 U	17	5 U	5 U	5 U		1.4 U	21 J	4.2	63.9	150 J	0.16 U	0.28	0.05 U

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U Analyte was not detected above the reporting limit.
UJ The analyte was not detected. The reporting limit is an approximate value.
J- Indicates estimated value, biased low.
J+ Indicates estimated value, biased high.
D Result reported from a secondary dilution analysis.
R The sample results are rejected.

MONITORING WELL GROUNDWATER ANALYTICAL RESULT SUMMARY
HYDE PARK FACILITY
NIAGARA, NEW YORK

Well ID: MW-14B

Date	PCE (µg/L)	TCE (µg/L)	Cis-1,2-DCE (µg/L)	Trans-1,2-DCE (µg/L)	1,1-DCE (µg/L)	Vinyl Chloride (µg/L)	Ethane (µg/L)	Ethene (µg/L)	Methane (µg/L)	1,1,1-Trichloroethane (µg/L)	1,1-Dichloroethane (µg/L)	Chloroethane (µg/L)	Dissolved Iron (mg/L)	BOD (mg/L)	COD (mg/L)	TOC (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)
10/30/2007	5 U	5 U	56	0.42 J	5 U	49	2 U	2 U	110	5 U	0.6 J	5 U		2 U	6.58 J	4.07	119	263	1 U		
4/24/2008	5 U	5 U	120	0.81 J	5 U	90	1 U	1.5 J	170	5 U	0.41 J	5 U		2 U	10.1	2.95	136	222	1 U	0.05 U	0.05 U
10/29/2009	5 U	5 U	64	5 U	5 U	86	5 U	2.2 J	130	5 U	5 U	5 U		2.1 U	23.3 J	3.5	133	310 J	0.5	0.1 U	0.05 U
5/13/2010	5 U	5 U	16	5 U	5 U	33	100 U	170	3400	5 U	5 U	5 U		53.6	137	14.6	143	103	46.9	0.1 U	0.05 U
10/24/2011	5 U	5 U	4.1 J	5 U	5 U	5.4	5 U	66	690	5 U	5 U	5 U	0.0264 J	5.2 U	36 J	7	260	274	3	0.1 U	0.05 U
6/13/2012	5 U	5 U	1.5 J	5 U	5 U	5.4	2.2 J	91	9100	5 U	5 U	5 U	0.027 J	33	117	10.2	241	126	48.2	0.1 U	0.05 U
8/29/2013	5 U	5 U	5 U	5 U	5 U	1.5 J				5 U	5 U	5 U									
4/3/2014	1 U	1 U	0.67 J	1 U	1 U	1.2				1 UJ	1 U	1 U									
11/18/2015	1 U	1 U	0.95 J	1 U	1 U	1.5				1 U	0.53 J	1 U									
4/21/2016	1.0 U	1.0 U	0.94 J	1.0 U	1.0 U	1.2				1.0 U	1.0 U	1.0 U									
9/14/2017	1.0 U	1.0 U	0.92 J	1.0 U	1.0 U	2.9				1.0 U	0.43 J	1.0 U									
4/24/2018	1.0 U	1.0 U	0.72 J	1.0 U	1.0 U	1.3				1.0 U	0.34 J	1.0 U									
12/5/2019	1.0 U	1.0 U	0.37 J	1.0 U	1.0 U	0.7 J				1.0 U	0.19 J	1.0 U									
3/18/2020	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1				1.0 U	0.24 J	1.0 U									
12/7/2021	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.9				1.0 U	1.0 U	1.0 U									
5/11/2022	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.1				1.0 U	1.0 U	1.0 U									
10/4/2023	1.0 U	1.0 U	0.6 J	1.0 U	1.0 U	2.2				1.0 U	1.0 U	1.0 U									

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U Analyte was not detected above the reporting limit.
UJ The analyte was not detected. The reporting limit is an approximate value.
J- Indicates estimated value, biased low.
J+ Indicates estimated value, biased high.
D Result reported from a secondary dilution analysis.
R The sample results are rejected.

MONITORING WELL GROUNDWATER ANALYTICAL RESULT SUMMARY
HYDE PARK FACILITY
NIAGARA, NEW YORK

Well ID: MW-15

Date	PCE (µg/L)	TCE (µg/L)	Cis-1,2-DCE (µg/L)	Trans-1,2-DCE (µg/L)	1,1-DCE (µg/L)	Vinyl Chloride (µg/L)	Ethane (µg/L)	Ethene (µg/L)	Methane (µg/L)	1,1,1-Trichloroethane (µg/L)	1,1-Dichloroethane (µg/L)	Chloroethane (µg/L)	Dissolved Iron (mg/L)	BOD (mg/L)	COD (mg/L)	TOC (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)
10/30/2007	5 U	5 U	170	1.7 J	5 U	86				5 U	0.66 J	5 U									
4/23/2008	5 U	5 U	190	1.5 J	5 U	93				5 U	0.58 J	0.38 J									
11/3/2009	5 U	5 U	56	1.1 J	5 U	82				5 U	2 J	5 U									
5/12/2010	5 U	5 U	5.9	5 U	5 U	17	1.1 J	140	1300	5 U	1.3 J	5 U									
10/21/2011	5 U	5 U	32	1.3 J	5 U	52				5 U	1.4 J	5 U									
6/14/2012	5 U	5 U	5 U	5 U	5 U	1.8 J				5 U	1.2 J	5 U									
8/29/2013	5 U	5 U	5 U	5 U	5 U	2 J				5 U	5 U	5 U									
6/14/2018	1.0 U	1.0 UJ	5.2	0.62 J	1.0 U	16				1.0 U	1.1	1.0 U									

J Indicates an estimated value.
U Analyte was not detected above the reporting limit.
UJ The analyte was not detected. The reporting limit is an approximate value.
J- Indicates estimated value, biased low.
J+ Indicates estimated value, biased high.
D Result reported from a secondary dilution analysis.
R The sample results are rejected.

MONITORING WELL GROUNDWATER ANALYTICAL RESULT SUMMARY
HYDE PARK FACILITY
NIAGARA, NEW YORK

Well ID: MW-16A

Date	PCE (µg/L)	TCE (µg/L)	Cis-1,2-DCE (µg/L)	Trans-1,2-DCE (µg/L)	1,1-DCE (µg/L)	Vinyl Chloride (µg/L)	Ethane (µg/L)	Ethene (µg/L)	Methane (µg/L)	1,1,1-Trichloroethane (µg/L)	1,1-Dichloroethane (µg/L)	Chloroethane (µg/L)	Dissolved Iron (mg/L)	BOD (mg/L)	COD (mg/L)	TOC (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)
10/31/2007	5 U	0.39 J	12	5 U	5 U	160	0.87 J	15	18	5 U	5 U	5 U		2 U	23.2 J	6.93	278	981	1.2		
4/25/2008	5 U	0.39 J	9	5 U	5 U	53	1 U	0.62 J	4.5	5 U	5 U	5 U		2 U	20.4	6.5	209	1020	1 U	0.05 U	0.05 U
10/27/2009	5 U	5 U	8.2	5 U	5 U	75	5 U	4.7 J	11 J	5 U	5 U	5 U		1.7 U	41.6 J	7.2	247 J	1060	0.16 U	0 R	0.05 U
5/11/2010	5 U	5 U	10	5 U	5 U	180	5 U	20	20	5 U	5 U	5 U		2 U	40.7 J	7	260	1040	0.16 U	0.1 U	0.05 U
10/27/2011	5 U	5 U	11	5 U	5 U	340	5 U	44	33	5 U	5 U	5 U	0.0424 J		31.5 J	6.9	266	1130	0.16 U	0.1 U	0.05 UJ
3/14/2012																					
3/15/2012	5 U	5 U	7.2	5 U	5 U	12	5 U	1.3 J	15 U	5 U	5 U	5 U	0.044 J			8.1	245	1110			
6/14/2012	5 U	5 U	8.4	5 U	5 U	110	5 U	11	8.7 J	5 U	5 U	5 U	0.2 U	5.4	26.5 J	9.5	237	1100			
11/29/2012	5 U	5 U	10	5 U	5 U	330	1.2 J	79	40	5 U	5 U	5 U	0.2 U			7.7	255	1100			
8/29/2013	5 U	5 U	8.5	5 U	5 U	300	1.1 J	72	29	5 U	5 U	5 U		3.8 U	31.5 J	8.2	252	1080	0.16 U	0.1 U	0.05 U
1/15/2014	5 U	5 U	9	5 U	5 U	78	5 U	6.4	5 U	5 U	5 U	5 U	0.4 U			9.5	190 J+	812 J+	0.16 U		
4/2/2014	1 U	1 U	5.9	1 U	1 U	140	5 U	20	5 U	1 U	1 U	1 U	0.4 U	4.4 U	24.1 J	7.3	214	898	0.16 U	0.1 U	0.14
10/14/2014	1 U	1 U	8.6	1 U	1 U	350	5 U	52	9.5	1 UJ	1 U	1 U	0.491			9.1	221	958	0.16 U		
11/20/2015	1 U	1 U	9.1	1 U	1 U	250	1.2 J	95	49	1 U	1 U	1 U	0.4 U	5.2 U	33.6 J	6.5	290	1080	0.16 U	0.1 U	0.05 U
4/20/2016	1.0 U	1.0 U	6.5	1.0 U	1.0 U	18	5.0 U	1.1 J	5.0 U	1.0 U	1.0 U	1.0 U	0.400 U	2.9 U	33.6 J	6.2	907	1140	0.10 U	0.14	0.050 U
9/12/2017	10 U	10 U	7.3 J	10 U	10 U	190	0.47 J	33	28	10 U	10 U	10 U	0.100 U	2.0 U	28	6.4	250	1000	1.0 U	0.50 U	0.050 UJ
4/26/2018	1.0 U	1.0 U	1.4	1.0 U	1.0 U	33	1.0 U	13	12	1.0 U	1.0 U	1.0 U	0.026 J	2.0 U	17 J	5.8	48	190	1.0 U	0.21 J	0.050 U
12/3/2019	4.0 U	0.6 J	3.6 J	4.0 U	4.0 U	120	1	49	77	4.0 U	4.0 U	4.0 U	0.20 U	2.0 U	18	6.1	170	810	1.0 U	0.50 U	
3/20/2020	13 U	13 U	8.7 J	13 U	13 U	560	3.1	270	290	13 U	13 U	13 U	0.43	2.0 U	17	6.7	210	1000	1.0 U	1.0 U	0.10 U
12/7/2021	5.0 U	5.0 U	8.2	5.0 U	5.0 U	260	7.5 U	77	160	5.0 U	5.0 U	5.0 U	0.024 J	2.0 U	52	11	190	930	1.0 U	0.42	0.050 U
5/11/2022	1.0 U	1.0 U	8.1	1.0 U	1.0 U	290 D	2.6	160	320	1.0 U	1.0 U	1.0 U	0.2 U	6.0 U	18	6.4	160	850	1.0 U	0.10 UJ	0.050 UJ
10/5/2023	1.0 U	1.0 U	0.98 J	1.0 U	1.0 U	37	1.8	170	370	1.0 U	1.0 U	1.0 UJ	490	2.0 U	18	5	40	190	1.0 U	1.3	0.25 U

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U Analyte was not detected above the reporting limit.
UJ The analyte was not detected. The reporting limit is an approximate value.
J- Indicates estimated value, biased low.
J+ Indicates estimated value, biased high.
D Result reported from a secondary dilution analysis.
R The sample results are rejected.

