

Ms. Karen Cahill
New York State Department of Environmental Conservation
5786 Widewaters Parkway
Syracuse, New York 13214

Arcadis of New York, Inc.
2100 Georgetown Drive
Suite 402
Sewickley, PA 15143
United States
Phone: 724 742 9180
www.arcadis.com

Date: February 26, 2025
Subject: Response to NYSDEC Comments on 2024 Annual Sampling and Site
Summary Report
Krutulis Property Site
848 Marsh Mill Road, Kirkville, New York
NYSDEC Site No. 72709

Dear Ms. Cahill,

On behalf of Bristol-Myers Squibb Company (BMS), Arcadis of New York, Inc. (Arcadis) has prepared this letter responding to comments received from the New York State Department of Environmental Conservation (NYSDEC) on the 2024 Annual Sampling and Site Summary Report for the Krutulis Property Site (Site) in Kirkville, New York. The comments were included in a letter from the NYSDEC dated January 27, 2025, and a subsequent email on January 29, 2025. We have provided responses to each of your comments below. A copy of the final 2024 Annual Sampling and Site Summary Report, which has been revised to incorporate these comments, is attached.

Comment

ERD Baseline Monitoring: This section states that “concentrations of CVOCs detected in baseline samples are similar to those detected during the pre-design investigation and recent annual groundwater monitoring events.” Given that this was the first sampling event that included the four piezometers, these results and their significance, if any, must be discussed in more detail in this section. For example, methane was detected in PZ-1 at a concentration of 18,000 µg/L, an order of magnitude greater than concentrations detected in the monitoring wells during the pre-design investigation and baseline event. Additionally, 1,2-dichloroethene and trichloroethene were detected at concentrations one to three orders of magnitude greater in the piezometers than in the monitoring wells during the baseline event.

Response

Text has been added under the ERD Baseline Monitoring heading to support the selected target ERD injection treatment area based on the data gathered during the baseline sampling event from the newly installed (PZ1 to PZ-4 and MW-7) and existing (MW-3S and MW-3D) monitoring locations.

Comment

Table 1 - 2024 Water Level Measurements: The footnotes at the bottom of the table should be numbered.

Response

The footnotes at the bottom of the table have been numbered.

Comment

Table 2 - 2024 Groundwater Analytical Results: Xylene, methyl isobutyl ketone, and acetone should be removed from the summary table. The latter two have not historically been detected in site groundwater, and acetone has not been detected above the analytical reporting limit since 2013.

Response

Xylene, methyl isobutyl ketone, and acetone have been removed from Table 2. As discussed, a qualifier has also been added to Table 3 indicating that, starting with the 2024 annual monitoring event, the results for these three constituents will no longer be reported on the site-specific VOC analyte list.

Comment

Attachment 3 - CVOC Trend Plots:

- o The last two pages of the table appear to be duplicates from MW-3S plots. These pages should be deleted.
- o Trend plots for 1,2-dichloroethene and vinyl chloride in MW-6D are missing from the table. These plots should be included.

Response

The duplicate pages have been deleted and attachment has been updated to include 1,2-dichloroethene and vinyl chloride trend plots for MW-6D.

Comment

A discussion of the effectiveness of the daylighting containment assembly (i.e., outer casing and overflow basin) and discharge to the wetland must be included in the report.

Response

The requested discussion has been added to the report under the Carbon Substrate Injection heading. A schematic showing the daylighting containment assembly used at the wetland injection points has been included in the report as Figure 7 for reference.

Comment

A general schematic or flow diagram showing the injection set up must be included in the report.

Response

Figure 6 has been added to the report with schematics for both the DPT point and temporary well injection well setups.

Comment

The schedule provided in the August 2024 Pre-Design Investigation Report must be updated and included in the summary report.

Response

An updated schedule has been added to the report as Table 9.

Comment

Site-Wide Groundwater Monitoring Event:

- o This section must state that the 2023 annual site-wide groundwater event was not conducted due to the ongoing predesign investigation; and
- o The reason MW-1, MW-4 and MW-5 were decommissioned (i.e. non-detect sampling results since 1993) must be stated in this section.

Response

The requested text has been added to the Site-Wide Groundwater Monitoring Event section of the report.

Comment

Supplemental Predesign Investigation Summary: It should be stated that Eurofins Buffalo is a NYSDOH ELAP-certified laboratory.

Response

The requested text has been added to the Supplemental Pre-Design Investigation Summary section of the report, and to the Site-Wide Groundwater Monitoring Event section, where it first appears.

Comment

Figure 2 – Detected VOCs in Groundwater: The sampling date must be indicated on the Figure.

Response

The sampling dates have been added in a new figure note.

Comment

Figures 3 and 4 Predesign Investigation Soil and Groundwater Results:

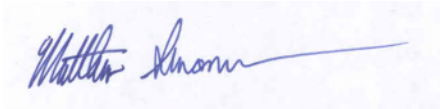
- o The figures include results from 2007, therefore the figure titles must be modified to read “Historical and Predesign Investigation” results; and
- o The dates the predesign soil and groundwater samples were collected must be included on the figures. For clarity, if samples were collected over a several day period, this can be indicated with the respective symbol in the legend rather than in the flyout boxes.

Response

The figure titles have been updated as requested. The sample collection date ranges are now indicated in the figure legend and notes.

Ms. Karen Cahill
NYSDEC
February 26, 2025

Sincerely,
Arcadis of New York, Inc.



Matthew Swensson
Principal Environmental Engineering Specialist

Email: matthew.swensson@arcadis.com
Direct Line: 724-934-9514

CC. Gary Priscott – NYSDEC
Harolyn Hood – New York State Department of Health
Richard Mator – BMS
William Pufko, Esq. – BMS
Richard and Pamela Mellor – Property owners
Tom Daviau – Town of Sullivan

Enclosures:
2024 Annual Sampling and Site Summary Report

Ms. Karen Cahill
New York State Department of Environmental Conservation
5786 Widewaters Parkway
Syracuse, New York 13214-1867

Date: February 26, 2025
Subject: 2024 Annual Sampling and Site Summary Report
Krutulis Property Site
State Superfund Program Site No. 727009
848 Marsh Mill Road, Kirkville, New York

Arcadis of New York, Inc.
One Lincoln Center
110 West Fayette Street
Suite 300
Syracuse, NY 13202
United States
Phone: 315 446 9120
Fax: 315 449 0017
www.arcadis.com

Dear Ms. Cahill,

On behalf of Bristol Myers Squibb Company (BMS), Arcadis is submitting this report documenting the results of the site-wide groundwater monitoring event performed at the Krutulis Property Site (the Site) in September 2024. This report also includes a summary of the supplemental pre-design investigation completed in September 2024 and enhanced reductive dechlorination (ERD) remedy injection event completed between September and December 2024 to remediate chlorinated volatile organic compounds (CVOCs) present at the Site.