MONITORING WELL GROUNDWATER ANALYTICAL RESULT SUMMARY
HYDE PARK FACILITY
NIAGARA, NEW YORK

Well ID: MW-16B

Date	PCE (µg/L)	TCE (µg/L)	Cis-1,2-DCE (µg/L)	Trans-1,2-DCE (µg/L)	1,1-DCE (µg/L)	Vinyl Chloride (µg/L)	Ethane (µg/L)	Ethene (µg/L)	Methane (µg/L)	1,1,1-Trichloroethane (µg/L)	1,1-Dichloroethane (µg/L)	Chloroethane (µg/L)	Dissolved Iron (mg/L)	BOD (mg/L)	COD (mg/L)	TOC (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)
10/31/2007	5 U	5 U	210	0.88 J	5 U	63	1 U	3.7	190	5 U	5 U	5 U		2 U	5 UJ	3.7	114	269			
11/29/2007																			1 U		
4/25/2008	5 U	0.25 J	280	1.4 J	0.33 J	86	0.7 J	3.1	220	5 U	0.22 J	5 U		2 U	10.1	3.81	106	264	1.1	0.05 U	0.05 U
10/27/2009	5 U	5 U	510	1.8 J	5 U	130	5 U	3.2 J	150	5 U	5 U	5 U		1.8 U	18.8 J	3.7	120 J	286	0.22	0 R	0.05 U
5/11/2010	5 U	5 U	81	5 U	5 U	48	5 U	2.3 J	150	5 U	5 U	5 U		2.1 U	15.6 J	3.8	105	247	0.3	0.1 U	0.05 U
11/8/2010	5 U	5 U	320	1.4 J	5 U	110	5 U	5 U	120	5 U	5 U	5 U				3.7	114	264			
10/25/2011	5 U	5 U	27	5 U	5 U	43	5 U	3.8 J	140	5 U	5 U	5 U	0.2 U	2.6 U	50 U	3.5	134 J	303 J	0.38	0.1 U	0.05 U
3/15/2012	50 U	45 J	9000	36 J	23 J	830	3.1 J	73	2400	50 U	50 U	50 U	0.0585 J			17.5	78.4	96.6			
6/13/2012	10 U	74	4700	19	15	600	2.5 J	74	2600	10 U	4 J	2.6 J	0.2 U	24.6	65.1	4.1	81.5	165	33.1	0.1 U	0.05 U
11/27/2012	50 U	430	6800	24 J	29 J	820	5.6	190	3600	50 U	50 U	50 U	0.0908 J			3.5	82.8	191			
8/28/2013	5 U	2.2 J	600	5.2	2.4 J	610	5 U	75	670	5 U	1 J	5 U		5.1 U	15.6 J	3.8	90.1 J	219	1.1	0.1 U	0.05 U
1/14/2014	25 U	25 U	8800	53	17 J	5500	15	1500	18000	25 U	15 J	25 U	0.214 J			194	44.8	5 U	50.9		
4/3/2014	5 U	5 U	2300	16	5.5	2000	11	700	16000	5 U	3.4 J	5 U	0.0956 J	140	253	69.2	26.9	17.7	38.3	0.1 UJ	0.05 U
10/13/2014	1 U	1 U	17	8.8	1 U	22	13	610	21000	1 U	2.9	1 U	0.372 J			211	43.3	21.6	17.2		
11/20/2015	1 U	4.8	1100	22	2.2	780	40	920	24000	1 U	6.6	1 U	0.4 U	105	215	47.3	70.6	4.2	36.5	0.1 U	0.05 UJ
4/20/2016	1.0 U	1.0 U	1.0 U	6.8	1.0 U	4.3	17	300	31000 D	1.0 U	2	1.0 U	0.400 U	62.4	201	26.5	73.8	8.2	50.5	0.10 U	0.050 U
9/12/2017	1.0 U	1.0 U	1.0 U	0.44 J	1.0 U	2.6	15	34	8200 D	1.0 U	0.39 J	1.0 U	0.100 U	39	99	6.8	120	120	29	0.25 U	0.050 UJ
4/26/2018	1.0 U	1.0 U	0.63 J	1.0 U	1.0 U	4.6	1.0 U	2.8	9900 D	1.0 U	1.0 U	1.0 U	0.200 U	13	49	5.7	120	230	6.9	0.25 U	0.050 U
12/3/2019	1.0 U	1.0 U	1	1.0 U	1.0 U	6.7	4.2	17	9300 D	1.0 U	1.0 U	1.0 U	0.20 U	14	25	4	110	220	9.5	0.25 U	
3/20/2020	1.0 U	1.0 U	0.6 J	1.0 U	1.0 U	2.9	1.5	1.1	14000 D	1.0 U	1.0 U	1.0 U	0.048 J	17	32	3.4	120	250	13	0.50 U	0.10 U
12/7/2021	1.0 U	1.0 U	2.1	1.0 U	1.0 U	6.5	170 U	150 U	8000	1.0 U	1.0 U	1.0 U	0.54	6.4	16	7.2	130	230	4.8	0.050 U	0.050 U
5/11/2022	1.0 U	1.0 U	13	1.0 U	1.0 U	23	5.9	24	11000 D	1.0 U	1.0 U	1.0 U	0.2 U	16	36	4	130	250	7.3	0.10 UJ	0.050 UJ
10/5/2023	1.0 U	1.0 U	2.5	1.0 U	1.0 U	7.1	1.3	4.4	12000	1.0 U	1.0 U	1.0 U	200 U	8.1	32	4.2	140	230	7.9	0.25 U	0.25 U

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UJ The analyte was not detected. The reporting limit is an approximate value.
J- Indicates estimated value, biased low.
J+ Indicates estimated value, biased high.
D Result reported from a secondary dilution analysis.
R The sample results are rejected.

MONITORING WELL GROUNDWATER ANALYTICAL RESULT SUMMARY
HYDE PARK FACILITY
NIAGARA, NEW YORK

Well ID: MW-17A

Date	PCE (µg/L)	TCE (µg/L)	Cis-1,2-DCE (µg/L)	Trans-1,2-DCE (µg/L)	1,1-DCE (µg/L)	Vinyl Chloride (µg/L)	Ethane (µg/L)	Ethene (µg/L)	Methane (µg/L)	1,1,1-Trichloroethane (µg/L)	1,1-Dichloroethane (µg/L)	Chloroethane (µg/L)	Dissolved Iron (mg/L)	BOD (mg/L)	COD (mg/L)	TOC (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)
11/1/2007	5 U	38	160	1.9 J	10	12	1 U	0.42 J	60	5 U	19	5 U		2 U	11.4 J	2.51	1400	134	1 U		
4/28/2008	5 U	29	200	1.5 J	9.1	28	1 U	1.5	77	5 U	20	5 U		2 U	11	2.2	1120	153	1 U	0.05 U	0.05 U
8/12/2008	5 U	40	190	2.5 J	11	24	5 U	1.5 J	120	5 U	21					2.4	1250	168			
10/7/2008	5 U	43	200	3.5 J	13	23	5 U	1.3 J	120 J	5 U	23	5 U				2.2	1270 J	165			
12/10/2008	5 U	39	210	2.2 J	12	27	5 U	1.1 J	65	5 U	25	5 U				2.2	1070	161			
1/26/2009	5 U	32	210	2.1 J	11	29	5 U	1.4 J	88	5 U	23	5 U									
3/16/2009	5 U	29	210	2.5 J	12	28	5 U	1.4 J	78	5 U	20	5 U				2.3	1220	170			
10/20/2009	5 U	24	200	2.2 J	14	24	5 U	5 U	120	5 U	29	5 U				3.1	1080 J	198 J			
10/28/2009	5 U	22	180	1.6 J	14	25	5 U	5 U	97	5 U	30	5 U		1.9 U	59.9 J	2.9	1130 J	192	0.16 U	0 R	0.05 U
12/11/2009	5 U	11	200	1.4 J	13	29	5 U	5 U	100	5 U	28	5 U				3.1	1060 J	217 J			
2/9/2010	5 U	14	210	1.3 J	11	34	5 U	5 U	110	5 U	24	5 U				3.7 J	962	194			
3/30/2010	5 U	11	180	1.7 J	10	24				5 U	20	5 U									
5/6/2010	5 U	15	210	1.4 J	11	27	5 U	5 U	15 U	5 U	20	5 U		3.6 U	29.3 J	2.9	729 J	196 J	0.16 U	0.1 U	0.05 U
11/11/2010	5 U	16	200	1.9 J	13	28	1.5 J	8.5	2100	5 U	27	5 U				3.1	661	195			
10/24/2011	5 U	11	160	1.2 J	12	30	11	3.2 J	4900	5 U	26	5 U	0.2 U	5.1	33.8 J	3.9	1010	189	0.16 U	0.1 U	0.05 U
6/12/2012	5 U	5.3	140	1.2 J	8.1	25	12	3.1 J	8500	5 U	21	5 U	0.2 U	5.9	28.8 J	4.4	484	172	0.16 U	0.1 U	0.05 U
8/28/2013	5 U	3.1 J	180	5 U	6.3	45	11	8.8	12000	5 U	22	5 U		9.8	27 J	3.8	318 J	151	0.16 U	0.1 U	0.05 U
4/3/2014	1 U	0.62 J	150	1 U	3.6	49	14	17	18000	1 UJ	16	1 U	2.14	8.5	49.3 J	5.1	277	145	0.16 U	0.1 UJ	0.05 U
11/18/2015	1 U	1 U	160	1 U	1 U	86	12	11	15000	1 U	18	1 U	1.45	7.3	15.2 J	3	167	114	0.16 U	0.1 U	0.05 U
4/20/2016	1.0 U	1.0 U	110	1.0 U	1.0 U	89	7.4	11	15000 D	1.0 U	15	1.0 U	0.955	7.8	26.7 J	3.2	161	131	0.10 U	0.10 U	0.050 U
9/12/2017	5.0 U	5.0 U	120	5.0 U	5.0 U	120	5.5	8.4	3700 D	5.0 U	17	5.0 U	0.92	3.4	17	3	82	97	1.0 U	0.25 U	0.050 UJ
4/25/2018	5.0 U	5.0 U	59	5.0 U	5.0 U	91	10 U	10 U	13000	5.0 U	11	5.0 U	1	4.8 J	19	3.7	92	100	1.0 U	0.25 U	0.050 U
12/5/2019	2.0 U	2.0 U	50	2.0 U	2.0 U	83	11	17	9400 D	2.0 U	13	2.0 U	0.55	4.2	10 U	2.8	57	67	1.0 U	0.25 U	
3/19/2020	2.0 U	2.0 U	38	2.0 U	2.0 U	78	17	21	17000 D	2.0 U	12	2.0 U	0.7		7.6 J	2.7	53	70	1.0 U	0.50 UJ	0.10 UJ
12/8/2021	4.0 U	4.0 U	48	4.0 U	4.0 U	110	9.4	14	12000	4.0 U	13	4.0 U	0.69	6.0 U	52	4.1	32	55	1.0 U	0.25 U	0.25 U
5/12/2022	1.0 U	1.0 U	36	1.0 U	1.0 U	83 D	15	20	16000 D	1.0 U	11	1.0 U	0.72	5.5	8.8 J	2.4	31	56	1.0 U	0.10 UJ	0.050 UJ
10/5/2023	1.0 U	1.0 U	30	1.0 U	1.0 U	73 DJ	8.9	21	13000	1.0 U	11	1.0 UJ	540	4.4	9.5 J	2.8	16	41	1.0 U	0.25 U	0.25 U

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J- Indicates estimated value, biased low.
J+ Indicates estimated value, biased high.
D Result reported from a secondary dilution analysis.
R The sample results are rejected.

MONITORING WELL GROUNDWATER ANALYTICAL RESULT SUMMARY
HYDE PARK FACILITY
NIAGARA, NEW YORK

Well ID: MW-17B

Date	PCE (µg/L)	TCE (µg/L)	Cis-1,2-DCE (µg/L)	Trans-1,2-DCE (µg/L)	1,1-DCE (µg/L)	Vinyl Chloride (µg/L)	Ethane (µg/L)	Ethene (µg/L)	Methane (µg/L)	1,1,1-Trichloroethane (µg/L)	1,1-Dichloroethane (µg/L)	Chloroethane (µg/L)	Dissolved Iron (mg/L)	BOD (mg/L)	COD (mg/L)	TOC (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)
11/1/2007	5 U	4 J	440	3.4 J	3.4 J	64	0.66 J	2.8	180	5 U	9.3	5 U		2 U	9.7 J	3.31	431	209	1 U		
4/28/2008	5 U	4.6 J	630	8.5	5.5	82	0.53 J	4	160	5 U	17	5 U		2 U	10.4	3.06	475	211	1 U	0.05 U	0.05 U
10/8/2008	5 U	3.3 J	600	5.9	4.4 J	120	5 U	6.6	170 J	5 U	22	5 U				55.7	561 J	169			
12/10/2008	5 U	2.6 J	260	3.1 J	2.9 J	170	5 U	33	120	5 U	28	5 U				3	802	180			
1/26/2009	5 U	2.1 J	280	4.2 J	3.1 J	210	5 U	61	130	5 U	24	5 U									
3/17/2009	5 U	1.6 J	270	3.6 J	3.2 J	180	5 U	71	180	5 U	22	5 U				3.5	631	275			
10/20/2009	5 U	4.2 J	280 J	2.4 J	4.5 J	73	3 J	22	120	5 U	29	5 U				3	768 J	204 J			
10/28/2009	5 U	3.1 J	280	2.2 J	3.1 J	69	2 J	14	89	5 U	26	5 U		2.2 U	53.1 J	3.1	720 J	195	0.1 J	0 R	0.05 U
12/11/2009	5 U	2.2 J	170	2.4 J	5 U	160	2.4 J	130	300	5 U	8.4	5 U				264	171 J	18.3 J			
2/9/2010	5 U	1.2 J	31	1.8 J	5 U	52	4.2 J	190	4400	5 U	31	5 U				122 J	727	32.2			
3/30/2010	5 U	5 U	5.9	1.7 J	5 U	10				5 U	37	5 U									
5/6/2010	5 U	5 U	8.5	1.4 J	5 U	9.6	5 U	5 U	15 U	5 U	45	5 U		157 J	219	12.7	883 J	49.7 J	14.3	0.1 U	0.05 U
11/10/2010	5 U	5 U	8.1	0.86 J	5 U	8.8	16	110	4200	5 U	40	5 U				4.5	981	118			
10/26/2011	5 U	5 U	19	0.82 J	5 U	27	70	81	15000	5 U	48	1.4 J	0.102 J	5.7	45.1 J	3.2	966	154 J	4.5	0.1 U	0.05 U
3/13/2012	5 U	5 U	14	1.1 J	5 U	15	44	83	18000	5 U	46	1.3 J	0.0442 J			10.9	682	118			
6/12/2012	5 U	5 U	20	0.82 J	5 U	18	45	72	23000	5 U	43	1.5 J	0.19 J	9.6	49.2 J	3.8	739	116	11.6	0.1 U	0.05 U
11/27/2012	5 U	5 U	28 J	5 U	5 U	31	41	79	19000	5 U	35 J	5 U	0.172 J			3.2	669	130			
8/28/2013	5 U	5 U	35	5 U	5 U	40	29	56	19000	5 U	38	5 U		12.7	40.6 J	3.6	521 J	138	1.2	0.1 U	0.05 U
1/15/2014	5 U	5 U	1.8 J	1.5 J	5 U	2.9 J	7.2	52	19000	5 U	7.9	11	54.8			454	351 J+	5 U	6.3		
4/1/2014	1 U	1 U	1.3	0.73 J	1 U	2.1	13	34	20000	1 U	8.2	7.4	16.6	139	228	55.1	288	6.9	8.2 J-	0.1 U	0.016 J
10/14/2014	1 U	1 U	0.52 J	0.71 J	1 U	1.1	8.3	17	16000	1 UJ	3.3	8.2	15.5			38.4	386	5 U	4.1		
11/18/2015	1 U	1 U	1 U	1 U	1 U	0.8 J	8.5	8.9	14000	1 U	1.5	7.9	13.4	17.6	102	18.8	374	2.5 J	1.4	0.1 U	0.05 U
4/21/2016	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.88 J	8	7	18000 D	1.0 U	1.7	6.7	17.3	20.4	103	25	327	7.2	1	0.10 U	0.050 U
9/12/2017	1.0 U	0.68 J	10	0.45 J	1.0 U	12	3.5	4.6	6800	1.0 U	6.3 J	7.6	5.3	6.2	78	17	210	47	0.73 J	0.50 U	0.050 UJ
4/25/2018	1.0 U	1.0 U	4.9	0.39 J	1.0 U	7.9	19	27	22000	1.0 U	4.5	3.7	4.7	6.8	89	20	170	45	2.1	0.25 U	0.039 J
12/5/2019	1.0 U	1.0 U	11	0.28 J	1.0 U	14	24	17	27000 D	1.0 U	4.3	6.6	3.1	9.7 J-	19	5.9	140	67	2.3	0.25 U	
3/19/2020	1.0 U	1.0 U	1.4	1.0 U	1.0 U	2.6	23	6.5	33000 D	1.0 U	4.5	8.9	4.1		21	5.4	110	39	2.9	0.50 UJ	0.10 UJ
12/8/2021	4.0 U	4.0 U	31	4.0 U	4.0 U	20	170 U	150 U	26000	4.0 U	7.3	2.9 J	0.94	16	13	12	130	90	5.6	0.25 U	0.25 U
5/12/2022	1.0 U	1.0 U	28	1.0 U	1.0 U	23	31	21	29000 D	1.0 U	8.2	2.2	0.42	8.9	26	4.5	120	130	6.7	0.10 UJ	0.050 U
10/5/2023	1.0 U	1.0 U	0.9 J	1.0 U	1.0 U	2.2	34	5.5	26000	1.0 U	11	2.7	160 J	11	16	3.6	88	69	4.5	0.25 U	0.25 U

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R The sample results are rejected.

MONITORING WELL GROUNDWATER ANALYTICAL RESULT SUMMARY
HYDE PARK FACILITY
NIAGARA, NEW YORK

Well ID: MW-18A

Date	PCE (µg/L)	TCE (µg/L)	Cis-1,2-DCE (µg/L)	Trans-1,2-DCE (µg/L)	1,1-DCE (µg/L)	Vinyl Chloride (µg/L)	Ethane (µg/L)	Ethene (µg/L)	Methane (µg/L)	1,1,1-Trichloroethane (µg/L)	1,1-Dichloroethane (µg/L)	Chloroethane (µg/L)	Dissolved Iron (mg/L)	BOD (mg/L)	COD (mg/L)	TOC (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)
11/1/2007	5 U	22	25	0.46 J	0.58 J	6.7	0.38 J	1 U	17	5 U	4.1 J	5 U		2 U	5 UJ	1.79	74.2	125	1 U		
4/28/2008	5 U	25	31	0.44 J	0.8 J	2.1 J	1 U	1 U	16	5 U	3.8 J	5 U		2 U	5 U	1.56	79.6	133	1 U	0.05 U	0.05 U
10/27/2009	5 U	25	43	5 U	0.93 J	7	5 U	5 U	23	5 U	4.7 J	5 U		1.4 U	14.2 J	1.5	90.2 J	130	0.16 U	0 R	0.05 U
5/12/2010	5 U	25	51	5 U	1.1 J	2.6 J	5 U	5 U	13 J	5 U	4.2 J	5 U		1.6 U	50 U	2.1	104 J	132	0.16 U	0.1 U	0.05 U
10/24/2011	5 U	23	42	5 U	0.9 J	8.4	5 U	5 U	19	5 U	4.7 J	5 U	0.0478 J	2.1 U	50 U	1.8	293	156	0.16 U	0.1 U	0.05 U
6/12/2012	5 U	21	56	0.94 J	1.1 J	2.4 J	5 U	5 U	11 J	5 U	4.2 J	5 U	0.2 U	3.1 U	50 U	1	108	129	0.16 U	0.1 U	0.05 U
8/27/2013	5 U	25	58	0.87 J	0.98 J	3.4 J	5 U	5 U	10	5 UJ	4.9 J	5 U		6.2	50 U	2.1	118	138	0.16 U	0.1 U	0.05 U
4/2/2014	1 U	27	43	0.76 J	0.9 J	0.86 J	5 U	5 U	3.4 J	1 UJ	3.6	1 U	0.89	3.3 U	50 U	2.4	106 J-	124 J+	0.16 U	0.1 U	0.05 U
11/18/2015	1 U	38	51	0.73 J	1.1	2.3	5 U	5 U	11 J	1 U	4.5	1 U	1.5	2.8 U	50 U	1.2	113	118	0.16 U	0.1 U	0.05 U
4/20/2016	1.0 U	37	51	0.83 J	0.99 J	0.62 J	5.0 U	5.0 U	5.2	1.0 U	4.3	1.0 U	0.463	4.2 U	19.8 J	1.4	233	144	0.10 U	0.10 U	0.050 U
9/13/2017	2.0 U	29	58	0.8 J	1 J	1.8 J	0.50 U	0.50 U	5.3	2.0 U	5	2.0 U	1.2	2.0 U	12	1.3	86	120	1.0 U	0.25 U	0.050 U
4/26/2018	1.0 U	36	42	0.61 J	0.88 J	1.1	1.0 U	1.0 U	13	1.0 U	3.7	1.0 U	0.99	2.0 U	12	1.5	81	130	1.0 U	0.25 U	0.050 U
12/4/2019	2.0 U	32	43	0.66 J	0.93 J	0.97 J	0.36 J	1.0 U	9.2	2.0 U	3.6	2.0 U	0.9	2.0 U	10 U	1.3	67	130	1.0 U	0.25 U	
3/19/2020	2.0 U	34	46	0.81 J	0.87 J	1.1 J	1.0 U	1.0 U	17	2.0 U	3.7	2.0 U	0.99		4.1 J	1.3	65	130	1.0 U	0.50 UJ	0.10 UJ
12/7/2021	1.0 UJ	23 J-	43 J-	1.0 UJ	0.49 J-	2.3 J-	7.5 U	7.0 U	4000	1.0 UJ	3.3 J-	1.0 UJ	1.4	2.0 U	45	2.2	53	120	1.0 U	0.050 U	0.050 U
5/11/2022	1.0 U	34	54	0.87 J	1.2	5.7	1.5	1.4	5800 D	1.0 U	4.1	1.0 U	1.9	2.4	6.8 J	1.1	51	130	1.0 U	0.10 UJ	0.050 UJ
10/5/2023	1.0 U	39	57	0.86 J	1.4	3.5	0.79 J	0.66 J	3400	1.0 U	4	1.0 UJ	1900	2.0 U	7.2 J	1.4	37	120	1.0 U	0.25 U	0.25 U

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J- Indicates estimated value, biased low.
J+ Indicates estimated value, biased high.
D Result reported from a secondary dilution analysis.
R The sample results are rejected.