Site-Wide Groundwater Monitoring Event

The site-wide annual groundwater monitoring event was conducted on September 12 and 13, 2024 in accordance with the New York State Department of Environmental Conservation (NYSDEC)-approved Groundwater Monitoring Program (GWMP) for the Site. Please note that the annual site-wide groundwater monitoring event was not conducted in 2023 due to the ongoing pre-design investigation during that time.

Five existing groundwater monitoring wells (MW-2, MW-3S, MW-3D, MW-6S and MW-6D) and one new monitoring well (MW-7), which was installed during the supplemental pre-design investigation (see below), were gauged and sampled during the 2024 monitoring event. Groundwater samples were collected using low flow sampling methods. The groundwater samples were shipped on ice under chain-of-custody protocol to Eurofins Laboratory in Buffalo, New York, a New York State Department of Health Environmental Laboratory Approval Program (NYSDOH ELAP) certified laboratory and analyzed for the site-specific list of 12 volatile organic compounds (VOCs) using United States Environmental Protection Agency (USEPA) Method 8260C. Please note that the site-wide groundwater sampling and pre-injection baseline sampling events were combined, and thus, samples from wells that are part of the ERD injection performance monitoring network were also analyzed for groundwater geochemistry parameters under the baseline monitoring scope which is discussed below.

All analytes have been observed below the laboratory reporting limit at the existing monitoring wells MW-1, MW-4, and MW-5 since 1993. These wells were therefore not included in the 2024 site-wide groundwater monitoring event and decommissioned at the direction of the NYSDEC during the ERD injection event in October and November 2024. The wells were decommissioned by a New York State Registered Well Driller using the grout-in-place method in accordance with the NYSDEC CP-43 Groundwater Monitoring Well Decommissioning Policy. The surface casing was removed from each well and the polyvinyl chloride (PVC) casing was then filled with a cement/bentonite grout slurry and cut off below grade. Well abandonment logs are included in **Attachment 1**.

The groundwater elevation gauging data collected during the 2024 monitoring event is presented on **Table 1** along with the gauging data from previous groundwater monitoring events. Please note that the top of casing elevations of the remaining site monitoring wells and new monitoring well MW-7 were surveyed to the NAVD88 vertical datum in September and November 2024. The new reference measurements, which are representative of the actual elevation in feet above mean sea level, are listed in **Table 1**. A groundwater contour plot for September 12, 2024, is included as **Figure 1**. The inferred groundwater flow direction is consistent with historical observations.

The analytical results from the September 2024 sampling event are presented in **Table 2**, and concentrations of VOCs detected in the groundwater samples are presented on **Figure 2**. Laboratory analytical reports for the 2024 annual monitoring event are provided in **Attachment 2**. Groundwater sampling results from previous monitoring events are summarized in **Table 3**. The following VOC concentration trend plots are provided in **Attachment 3**.

- Trichloroethene (TCE), total 1,2-dichloroethene (1,2-DCE; cis-1,2-DCE and trans-1,2-DCE), and vinyl chloride (VC) concentrations in groundwater over time at monitoring wells MW-3S and MW-3D.
- TCE and total 1,2-DCE concentrations in groundwater over time at monitoring well MW-6D.

The following observations were made based on the 2024 groundwater analytical data.

- VOCs were not detected above laboratory reporting limits in monitoring well MW-6S.
- VOC concentrations were generally similar or lower in the remaining wells than observed during previous monitoring events.
- At well MW-6D, TCE was not detected above its laboratory reporting limit. Cis-1,2-DCE was detected slightly above its laboratory reporting limit, and has continued to decrease steadily over the past 13 years. VC was detected at low-level but increasing concentrations. These trends indicate that cis-1,2-DCE is biodegrading naturally into its daughter product VC.
- At well MW-3S, TCE concentrations had been steadily decreasing over the past 15 years and in 2024 TCE was detected below the laboratory reporting limit for the first time since the inception of the groundwater monitoring program in 1993. Cis-1,2-DCE and trans-1,2-DCE concentrations, which have fluctuated but remained relatively stable over the past 15 years, decreased to the lowest levels observed since the inception of groundwater monitoring. VC concentrations have been increasing gradually at this well over the past 15 years, which is indicative of natural biodegradation of TCE and 1,2-DCE compounds.
- At well MW-3D, the VOC trends are similar to those observed at well MW-3S. TCE was not detected above the laboratory reporting limit for the first time since the inception of groundwater monitoring. TCE concentrations have been low level and steadily decreasing at this well over the past 15 years. Concentrations of cis-1,2-DCE and trans-1,2-DCE continue to decrease while VC concentrations continue to increase slowly, which is indicative of natural biodegradation.
- At the newly installed well MW-7, TCE and cis-1,2-DCE were detected at low concentrations only slightly above their respective laboratory reporting limits, which indicates that this well is located at the southern edge of the groundwater plume.

The 2024 monitoring event was performed prior to the start of the ERD injection event and the groundwater plume concentrations are therefore representative of pre-injection baseline conditions.

Supplemental Pre-Design Investigation Summary

A supplemental pre-design investigation was completed at the Site on September 11 and 12, 2024, to better delineate the lateral extent of VOC presence in soil and groundwater in the northwestern and southeastern portions of the plume source area. The investigation was completed in accordance with the scope detailed in the NYSDEC-approved Pre-Design Investigation Report dated August 26, 2024, following a similar approach and methods as used during the original pre-design investigation completed at the Site in July 2023. All drilling work was completed by a New York State Registered Well Driller.