MONITORING WELL GROUNDWATER ANALYTICAL RESULT SUMMARY
HYDE PARK FACILITY
NIAGARA, NEW YORK

Well ID: MW-18B

Date	PCE (µg/L)	TCE (µg/L)	Cis-1,2-DCE (µg/L)	Trans-1,2-DCE (µg/L)	1,1-DCE (µg/L)	Vinyl Chloride (µg/L)	Ethane (µg/L)	Ethene (µg/L)	Methane (µg/L)	1,1,1-Trichloroethane (µg/L)	1,1-Dichloroethane (µg/L)	Chloroethane (µg/L)	Dissolved Iron (mg/L)	BOD (mg/L)	COD (mg/L)	TOC (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)
11/1/2007	5 U	5 U	160	0.9 J	5 U	140		2.1	120	5 U	5 U	5 U		2 U	5 UJ	4.09	80.9	261			
11/29/2007																			1 U		
4/28/2008	5 U	5 U	120	0.73 J	5 U	180	0.74 J	2.4	150	5 U	5 U	5 U		2 U	9.86	3.74	88.1	270	1 U	0.05 U	0.05 U
10/27/2009	5 U	5 U	62	5 U	5 U	220	5 U	2.3 J	120	5 U	5 U	5 U		1.7 U	23.3 J	4.1	93.8 J	296	0.16 U	0 R	0.05 U
5/12/2010	5 U	5 U	69	5 U	5 U	190	5 U	2.4 J	130	5 U	5 U	5 U									
10/25/2011	5 U	5 U	150	0.9 J	5 U	220	5 U	4 J	120	5 U	5 U	5 U	0.0657 J	2.4 U	50 U	3.9	114 J	305 J	0.16 U	0.1 U	0.05 U
3/14/2012	5 U	5 U	59	5 U	5 U	170	5 U	2.3 J	96	5 U	5 U	5 U	0.0423 J			3.5	102	281			
6/12/2012	5 U	5 U	110	5 U	5 U	140	5 U	3.6 J	110	5 U	5 U	5 U	0.2 U	3.5 U	50 U	4	102	268	0.16 U	0.1 U	0.05 U
11/28/2012	5 U	5 U	89	5 U	5 U	180	5 U	5.2	150	5 U	5 U	5 U	0.2 U			4.2	106	284			
8/15/2013	0.96 J	5 U	120	5 U	5 U	190				5 U	5 U	5 U							0.16 U		
8/27/2013	5 U	5 U	110	5 U	5 U	190	5 U	5.3	170	5 UJ	5 U	5 U		2.8 U	17.9 J	4.9	106	284	0.16 U	0.1 U	0.05 U
1/17/2014	5 U	5 U	28	5 U	5 U	56	3.2 J	41	5000	5 U	5 U	5 U	5.97			941	91.1	55.1	17.3		
1/21/2014																					
4/2/2014	1 U	1 U	43	1 U	1 U	71	3.8 J	33	13000	1 UJ	1 U	1 U	2.91	889 J	1340	427	79.3 J-	86.1 J+	7.7	0.1 U	0.05 U
10/13/2014	1 U	1 U	1.1	1 U	1 U	4.6	4 J	11	18000	1 U	1 U	1 U	8.37			166	34.9	3.8 J	2.8		
11/18/2015	1 U	1 U	35	1 U	1 U	40	3.5 J	15	18000	1 U	1 U	1 U	2.54	35.7	167	41.5	62.2	70.9	1.5	0.1 U	0.05 U
4/21/2016	1.0 U	1.0 U	90	1.0 U	1.0 U	120	2.8 J	16	19000 D	1.0 U	1.0 U	1.0 U	0.893	22.1	88.7	21.7	122	189	4.8	0.10 U	0.050 U
9/13/2017	20 U	20 U	380	20 U	20 U	210	6.8	38	5000 D	20 U	20 UJ	20 U	0.52	23	99	11	110	140	7.3	0.50 U	0.050 U
4/26/2018	2.5 U	2.5 U	69	2.5 U	2.5 U	92	2	12	17000 D	2.5 U	2.5 U	2.5 U	0.41	17	71	12	97	130	10	0.25 U	0.050 U
12/4/2019	2.0 U	2.0 U	56	2.0 U	2.0 U	70	2.3	9.9	24000 D	2.0 U	2.0 U	2.0 U	0.35	35 J-	49	8.8	96	130	13	0.25 U	
3/19/2020	2.0 U	2.0 U	32	2.0 U	2.0 U	51	2.5	29	24000 D	2.0 U	2.0 U	2.0 U	0.23		53	7.2	100	170	16	0.50 UJ	0.10 UJ
12/7/2021	2.0 U	2.0 U	47	2.0 U	2.0 U	80	170 U	150 U	13000	2.0 U	2.0 U	2.0 U	0.32	14	39	6	98	190	8	0.050 U	0.050 U
5/11/2022	1.0 U	1.0 U	38	1.0 U	1.0 U	59	3.2	15	21000 D	1.0 U	1.0 U	1.0 U	0.17 J	16	39	4.5	100	220	9.9	0.10 UJ	0.050 UJ
10/5/2023	1.0 U	1.0 U	120 DJ	0.53 J	1.0 U	61	2.3	5	22000	1.0 U	1.0 U	1.0 UJ	170 J	17	35	5	100	180	7.7	0.25 U	0.25 U

J Indicates an estimated value.
U Analyte was not detected above the reporting limit.
UJ The analyte was not detected. The reporting limit is an approximate value.
J- Indicates estimated value, biased low.
J+ Indicates estimated value, biased high.
D Result reported from a secondary dilution analysis.
R The sample results are rejected.

MONITORING WELL GROUNDWATER ANALYTICAL RESULT SUMMARY
HYDE PARK FACILITY
NIAGARA, NEW YORK

Well ID: MW-19A

Date	PCE (µg/L)	TCE (µg/L)	Cis-1,2-DCE (µg/L)	Trans-1,2-DCE (µg/L)	1,1-DCE (µg/L)	Vinyl Chloride (µg/L)	Ethane (µg/L)	Ethene (µg/L)	Methane (µg/L)	1,1,1-Trichloroethane (µg/L)	1,1-Dichloroethane (µg/L)	Chloroethane (µg/L)	Dissolved Iron (mg/L)	BOD (mg/L)	COD (mg/L)	TOC (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)
10/31/2007	5 U	5 U	4.2 J	5 U	5 U	4				5 U	5 U	5 U									
4/24/2008	5 U	5 U	3.2 J	5 U	5 U	1.2 J				5 U	5 U	5 U									
11/2/2009	5 U	5 U	3.7 J	5 U	5 U	2.8 J				5 U	5 U	5 U									

J Indicates an estimated value.
U Analyte was not detected above the reporting limit.
UJ The analyte was not detected. The reporting limit is an approximate value.
J- Indicates estimated value, biased low.
J+ Indicates estimated value, biased high.
D Result reported from a secondary dilution analysis.
R The sample results are rejected.