Two soil borings (SB-115 and SB-116) were advanced to a depth of approximately 34.5 feet below ground surface (bgs) using direct-push technology (DPT) drilling methods at the locations shown on **Figures 3 and 4**. Three soil samples were collected from each boring within the surficial lacustrine sandy sediments at depths of approximately 10 feet bgs, 20 feet bgs, and 34.5 feet bgs. Two grab groundwater samples were also collected from each boring location: one shallow sample from the 15 to 20 feet bgs depth range and one deeper sample from the 25 to 30 feet bgs depth range. These sampling depth intervals are similar to samples that were collected during the July 2023 pre-design investigation. Groundwater samples were collected using a screen point sampler and a peristaltic pump. Following completion, both borings were abandoned in accordance with New York State regulations by filling with hydrated bentonite chips to just below ground surface. Borings logs for SB-115 and SB-116 are provided in **Attachment 4**.

Soil and groundwater samples collected from SB-115 and SB-116 were sent to Eurofins Laboratory in Amherst, New York, a NYSDOH ELAP-certified laboratory, and analyzed on a 48-hour rush turnaround for the site-specific list of 12 VOCs by USEPA Method 8260C. The soil and groundwater analytical results are presented in **Tables 4 and 5**, respectively, and shown with the 2023 PDI sample results on **Figures 3 and 4**, respectively. The laboratory analytical report is included in **Attachment 2**.

No constituents were detected above their respective laboratory reporting limits in the soil samples from boring SB-115. Only chloroform was detected at an estimated concentration of 0.00027 milligrams per kilogram in the soil sample from 34.5 feet bgs at boring SB-116; this is likely attributable to laboratory cross-contamination, as chloroform was also detected in the laboratory method blank for this sample run. Similarly, no constituents were detected above their respective laboratory reporting limits in the grab groundwater samples from borings SB-115 and SB-116. These results along with the low detection of CVOCs at newly installed well MW-7 demonstrate that the VOC plume source area has been delineated.

As mentioned above, monitoring well MW-7 was installed during the supplemental pre-design investigation using DPT tooling near the southeastern edge of the VOC plume as shown on **Figures 3 and 4**. The well is 2-inch diameter Schedule 40 PVC construction with a 10-foot-long 0.01-inch slotted prepacked screen installed at a depth of 14 to 24 feet bgs. Well MW-7 has a stickup surface completion extending above grade and surrounded by a protective steel casing set within a concrete pad. Boring and well construction logs for MW-7 are provided in **Attachment 4**. Following installation, well MW-7 was developed by repeatedly surging the screen interval with a surge block and then pumping out any fines that accumulated in the well.

ERD Injection Event Summary

An ERD injection event was completed at the Site between September and December of 2024. The injection event was performed in accordance with the final ERD injection remedy design included in the August 26, 2024, Pre-Design Investigation Report, except as noted below.

Piezometer Installation

Before the start of the injection event, four temporary piezometers (PZ-1, PZ-2, PZ-3, and PZ-4) were installed within the ERD treatment area at the locations shown on **Figure 5** to monitor the distribution of substrate during the injection event and evaluate the biogeochemical transformation resulting from ERD remedial implementation. Piezometers were installed using DPT tooling. Piezometers are constructed of 1-inch-diameter Schedule 40 PVC with a 10-foot long 0.010-inch slotted prepacked screen installed at a depth of approximately 16 to 26 feet bgs which corresponds to the ERD injection depth range in upland portions of the treatment area. The piezometers have stickup surface completions extending above grade, surrounded by a protective steel casing set within a concrete pad. Boring and construction logs are provided in **Attachment 4**. Following installation, the piezometers were developed by repeatedly surging the screen interval with a surge block and then pumping out the accumulated fines.

ERD Baseline Monitoring

All ERD performance monitoring points (MW-3S, MW-3D, MW-7, PZ-1, PZ-2, PZ-3, and PZ-4) were sampled on September 12 and 13, 2024, prior to the start of the injection event to establish baseline conditions. Groundwater samples were collected using low flow sampling methods. The groundwater samples were shipped on ice under chain-of-custody protocol to Eurofins Laboratory in Amherst, New York, and analyzed for the following.

- Site-specific list of 12 VOCs by USEPA Method 8260C
- Total organic carbon (TOC) by USEPA Method 9060A
- Dissolved iron by USEPA Method 6010C
- Sulfate by USEPA Method D516
- Dissolved gases (methane, ethane, and ethene) by USEPA Method RSK-175

Groundwater analytical data from the baseline monitoring event are presented in **Table 6**, along with field parameters measured at the time of sample collection. Copies of the laboratory analytical reports from the baseline sampling event are provided in **Attachment 2**. A summary of the baseline sampling data is provided below:

- TCE was the dominant CVOC at piezometers PZ-1 through PZ-3, with concentrations ranging between 500 µg/L and 1,800 µg/L; TCE was not detected above the NYSDEC Groundwater Quality Standard of 5 µg/L at any other monitoring location. Elevated concentrations of cis-1,2-DCE were observed at piezometers PZ-2 (740 µg/L) and PZ-4 (1,100 µg/L). These results confirm that the piezometers are located within the plume source area.
- Daughter products cis-1,2-DCE, trans-1,2-DCE, and VC were the dominant CVOCs at existing wells MW-3S and MW-3D, indicating that reductive dechlorination has been occurring in site groundwater. Concentrations at these wells have fluctuated substantially over time, though concentrations have shown an overall decreasing trend (**Table 3** and **Attachment 3**). CVOC concentrations were lower in deep well MW-3D, consistent with historical observations. CVOC concentrations did not exceed applicable NYSDEC Groundwater Quality Standards at MW-7.
- Ethene and/or ethane were detected at MW-3S, MW-3D, PZ-1, and PZ-3. These results indicate that the microbes required for complete reductive dechlorination are present and active in site groundwater.
- TOC was only detected in two of seven baseline groundwater samples at relatively low concentrations (0.44 milligrams per liter [mg/L] at MW-7 and 1.2 mg/L at MW-3S). These results indicate that a lack of electron donor may limit reductive dechlorination in site groundwater, which is consistent with previous observations.

- Biogeochemical parameters indicate that site groundwater is generally reducing: dissolved oxygen concentrations were less than 0.5 mg/L at all wells; sulfate was detected in six of seven wells, with all concentrations less than 16 mg/L; and methane was detected at concentrations greater than 100 µg/L in all seven wells, and greater than 1,000 mg/L in five wells. Groundwater conditions are generally more reducing in wells with higher CVOC concentrations and become less reducing toward the periphery of the plume (i.e., MW-7).

Carbon Substrate Injection

Carbon substrate injections began on September 19, 2024, and concluded on December 4, 2024. A semi-soluble carbon substrate consisting of Redox Tech ABC-Olé brand emulsified vegetable oil (EVO) in solution with potable water was injected into the formation at a total of 49 temporary injection points: 11 in the wetland area and 38 in the upland area. Injection point locations are shown on **Figure 5**. The layout is consistent with the final ERD design in the Pre-Design Investigation Report, as the supplemental pre-design investigation results confirmed that the proposed treatment area did not need to be expanded.

The ABC-Olé solution was delivered to the temporary injection points through a modular system that used batch-style mixing. Each injection point was equipped with a flow-control valve, flow totalizer, and pressure gauge to monitor and control the injection flow rate and pressure. Injection pressure, flow rate, total volume, and substrate dosing was monitored, recorded, and adjusted (as necessary) based on observed field conditions. Schematics illustrating the DPT injection point and temporary injection well configurations used to deliver the carbon substrate solution are included on **Figure 6**.

Injection locations and surrounding area were continuously monitored for daylighting during the injection activities. A daylighting containment assembly was deployed at injection points located within the wetland area as an additional precaution. This assembly, which is illustrated on **Figure 7**, consisted of a 4-inch PVC outer casing surrounding the DPT injection tooling set at a depth of approximately one to two feet below the bottom of the wetland and connected to an overflow basin to provide containment of any fluid daylighting around the injection tooling (the most common source of daylighting encountered during DPT injection work). The containment assembly performed as designed and prevented solution from entering the wetland when it daylighted to the surface around the injection tooling on several occasions at the beginning of the project. The only discharge of solution to the wetland during the injection event resulted from limited daylighting that occurred outside of the casing. This is discussed in more detail below.

A total of approximately 64,708 gallons of substrate was injected into the formation during the event at a concentration of 1.7% to 2.5% EVO (average 2%) by volume. The injection flow rate varied from point to point but averaged approximately 0.78 gallons per minute, which is lower than the 1 gallon per minute design flow rate that was expected. A summary of the injection volumes, flow rates and other pertinent details for each of the injection points is provided in **Table 7**. Injection volumes are also shown as a percentage of the design volume for each of the points on **Figure 5**.

The injection event generally followed the design and scope outlined in the Pre-Design Investigation Report; however, some modifications were necessary to optimize the injection equipment, delivery method and procedure. Much of this was done in response to the lower-than-expected injection flow rates sustainable by the formation in an effort to keep the project on schedule and to complete the injection event before the onset of winter. These and other pertinent details from the field event are summarized below.

- Erosion and sedimentation controls were installed around and within the project limits of disturbance (LOD) prior to the start of the injection event in accordance with the Erosion and Sedimentation Control (E&SC) Plan. This included using timber mats to access injection points located within the wetland area. As discussed with NYSDEC, the LOD shown in the E&SC Plan was expanded slightly at the southeast corner prior to the start of work by relocating the perimeter erosion and sedimentation controls to include the area surrounding supplemental pre-design investigation soil boring SB-116. The LOD line at the northwestern end of the work area was moved inward to compensate for this adjustment such that the total LOD would remain less than one acre in size.
- The injection interval for the wetland points was adjusted upward to depth of approximately 12 to 22 feet bgs. This change was made at the suggestion of the NYSDEC and documented in the Response to NYSDEC Comments on Predesign Investigation Report dated July 29, 2024, to account for the fact that the wetland is approximately four feet lower in elevation than the adjacent upland area. This allowed the solution to be delivered at the same approximate elevation within the subsurface across the entire treatment area. The injection interval for the upland points remained at 16 to 26 feet bgs as specified in the final design.
- Daylighting of solution was observed around the injection tooling at some of the points. This issue was most prevalent at the start of the injection event. Injections were stopped immediately whenever daylighting was observed. Solution that daylighted at upland injection points was contained and cleaned up using booms and/or sorbent media. Solution that daylighted around the tooling at wetland injection points was collected by the containment assembly as discussed above. There was one instance where solution daylighted into the wetland outside of the containment assembly adjacent to Injection Point #1. This was the result of solution flowing upward through the formation matrix to the surface and not around the injection tooling. Less than five gallons of carbon substrate solution is estimated to have daylighted into the wetland. The material did not spread far from the point of discharge and was quickly collected and removed using a pump. As work progressed, field staff reduced injection pressures and flow rates to limit the potential for daylighting in areas where it had occurred previously. To overcome the slower injection rates and limit schedule overrun, field staff began using temporary 1-inch diameter PVC injection wells with 10-foot-long screens as injection points instead of injecting at two separate depth intervals using a 4-foot long DPT screen-point as originally planned. The temporary wells allowed for the entire solution volume to be injected into a single point at a higher flow rate and reduced instances of daylighting. Temporary well screens were only used at injection points in the upland area. Wetland injection points were completed at a lower flow rate using a 4-foot-long DPT screen-point sampler as originally planned, out of concern that solution could potentially daylight into the wetland outside of containment at the higher injection flows and pressures applied with the temporary well screens. At locations where the DPT screen point sampler was used, the deep and shallow intervals were injected using two separate borings offset by approximately two feet to limit the potential for daylighting.
- Potable water delivered to the Site by tanker truck was held in storage tanks staged at the northeast end of the property near Marsh Mill Road and pumped from these storage tanks to the injection work area as needed for mixing of injectant solution. The EVO solution was prepared using batch-style mixing and delivered to the injection points using two separate modular systems with separate injection manifolds. The use of two injection systems simplified monitoring and control of injection flow rates and allowed field staff to inject into more points at once than they could with a single setup.
- The design injection volume was 1,320 gallons with a solution strength of 2% EVO by volume at each injection location; however, it was not possible to inject this entire volume at all the points due to daylighting. To compensate for this, after all injection points were completed, the remaining solution volume was injected

into points adjacent to locations where daylighting had occurred and near the center of the plume (e.g., MW-3S/3D). The solution strength was also increased slightly.

- Following completion, each of the upland injection points were abandoned using bentonite chips. All temporary PVC well screens were removed from the ground prior to abandonment. Wetland injection points were allowed to close naturally following completion, since placing bentonite or other materials into the wetland is not permitted.