MONITORING WELL GROUNDWATER ANALYTICAL RESULT SUMMARY
HYDE PARK FACILITY
NIAGARA, NEW YORK

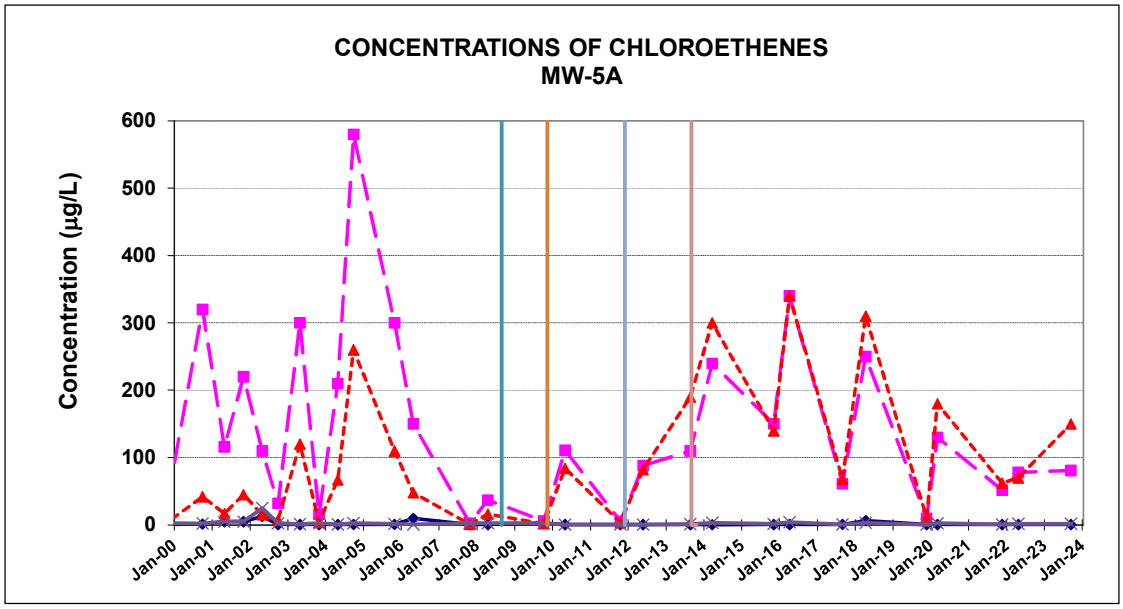
Well ID: MW-19B

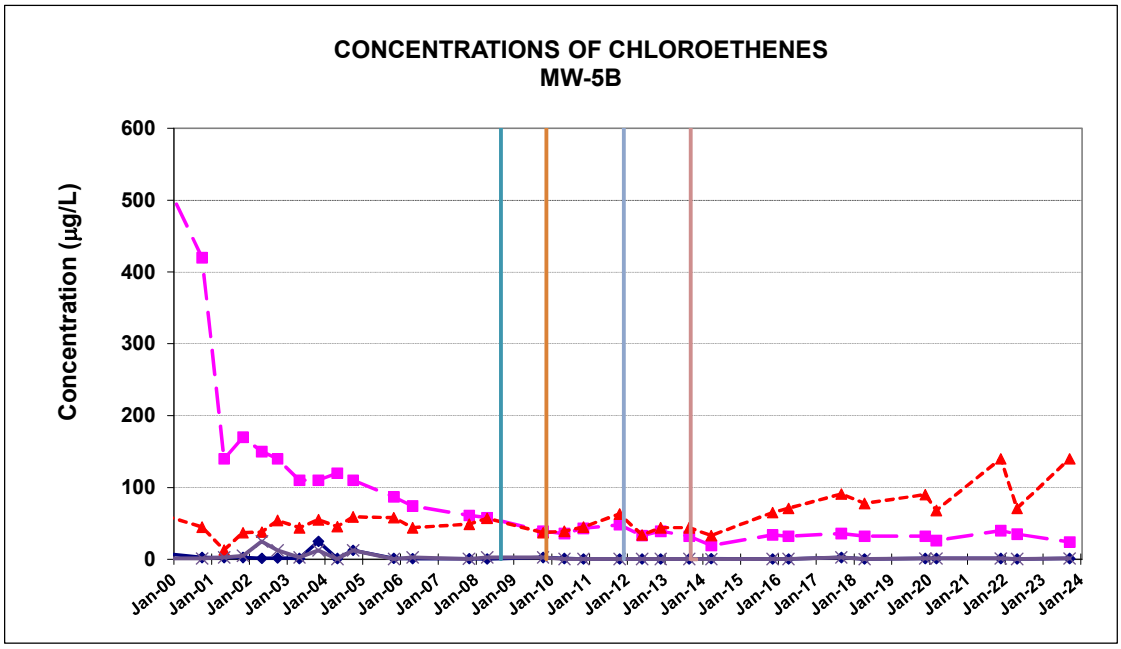
Date	PCE (µg/L)	TCE (µg/L)	Cis-1,2-DCE (µg/L)	Trans-1,2-DCE (µg/L)	1,1-DCE (µg/L)	Vinyl Chloride (µg/L)	Ethane (µg/L)	Ethene (µg/L)	Methane (µg/L)	1,1,1-Trichloroethane (µg/L)	1,1-Dichloroethane (µg/L)	Chloroethane (µg/L)	Dissolved Iron (mg/L)	BOD (mg/L)	COD (mg/L)	TOC (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)
10/31/2007	5 U	5 U	12	5 U	5 U	3.4				5 U	5 U	5 U									
4/24/2008	5 U	5 U	24	5 U	5 U	5.8				5 U	5 U	5 U									
11/2/2009	5 U	5 U	68	5 U	5 U	7.2				5 U	5 U	5 U									
5/12/2010	5 U	5 U	2.1 J	5 U	5 U	2.1 J	5 U	5 U	160	5 U	5 U	5 U									
10/20/2011	5 U	5 U	8.7	5 U	5 U	3.3 J				5 U	5 U	5 U									
6/12/2012	5 U	5 U	2.3 J	5 U	5 U	1.6 J				5 U	5 U	5 U									
8/28/2013	5 U	5 U	2.1 J	5 U	5 U	1.2 J				5 U	5 U	5 U									
4/2/2014	1 U	1 U	2.9	1 U	1 U	0.65 J				1 U	1 U	1 U									
11/17/2015	1 U	1 U	1.8	1 U	1 U	1				1 U	1 U	1 U									
4/19/2016	1.0 U	1.0 U	1.1	1.0 U	1.0 U	1.1				1.0 U	1.0 U	1.0 U									
9/13/2017	1.0 U	1.0 U	1.6	1.0 U	1.0 U	1.5				1.0 U	1.0 UJ	1.0 U									
4/23/2018	1.0 U	1.0 U	24	1.0 U	1.0 U	5				1.0 U	1.0 U	1.0 U									
12/4/2019	1.0 U	1.0 U	1.4	1.0 U	1.0 U	1.2				1.0 U	1.0 U	1.0 U									
3/20/2020	1.0 U	1.0 U	11	1.0 U	1.0 U	2.3				1.0 U	1.0 U	1.0 U									
12/7/2021	1.0 U	1.0 U	1.8	1.0 U	1.0 U	1.5				1.0 U	1.0 U	1.0 U									
5/12/2022	1.0 U	1.0 U	1.5	1.0 U	1.0 U	1.1				1.0 U	1.0 U	1.0 U									
10/5/2023	1.0 U	1.0 U	1.5	1.0 U	1.0 U	1.4				1.0 U	1.0 U	1.0 UJ									

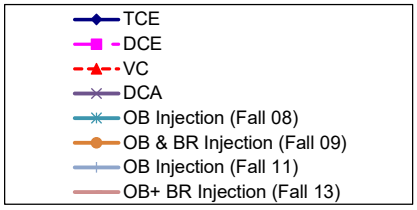
J Indicates an estimated value.
U Analyte was not detected above the reporting limit.
UJ The analyte was not detected. The reporting limit is an approximate value.
J- Indicates estimated value, biased low.
J+ Indicates estimated value, biased high.
D Result reported from a secondary dilution analysis.
R The sample results are rejected.

Appendix E

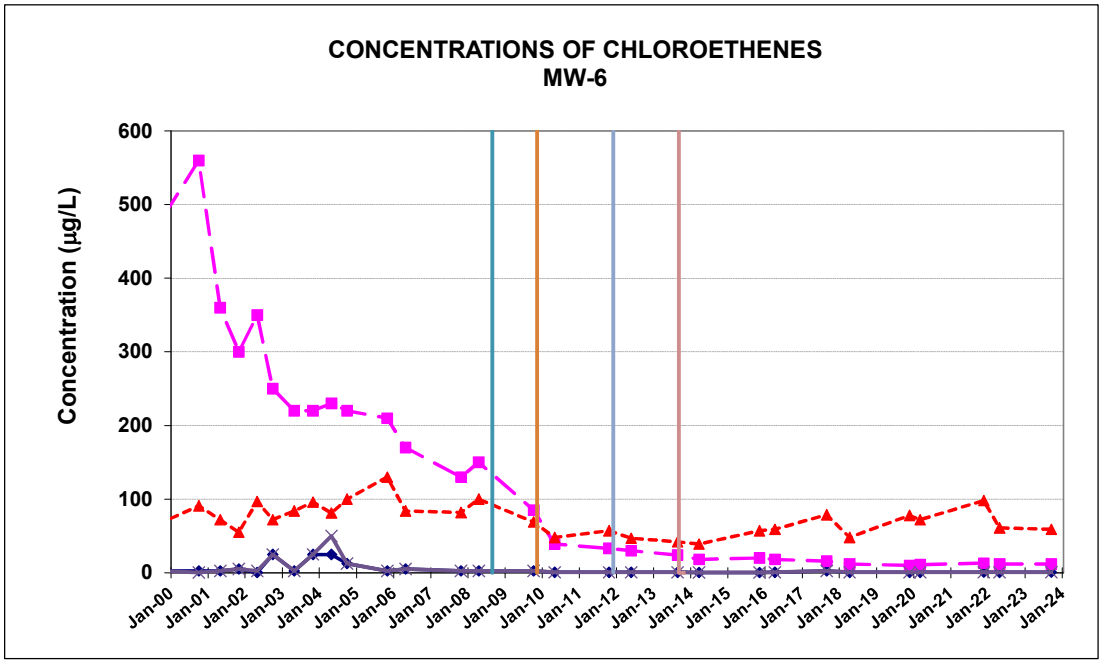
Long-Term Trend Graphs of Chlorinated Ethenes in Monitoring Wells, 2000-2023







FORMER CARBORUNDUM COMPANY
LONG TERM TRENDS OF CHLORINATED ETHENES IN WELLS MW-5A AND MW-5B
AECOM
50 Lakefront Boulevard, Suite 111, Buffalo, New York 14202.



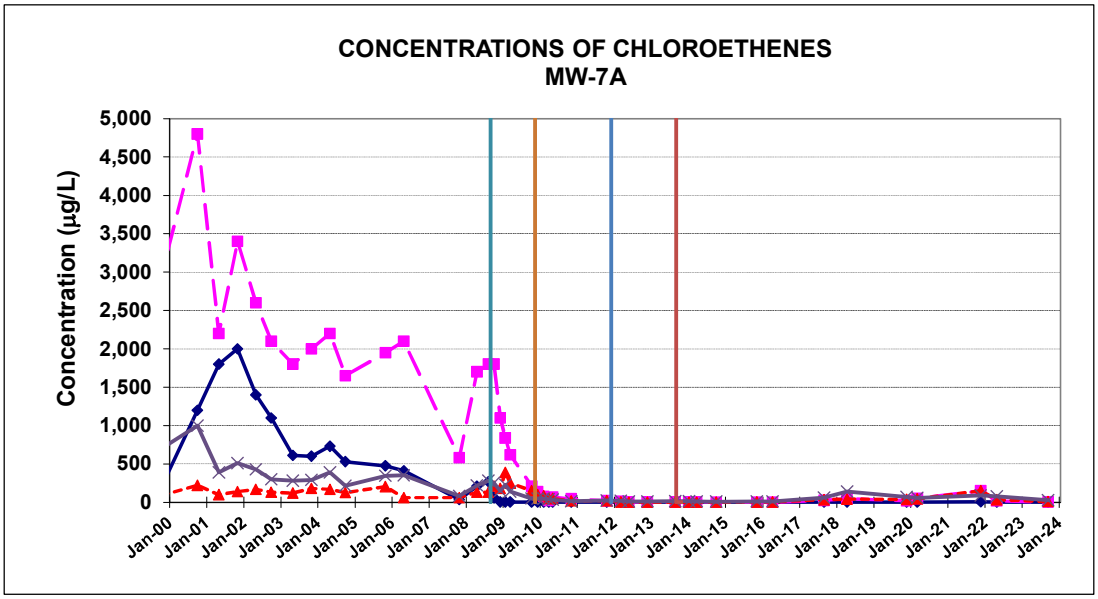
TCE
DCE
VC
DCA
OB Injection (Fall 08)
OB & BR Injection (Fall 09)
OB Injection (Fall 11)
OB+ BR Injection (Fall 13)

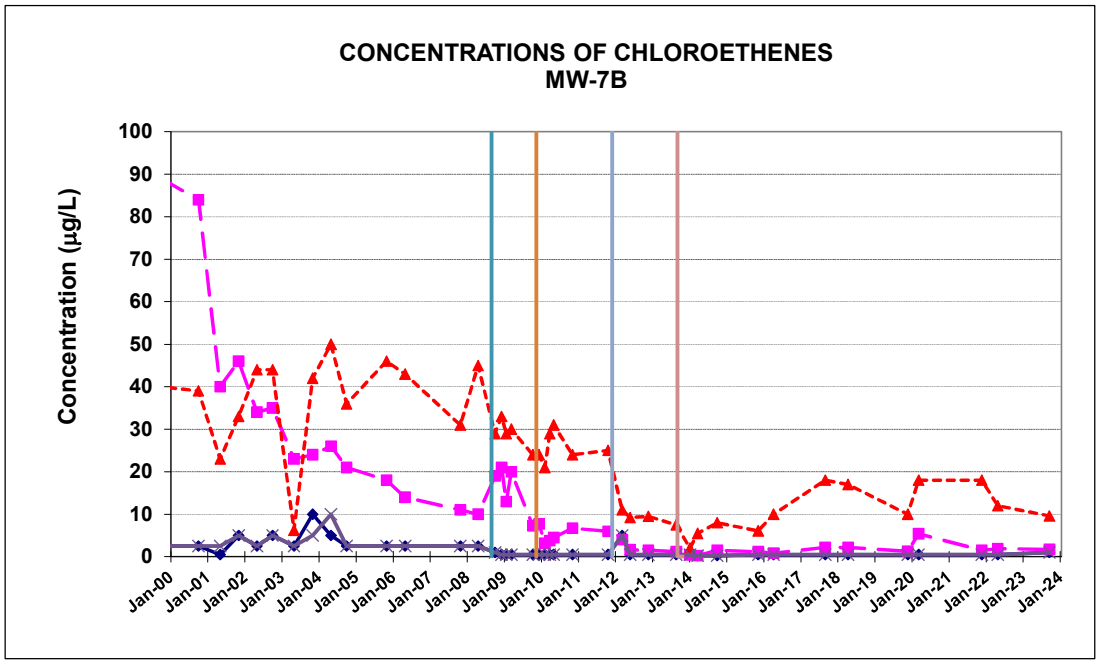
FORMER CARBORUNDUM COMPANY

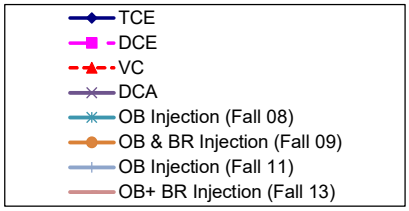
LONG TERM TRENDS OF CHLORINATED ETHENES IN WELL MW-6