Injection Performance Monitoring

The four piezometers (PZ-1, PZ-2, PZ-3 and PZ-4) and three monitoring wells (MW-3S, MW-3D and MW-7) were used to monitor the distribution of substrate during the injection event. The following readings were measured at least once per day at all performance monitoring piezometers and wells during the injection event.

- Water levels
- Groundwater quality field parameters (temperature, pH, conductivity, dissolved oxygen, oxidation-reduction potential, turbidity, and color)

The well monitoring field logs are included in **Attachment 5**. Five grab groundwater samples were also collected from the performance monitoring network during the injection event on October 3, 17, and 31, November 14, and December 6, 2024. These samples were analyzed for TOC to verify the injection influence. Two batch TOC samples were also collected from the carbon solution tank on September 24 and October 31, 2024, to verify the concentration of carbon in the injection solution. TOC samples were analyzed at Eurofins Laboratory in Amherst, New York by USEPA Method 9060A. The TOC analytical results are presented in **Table 8** and copies of the laboratory analytical reports are provided in **Attachment 2**.

Visible breakthrough indicated by milky white color of groundwater was observed at piezometer PZ-1 between October 28 and November 19, 2024, and at piezometer PZ-4 starting on November 15, 2024. The change in groundwater color was accompanied by increase in turbidity. Elevated TOC at a concentration of 1,160 milligrams per liter (mg/L) was observed in the groundwater sample collected at PZ-1 on October 31, 2024, confirming the presence of carbon substrate at this location. Slight increases in TOC were also observed at PZ-1 (88.3 mg/L) and MW-3S (81.36 mg/L) in the groundwater samples collected on December 6, 2024, confirming presence of carbon substrate at these locations.

Path Forward

As described in the Pre-Design Investigation Report, following completion of the injection event, the ERD performance monitoring well/piezometer network will be sampled on a quarterly basis for one year to evaluate the distribution and longevity of carbon substrate and to evaluate the biogeochemical transformation resulting from ERD remedy. The first monitoring event is scheduled for March 2025, with subsequent events in June, September, and December of 2025. After the first year, the performance monitoring will decrease to semiannually and continue at this frequency until completion of the remedy, or until a second injection event is performed, if needed. An updated schedule for the ERD remedy is provided in **Table 9**.

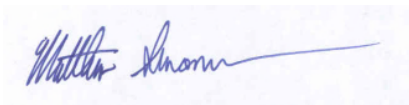
Completion of the remedy is defined in the Pre-Design Investigation Report as when the groundwater concentrations fall below their respective NYSDEC groundwater quality standards, or when a clear trend of decreasing CVOC concentrations in groundwater is established which demonstrates that the remaining CVOC mass in the plume will continue to attenuate naturally toward groundwater quality standards without the need for

2024 Annual Sampling and Site Summary Report
Krutulis Property Site
February 26, 2025

additional injections. Post-injection monitoring frequency may potentially be reduced from semi-annual to annual if warranted based on CVOC concentration trends in groundwater. Site-wide groundwater monitoring will continue annually with the next event scheduled for Fall of 2025.

If you have any questions, please feel free to contact Mr. Richard Mator of Bristol-Myers Squibb Company at 609-252-4273 or myself at 724-934-9514.

Sincerely,
Arcadis of New York, Inc.



Matthew Swensson
Principal Environmental Engineering Specialist
Email: matthew.swensson@arcadis.com
Direct Line: 724-934-9514

CC. Gary Priscott – NYSDEC
Harolyn Hood – New York State Department of Health
Richard Mator – BMS
William Pufko, Esq. – BMS
Richard and Pamela Mellor – Property owners
Tom Daviau – Town of Sullivan

Enclosures:

Tables: 1, 2, 3, 4, 5, 6, 7, 8 and 9
Figures: 1, 2, 3, 4, 5, 6 and 7
Attachments: 1, 2, 3, 4, and 5

Tables

TABLE 1
Krutulis Property Site
State Superfund Program Site No. 727009
848 Marsh Mill Road, Kirkville NY
2024 Annual Sampling and Site Summary Report
Water Level Measurements

Monitoring Well	Top of Casing Elevation (ft amsl)	Total Depth (ft btoc)	5/25/93	Groundwater Elevations (ft amsl)			
				6/1/93	6/27/97	9/16/97	12/18/97
MW-1	298.45	19.18	294.45	295.19	292.90	289.71	293.23
MW-2	302.46	19.11	294.36	294.02	292.11	288.64	291.07
MW-3S	290.51	19.16	289.72	289.75	288.91	287.48	289.28
MW-4	290.58	19.31	288.71	288.82	288.45	287.60	288.91
MW-5	290.29	18.68	288.40	288.47	288.40	287.76	288.80
Monitoring Well	Top of Casing Elevation (ft amsl)	Total Depth (ft btoc)	03/18/98	Groundwater Elevations (ft amsl)			
				09/23/98	03/26/99	09/24/99	12/21/99
MW-1	298.45	19.18	296.12	290.47	296.21	288.99	292.81
MW-2	302.46	19.11	295.63	289.07	294.96	287.42	290.68
MW-3S	290.51	19.16	290.35	288.22	290.51	287.53	289.06
MW-4	290.58	19.31	289.48	288.17	289.89	287.73	288.56
MW-5	290.29	18.68	289.36	288.24	289.73	288.02	288.41
Monitoring Well	Top of Casing Elevation (ft amsl)	Total Depth (ft btoc)	03/15/00	Groundwater Elevations (ft amsl)			
				09/13/00	03/29/01	09/25/01	03/14/02
MW-1	298.45	19.18	295.77	293.60	296.24	291.51	295.73
MW-2	302.46	19.11	294.22	291.05	295.72	289.15	294.06
MW-3S	290.51	19.16	290.01	288.99	290.24	289.29	289.96
MW-4	290.58	19.31	289.27	288.95	289.49	289.02	289.33
MW-5	290.29	18.68	288.98	288.18	289.12	288.98	289.08
Monitoring Well	Top of Casing Elevation (ft amsl)	Total Depth (ft btoc)	09/10/02	Groundwater Elevations (ft amsl)			
				05/16/03	09/22/03	05/04/04	09/30/04
MW-1	298.45	19.18	289.93	295.90	290.96	296.14	294.53
MW-2	302.46	19.11	289.00	295.34	290.06	295.75	293.26
MW-3S	290.51	19.16	288.01	290.08	288.69	290.51	290.11
MW-4	290.58	19.31	288.08	289.45	288.60	289.98	289.37
MW-5	290.29	18.68	288.31	289.15	288.74	289.75	289.29
Monitoring Well	Top of Casing Elevation (ft amsl)	Total Depth (ft btoc)	3/28/05	Groundwater Elevations (ft amsl)			
				9/29/05	4/19/06	10/2/06	5/17/07
MW-1	298.45	19.18	296.45	290.69	295.73	294.09	294.90
MW-2	302.46	19.11	295.43	289.43	295.11	291.91	294.96
MW-3S	290.51	19.16	290.51	289.02	290.41	290.01	290.01
MW-4	290.58	19.31	290.08	289.09	289.90	289.78	289.58
MW-5	290.29	18.68	289.80	289.19	289.61	288.33	289.54
Monitoring Well	Top of Casing Elevation (ft amsl)	Total Depth (ft btoc)	9/7/07	Groundwater Elevations (ft amsl)			
				4/30/08	10/16/08	4/30/09	10/6/09
MW-1	298.45	19.18	290.15	295.94	292.15	294.99	294.00
MW-2	302.46	19.11	289.34	295.60	289.99	295.04	292.06
MW-3S	290.51	19.16	288.51	290.51	289.60	290.61	290.31
MW-3D	294.97	31.76	NM	291.36	288.72	291.34	290.19
MW-4	290.58	19.31	288.78	290.18	289.56	290.58	289.98
MW-5	290.29	18.68	287.64	289.79	288.23	291.10	290.09
MW-6S	299.15	22.95	NM	293.69	289.97	293.15	291.14
MW-6D	299.27	35.95	NM	293.02	289.70	292.85	291.17
Monitoring Well	Top of Casing Elevation (ft amsl)	Total Depth (ft btoc)	4/29/10	Groundwater Elevations (ft amsl)			
				10/14/10	5/12/11	10/26/11	4/9/12
MW-1	298.45	19.18	295.04	295.35	295.60	295.82	294.54
MW-2	302.46	19.11	294.36	293.76	296.36	293.26	293.86
MW-3S	290.51	19.16	289.81	290.51	290.51	290.51	289.83
MW-3D	294.97	31.76	290.39	290.99	291.25	291.03	290.67
MW-4	290.58	19.31	289.59	289.73	289.70	290.16	289.58
MW-5	290.29	18.68	289.49	289.89	289.39	290.02	289.52
MW-6S	299.15	22.95	292.44	291.90	293.60	291.93	292.36
MW-6D	299.27	35.95	292.01	292.12	292.89	292.02	291.81

TABLE 1
Krutulis Property Site
State Superfund Program Site No. 727009
848 Marsh Mill Road, Kirkville NY
2024 Annual Sampling and Site Summary Report
Water Level Measurements

Monitoring Well	Top of Casing Elevation (ft amsl)	Total Depth (ft btoc)	Groundwater Elevations (ft amsl)				
			11/20/12	4/25/13	10/24/13	4/23/14	10/28/14
MW-1	298.45	19.18	291.89	295.98	294.50	296.16	295.05
MW-2	302.46	19.11	290.26	295.56	292.10	292.89	292.26
MW-3S	290.51	19.16	289.70	290.51	290.11	290.51	290.07
MW-3D	294.97	31.76	289.66	291.29	290.35	291.03	290.47
MW-4	290.58	19.31	289.57	289.73	289.58	289.78	289.61
MW-5	290.29	18.68	289.58	289.59	289.44	289.52	288.66
MW-6S	299.15	22.95	290.14	293.34	291.17	293.92	291.37
MW-6D	299.27	35.95	290.23	292.80	291.16	292.97	291.32

Monitoring Well	Top of Casing Elevation (ft amsl)	Total Depth (ft btoc)	Groundwater Elevations (ft amsl)			
			4/28/15	10/22/15	4/21/16	10/19/16
MW-1	298.45	19.18	295.87	294.86	295.64	290.02
MW-2	302.46	19.11	295.63	292.21	295.28	288.58
MW-3S	290.51	19.16	290.43	289.80	290.30	288.63
MW-3D	294.97	31.76	291.14	290.44	291.07	288.63
MW-4	290.58	19.31	289.60	289.51	289.59	288.79
MW-5	290.29	18.68	289.31	289.44	289.84	288.81
MW-6S	299.15	22.95	293.59	291.31	293.13	288.50
MW-6D	299.27	35.95	292.71	290.12	292.53	287.18

Monitoring Well	Top of Casing Elevation (ft amsl)	Total Depth (ft btoc)	Groundwater Elevations (ft amsl)			
			10/18/17	5/2/18	10/23/18	4/17/19
MW-1	298.45	19.18	291.71	296.09	292.43	295.78
MW-2	302.46	19.11	290.02	295.32	290.34	294.26
MW-3S	290.51	19.16	288.99	290.51	289.05	290.51
MW-3D	294.97	31.76	289.37	291.17	289.26	289.52
MW-4	290.58	19.31	289.16	289.76	289.16	289.65
MW-5	290.29	18.68	288.19	289.60	288.29	288.75
MW-6S	299.15	22.95	289.59	292.64	289.73	293.37
MW-6D	299.27	35.95	289.57	292.73	289.80	292.42

Monitoring Well	Top of Casing Elevation (ft amsl)	Total Depth (ft btoc)	Groundwater Elevations (ft amsl)	
			10/14/20	12/8/21
MW-1 ⁽²⁾	298.45	19.18	290.89	296.05
MW-2	302.46	19.11	289.43	294.69
MW-3S	290.51	19.16	288.85	290.31
MW-3D	294.97	31.76	288.95	290.57
MW-4 ⁽²⁾	290.58	19.31	289.00	289.83
MW-5 ⁽²⁾	290.29	18.68	288.45	289.69
MW-6S	299.15	22.95	289.00	292.96
MW-6D	299.27	35.95	289.13	293.14
MW-7				

Monitoring Well	Top of Casing Elevation (ft amsl)⁽¹⁾	Total Depth (ft btoc)	Groundwater Elevations (ft amsl)
			9/9/2024⁽¹⁾
MW-2	395.35	19.11	384.72
MW-3S	383.77	19.11	382.71
MW-3D	386.57	31.76	381.12
MW-6S	392.52	22.95	384.22
MW-6D	392.10	35.95	383.79
MW-7	387.16	23.25	383.63