AECOM

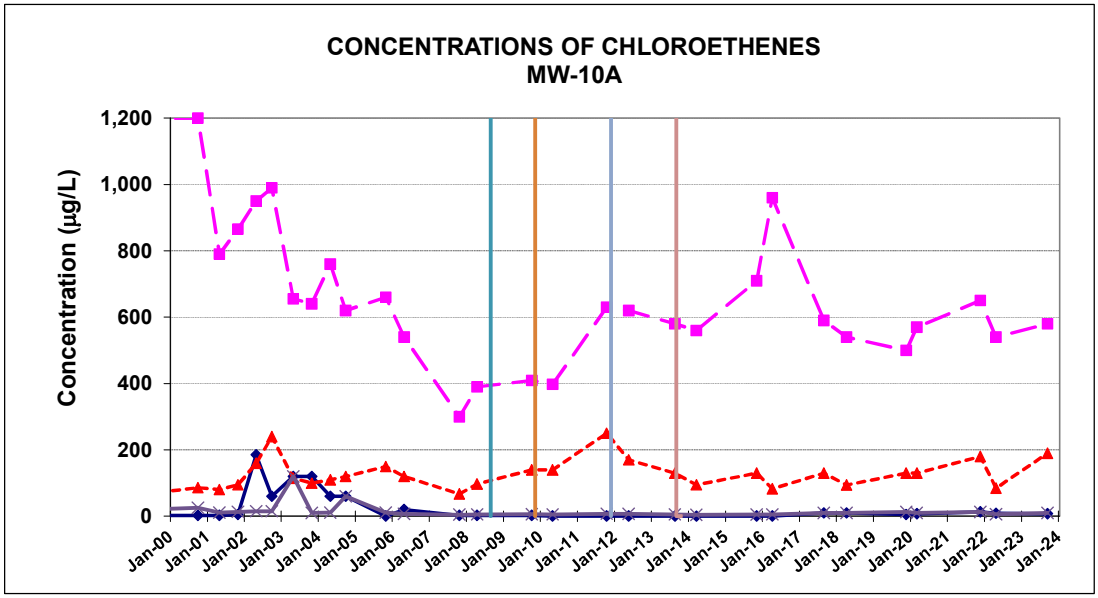
50 Lakefront Boulevard, Suite 111, Buffalo, New York 14202.

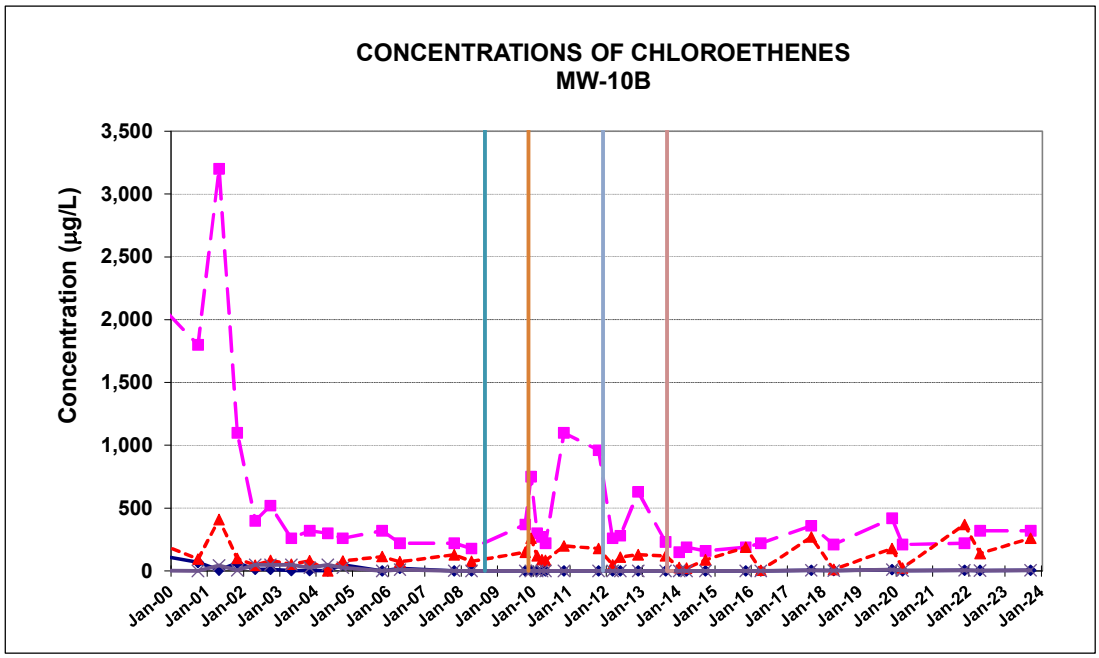


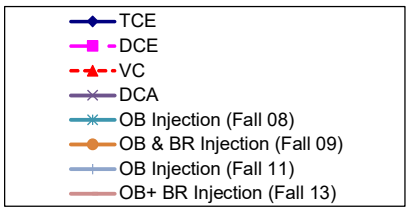




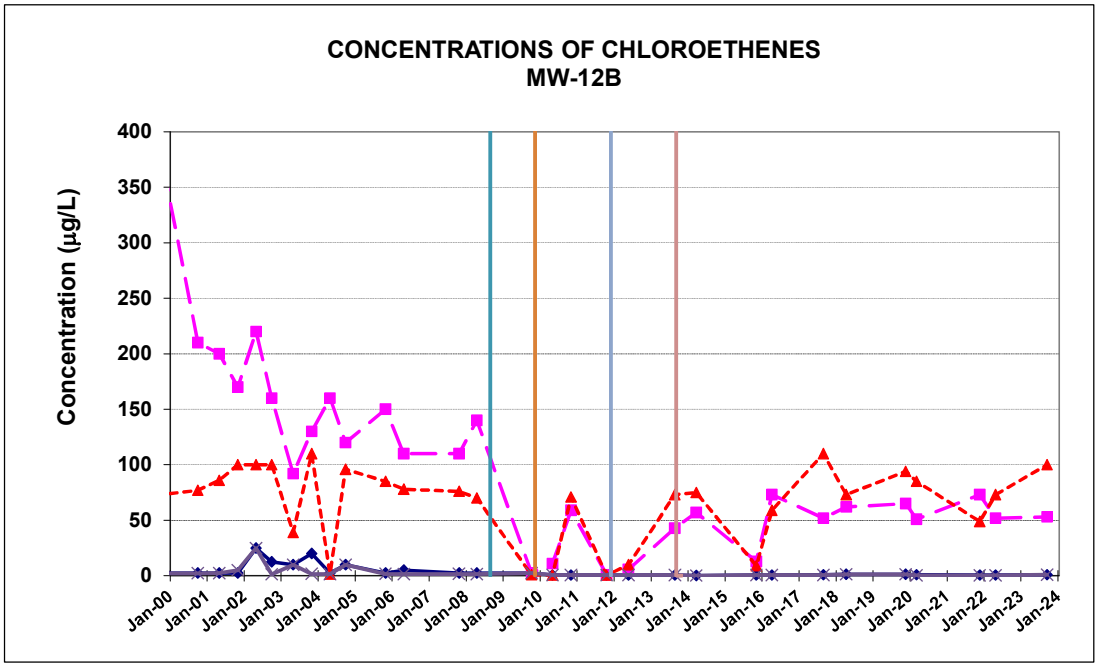
FORMER CARBORUNDUM COMPANY
LONG TERM TRENDS OF CHLORINATED ETHENES IN WELLS MW-7A AND MW-7B
AECOM
50 Lakefront Boulevard, Suite 111, Buffalo, New York 14202.







FORMER CARBORUNDUM COMPANY
LONG TERM TRENDS OF CHLORINATED ETHENES IN WELLS MW-10A AND MW-10B
AECOM
50 Lakefront Boulevard, Suite 111, Buffalo, New York 14202.



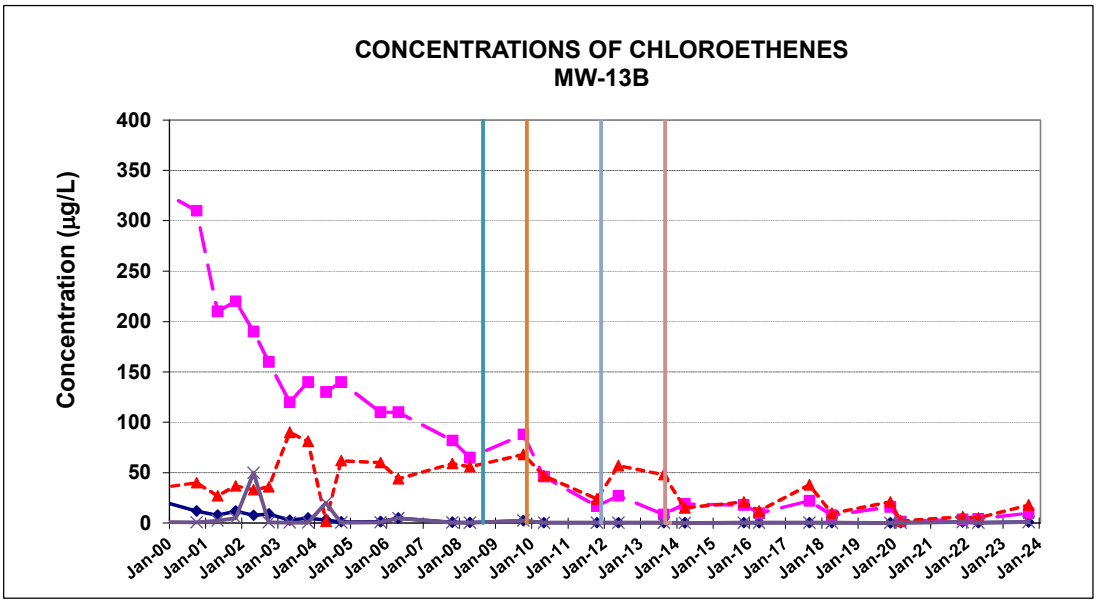
TCE
DCE
VC
DCA
OB Injection (Fall 08)
OB & BR Injection (Fall 09)
OB Injection (Fall 11)
OB+ BR Injection (Fall 13)