Notes:

ft amsl - feet above mean sea level

ft btoc - feet below top of casing

NM - Not measured as not installed at this time

(1) Monitoring wells were resurveyed to NAVD88 vertical datum on September 9, 2024

(2) Monitoring wells MW-1, MW-4, and MW-5 were abandoned in Novmeber 2024

TABLE 2
Krutulis Property Site
State Superfund Program Site No. 727009
848 Marsh Mill Road, Kirkville, NY
2024 Annual Sampling and Site Summary Report
2024 Groundwater Monitoring Event Analytical Results

Parameters/Sample ID	NYSDEC Groundwater Quality Standards and Guidance Values	MW-2	MW-3S	MW-3D	MW-6S	MW-6D	MW-7
Sample Date		9/13/2024	9/12/2024	9/12/2024	9/12/2024	9/12/2024	9/13/2024
Benzene	1	<1.0	3.0 J	<1.0	<1.0	<1.0	<1.0
Chloroform	7	<1.0	<4.0	<1.0	<1.0	<1.0	1.7
1,1-Dichloroethene	5	<1.0	<4.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethene (total)	5	<1.0	290	89	<1.0	5.5	0.82 J
<i>cis-1,2-Dichloroethene</i>	5	<1.0	180	65	<1.0	5.5	0.82 J
<i>trans-1,2-Dichloroethene</i>	5	<1.0	110	24	<1.0	<1.0	<1.0
Tetrachloroethene	5	<1.0	<4.0	<1.0	<1.0	<1.0	<1.0
Toluene	5	<1.0	<4.0	<1.0	<1.0	<1.0	<1.0
Trichloroethene	5	<1.0	<4.0	<1.0	<1.0	<1.0	4.2
Vinyl chloride	2	<1.0	370	12	<1.0	11	<1.0

Notes:

All values are in ug/L. Detected values shown in **bold** text.

J - Estimated concentration between laboratory reporting limit and method detection limit

< - Not detected above the corresponding laboratory reporting limit

ug/L - micrograms per liter

NA - Not Applicable

NYSDEC - New York State Department of Environmental Conservation

TABLE 3
Krutulis Property Site
State Superfund Program Site No. 727009
848 Marsh Mill Road, Kirkville, NY
2024 Annual Sampling and Site Summary Report
Historical and 2024 Groundwater Analytical Results

MW-1													
Parameters	NYSDEC Groundwater Quality Standards and Guidance Values	6/01/93	6/27/97	9/16/97	12/18/97	03/18/98	09/23/98	03/26/99	09/24/99	03/15/00	09/13/00	03/29/01	09/25/01
Benzene	1	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform	7	<10	1	2	<1	<1	<1	<1	<1	<1	1	0.7 J	1
1,1-Dichloroethene	5	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (total)	5	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	5	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	5	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	5	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	2	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylene (total)	5	<10	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Methyl isobutyl ketone	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Acetone	50	<10	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100

MW-1													
Parameters	NYSDEC Groundwater Quality Standards and Guidance Values	03/14/02	09/10/02	05/16/03	09/22/03	05/04/04	09/30/04	03/28/05	09/29/05	04/19/06	10/02/06	05/17/07	09/07/07
Benzene	1	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroform	7	2	1	1	1	<1	1.6	1.1	1.3	2.1	2.3	1.1	2.0
1,1-Dichloroethene	5	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloroethene (total)	5	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene	5	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	5	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	5	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Vinyl chloride	2	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylene (total)	5	<3	<3	<3	<3	<3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Methyl isobutyl ketone	NA	<10	<10	<10	<10	<10	<5	<5	<5	<5	<5	<5	<5
Acetone	50	<100	<100	<100	<100	<100	<10	<10	<10	<10	<10	<10	<10

MW-1													
Parameters	NYSDEC Groundwater Quality Standards and Guidance Values	04/30/08	10/16/08	4/30/09	10/06/09	04/29/10	10/14/10	05/12/11	10/26/11	04/19/12	11/20/12	04/25/13	10/24/13
Benzene	1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroform	7	4.1	7.8	4.1	5.1	3.9	4.68	1.41	3.98	3.01	1.96	1.34	2.28
1,1-Dichloroethene	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloroethene (total)	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.30	<0.5	<0.5	<0.5	<0.5	<0.5
Vinyl chloride	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylene (total)	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl isobutyl ketone	NA	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Acetone	50	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10

MW-1													
Parameters	NYSDEC Groundwater Quality Standards and Guidance Values	04/23/14	10/28/14	04/28/15	10/22/15	04/21/16	10/19/16	04/25/17	10/18/17	05/02/18	10/23/18	04/17/19	10/30/19
Benzene	1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroform	7	1.04	3.05	0.77	1.37	1.00	1.42	0.73	<0.5	0.62	0.86	<0.5	0.73
1,1-Dichloroethene	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloroethene (total)	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Vinyl chloride	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylene (total)	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl isobutyl ketone	NA	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Acetone	50	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10

MW-1													
Parameters	NYSDEC Groundwater Quality Standards and Guidance Values	10/14/20	12/08/21	10/18/22									
Benzene	1	<0.5	<0.5	<0.5									
Chloroform	7	<0.5	<0.5	<0.5									
1,1-Dichloroethene	5	<0.5	<0.5	<0.5									
1,2-Dichloroethene (total)	5	<0.5	<0.5	<0.5									
<i>cis</i> -1,2-Dichloroethene	5	<0.5	<0.5	<0.5									
<i>trans</i> -1,2-Dichloroethene	5	<0.5	<0.5	<0.5									
Tetrachloroethene	5	<0.5	<0.5	<0.5									
Toluene	5	<0.5	<0.5	<0.5									
Trichloroethene	5	<0.5	<0.5	<0.5									
Vinyl chloride	2	<1	<1	<1									
Xylene (total)	5	<1	<1	<1									
Methyl isobutyl ketone	NA	<5	<5	<5									
Acetone	50	<10	<10	<10									

TABLE 3
Krutulis Property Site
State Superfund Program Site No. 727009
848 Marsh Mill Road, Kirkville, NY
2024 Annual Sampling and Site Summary Report
Historical and 2024 Groundwater Analytical Results