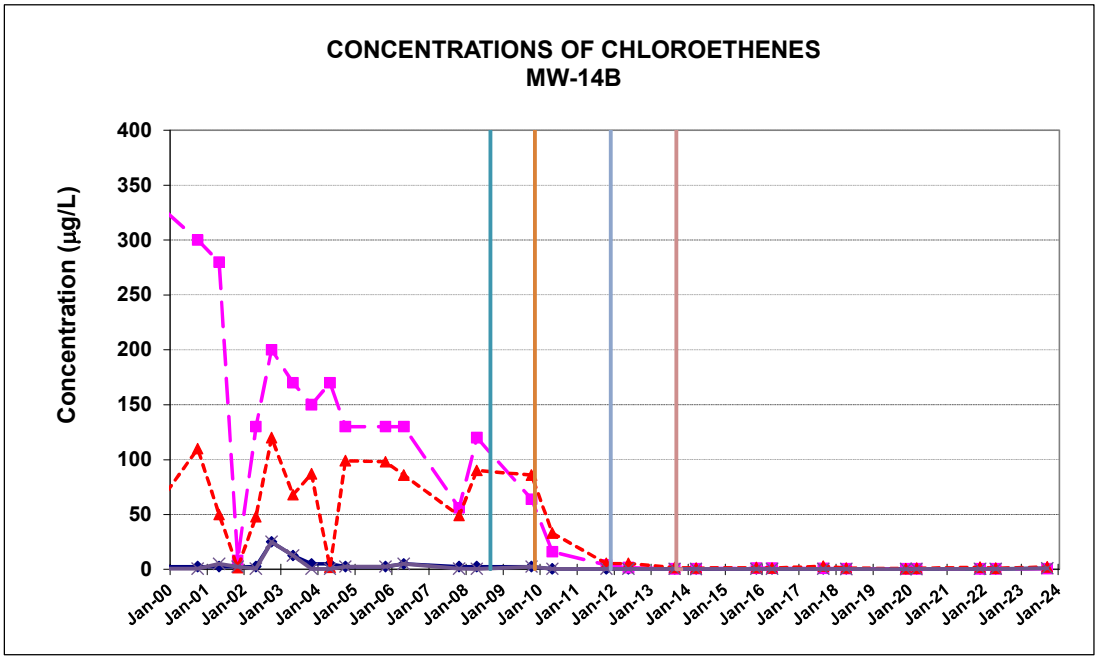
FORMER CARBORUNDUM COMPANY

LONG TERM TRENDS OF CHLORINATED ETHENES IN WELL MW-12B

AECOM

50 Lakefront Boulevard, Suite 111, Buffalo, New York 14202.





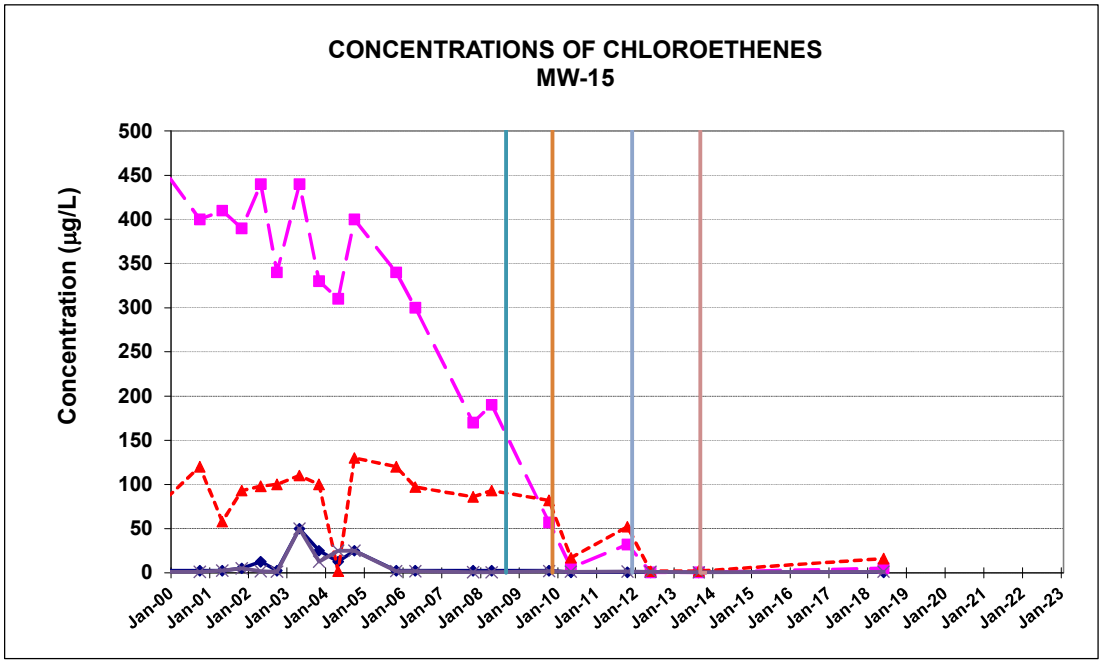
TCE
DCE
VC
DCA
OB Injection (Fall 08)
OB & BR Injection (Fall 09)
OB Injection (Fall 11)
OB+ BR Injection (Fall 13)

FORMER CARBORUNDUM COMPANY

LONG TERM TRENDS OF CHLORINATED ETHENES IN WELLS MW-13B AND MW-14B

AECOM

50 Lakefront Boulevard, Suite 111, Buffalo, New York 14202.



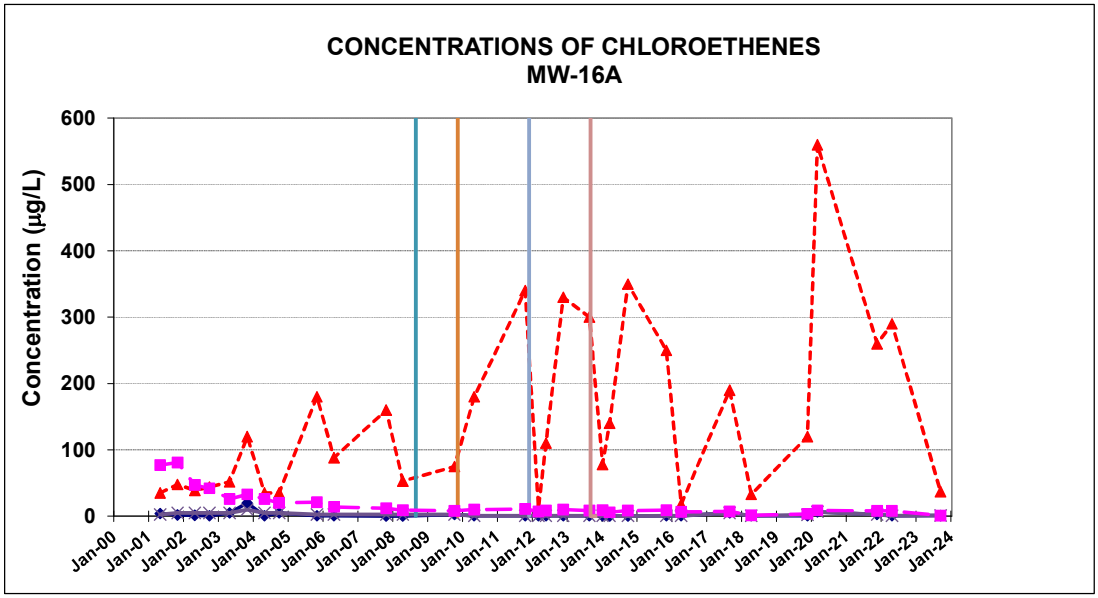
TCE
DCE
VC
DCA
OB Injection (Fall 08)
OB & BR Injection (Fall 09)
OB Injection (Fall 11)
OB+ BR Injection (Fall 13)

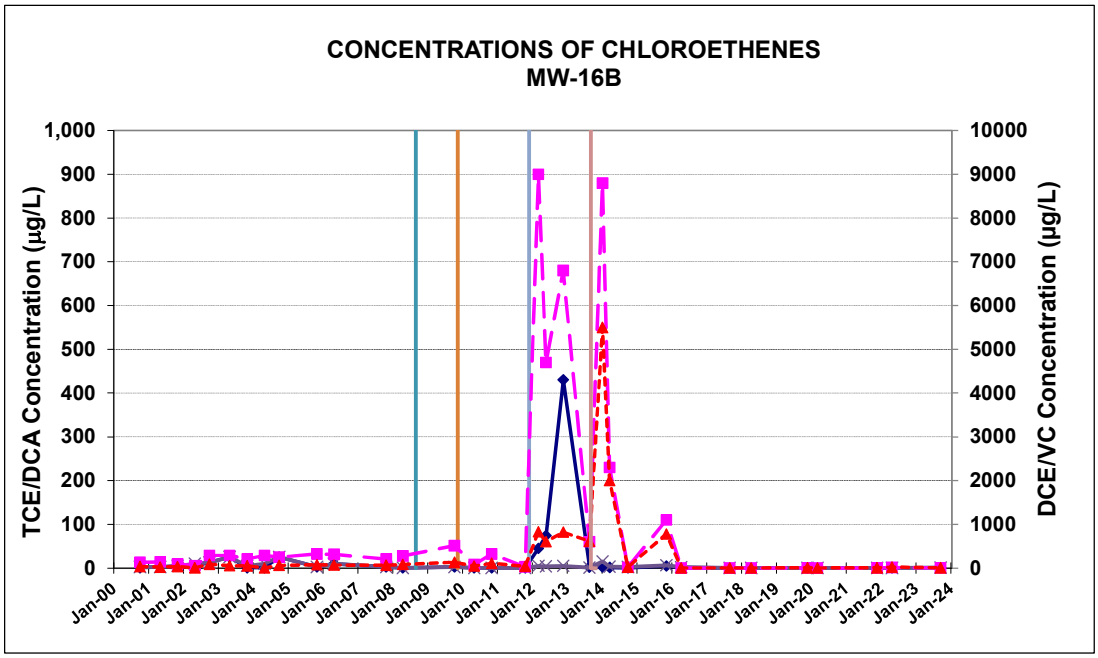
FORMER CARBORUNDUM COMPANY

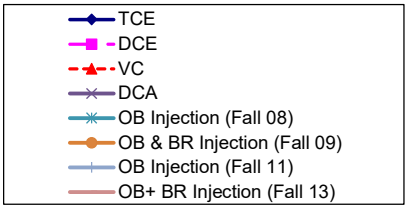
LONG TERM TRENDS OF CHLORINATED ETHENES IN WELL MW-15

AECOM

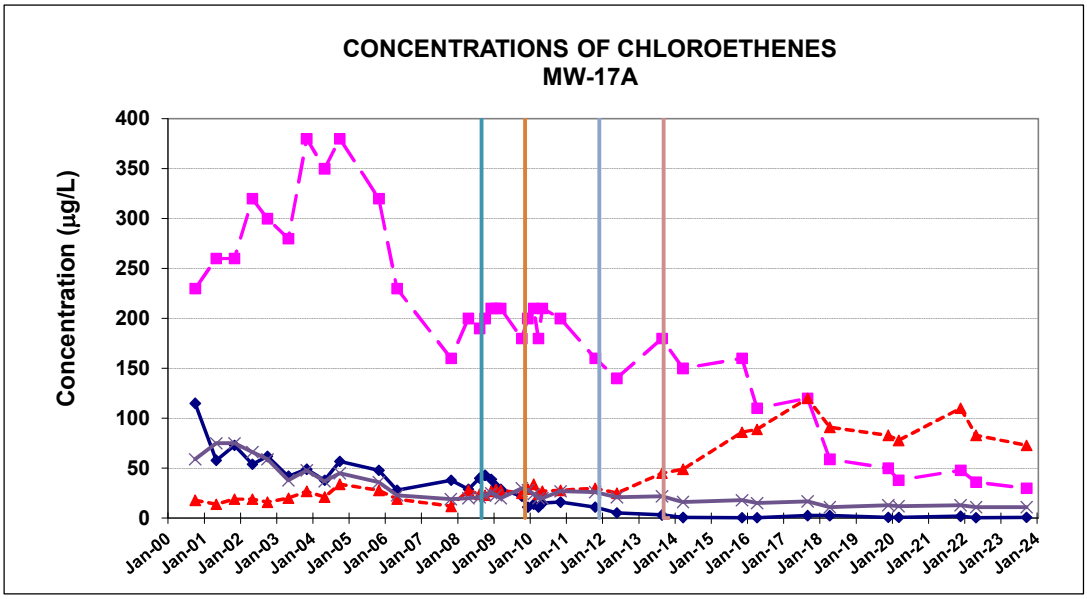
50 Lakefront Boulevard, Suite 111, Buffalo, New York 14202.

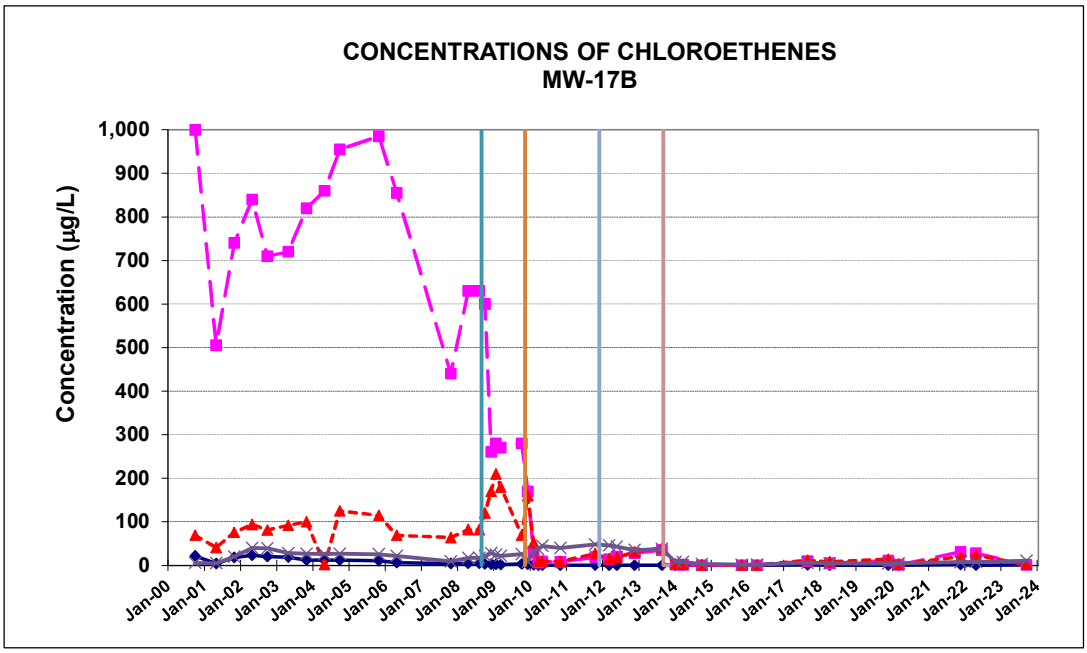


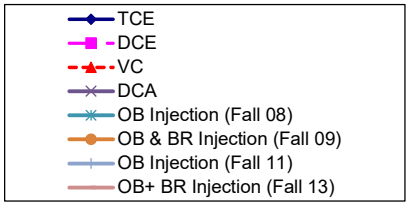




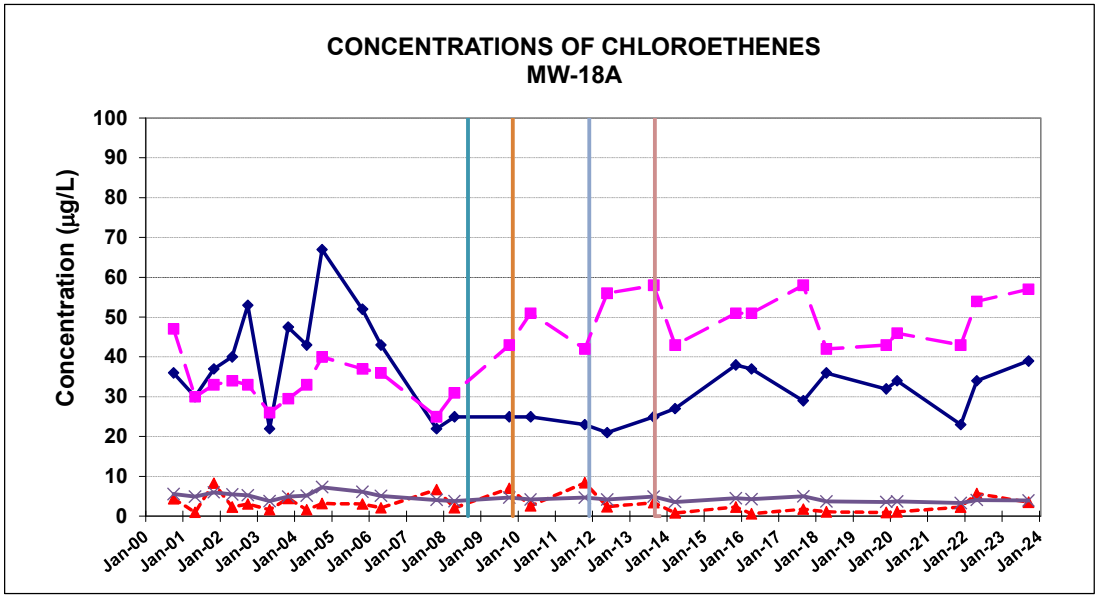
FORMER CARBORUNDUM COMPANY
LONG TERM TRENDS OF CHLORINATED ETHENES IN WELLS MW-16A AND MW-16B
AECOM
50 Lakefront Boulevard, Suite 111, Buffalo, New York 14202.

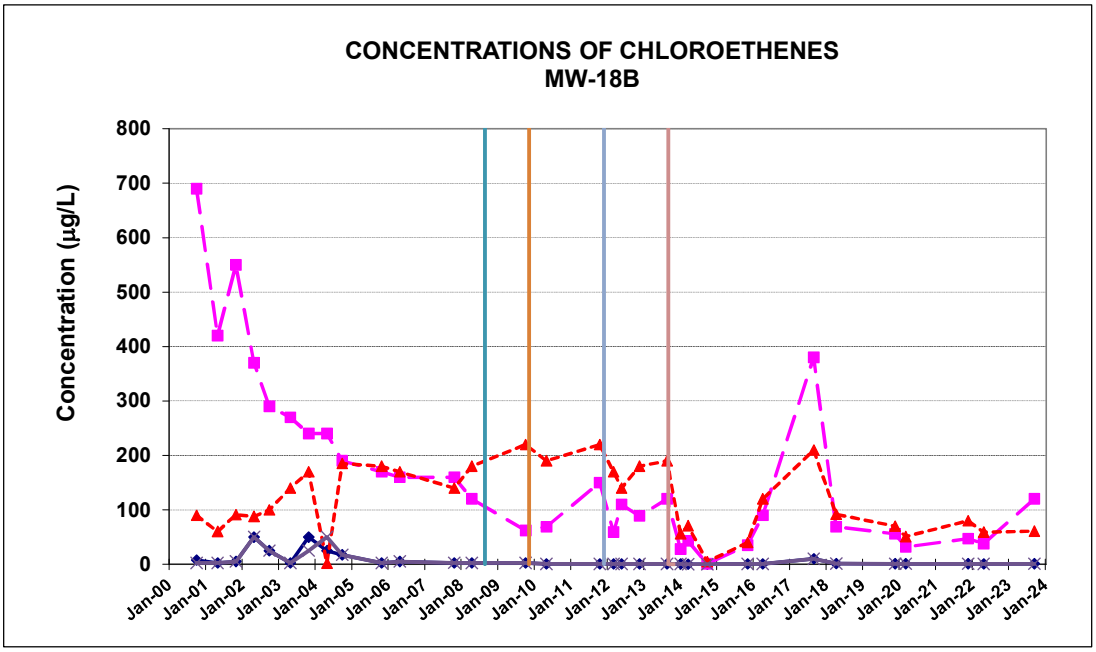






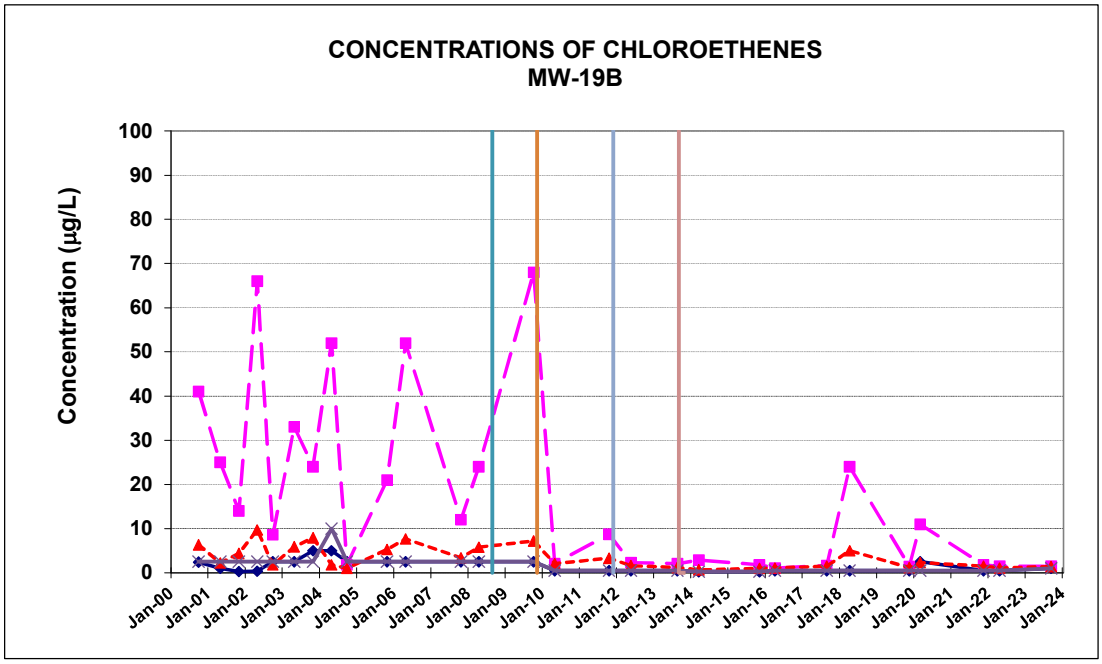
FORMER CARBORUNDUM COMPANY
LONG TERM TRENDS OF CHLORINATED ETHENES IN WELLS MW-17A AND MW-17B
AECOM
50 Lakefront Boulevard, Suite 111, Buffalo, New York 14202.





TCE
DCE
VC
DCA
OB Injection (Fall 08)
OB & BR Injection (Fall 09)
OB Injection (Fall 11)
OB+ BR Injection (Fall 13)

FORMER CARBORUNDUM COMPANY
LONG TERM TRENDS OF CHLORINATED ETHENES IN WELLS MW-18A AND MW-18B
AECOM
50 Lakefront Boulevard, Suite 111, Buffalo, New York 14202.



TCE
DCE
VC
DCA
OB Injection (Fall 08)
OB & BR Injection (Fall 09)
OB Injection (Fall 11)
OB+ BR Injection (Fall 13)

FORMER CARBORUNDUM COMPANY

LONG TERM TRENDS OF CHLORINATED ETHENES IN WELL MW-19B

AECOM

50 Lakefront Boulevard, Suite 111, Buffalo, New York 14202.