MW-2													
Parameters	NYSDEC Groundwater Quality Standards and Guidance Values	6/01/93	6/27/97	9/16/97	12/18/97	03/18/98	09/23/98	03/26/99	09/24/99	03/15/00	09/13/00	03/29/01	09/25/01
Benzene	1	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform	7	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	5	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (total)	5	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	5	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	5	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	5	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	2	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylene (total)	5	<10	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Methyl isobutyl ketone	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Acetone	50	<10	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100

MW-2													
Parameters	NYSDEC Groundwater Quality Standards and Guidance Values	03/14/02	09/10/02	05/16/03	09/22/03	05/04/04	09/30/04	03/28/05	09/29/05	04/19/06	10/02/06	05/17/07	09/07/07
Benzene	1	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroform	7	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	5	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloroethene (total)	5	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene	5	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	5	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	5	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Vinyl chloride	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylene (total)	5	<3	<3	<3	<3	<3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Methyl isobutyl ketone	NA	<10	<10	<10	<10	<10	<5	<5	<5	<5	<5	<5	<5
Acetone	50	<100	<100	<100	<100	<100	<10	<10	<10	<10	<10	<10	<10

MW-2													
Parameters	NYSDEC Groundwater Quality Standards and Guidance Values	04/30/08	10/16/08	04/30/09	10/06/09	04/29/10	10/14/10	05/12/11	10/26/11	04/19/12	11/20/12	04/25/13	10/24/13
Benzene	1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroform	7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloroethene (total)	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Vinyl chloride	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylene (total)	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl isobutyl ketone	NA	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Acetone	50	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10

MW-2													
Parameters	NYSDEC Groundwater Quality Standards and Guidance Values	04/23/14	10/28/14	04/28/15	10/22/15	04/21/16	10/19/16	04/25/17	10/18/17	05/02/18	10/23/18	04/17/19	10/30/19
Benzene	1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroform	7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloroethene (total)	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Vinyl chloride	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylene (total)	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl isobutyl ketone	NA	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Acetone	50	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10

MW-2					
Parameters	NYSDEC Groundwater Quality Standards and Guidance Values	10/14/20	12/08/21	10/18/22	09/13/24
Benzene	1	<0.5	<0.5	<1	<1.0
Chloroform	7	<0.5	<0.5	<1	<1.0
1,1-Dichloroethene	5	<0.5	<0.5	<1	<1.0
1,2-Dichloroethene (total)	5	<0.5	<0.5	<1	<1.0
<i>cis</i> -1,2-Dichloroethene	5	<0.5	<0.5	<1	<1.0
<i>trans</i> -1,2-Dichloroethene	5	<0.5	<0.5	<1	<1.0
Tetrachloroethene	5	<0.5	<0.5	<1	<1.0
Toluene	5	<0.5	<0.5	<1	<1.0
Trichloroethene	5	<0.5	<0.5	<1	<1.0
Vinyl chloride	2	<1	<1	<2	<1.0
Xylene (total)	5	<1	<1	<2	NR
Methyl isobutyl ketone	NA	<5	<5	<10	NR
Acetone	50	<10	<10	<20	NR

TABLE 3
Krutulis Property Site
State Superfund Program Site No. 727009
848 Marsh Mill Road, Kirkville, NY
2024 Annual Sampling and Site Summary Report
Historical and 2024 Groundwater Analytical Results

MW-3S													
Parameters	NYSDEC Groundwater Quality Standards and Guidance Values	6/01/93	8/23/93	6/27/97	9/16/97	12/18/97	03/18/98	9/23/98	03/26/99	09/24/99	03/15/00	09/13/00	03/29/01
Benzene	1	<10	<1,000	<200	<100	<200	<1,000	<100	<500	<50	<200	6	10
Chloroform	7	<10	<1,000	<200	<100	<200	<1,000	<100	<500	<50	<200	<1	<1
1,1-Dichloroethene	5	31	<1,000	<200	<100	<200	<1,000	<100	<500	<50	150 J	<500	<1,000
1,2-Dichloroethene (total)	5	4,000	8,600	10,000	9,800	<200	22,000	2,200	17,000	3,300	34,000	11,053	27,000
Tetrachloroethene	5	60	<1,000	<200	<100	<200	<1,000	<100	<500	<50	<200	62	<1,000
Toluene	5	710	<1,000	<200	<100	<200	<1,000	<100	<500	<50	<200	8	15
Trichloroethene	5	20,000	18,000	3,900	2,100	1,400	7,300	1,500	7,200	400	8,900	7,400	20,000
Vinyl chloride	2	51	<2,000	280	440	850	<1,000	<100	<500	420	<200	<500	51
Xylene (total)	5	12	<1,000	<600	<300	<600	<3,000	<300	<1,500	<150	<600	3	8
Methyl isobutyl ketone	NA	21	<2,000	<2,000	<1,000	<2,000	<500	<1,000	<5,000	<500	<2,000	<10	<10
Acetone	50	75	<2,000	<20,000	<10,000	<20,000	<5,000	<1,000	<50,000	<5,000	<20,000	<100	<100

MW-3S													
Parameters	NYSDEC Groundwater Quality Standards and Guidance Values	09/25/01	03/14/02	09/10/02	05/16/03	09/22/03	05/04/04	09/30/04	03/28/05	09/29/05	04/19/06	10/02/06	05/17/07
Benzene	1	6	7	5	6	5	5	<50	6	4	6	5	5
Chloroform	7	<1	<1	<1	<1	<1	<1	<50	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	5	<250	73	53	68	45	48	42 J	40	18	28	33	28
1,2-Dichloroethene (total)	5	8,165	11,056	6,847	9,271	4,441	5,835	2,842 J	2,100	2,419	2,440	2,460	1,270
Tetrachloroethene	5	<250	<250	<500	95	<1	99	170	200 J	14	<500	<250	<500
Toluene	5	4	6	4	5	3	4	<50	4	1	3	2	2
Trichloroethene	5	8,900	12,000	8,400	14,000	6,800	18,000	17,000	17,000	2,120	14,300	8,220	13,200
Vinyl chloride	2	62 J	79	<500	46	<500	16	22 J	16	150	10	<500	5
Xylene (total)	5	3	<3	<3	<3	<1500	3	<50	2	<0.5	2	1	1
Methyl isobutyl ketone	NA	<10	<10	<10	<10	<10	<10	<500	<5	<5	<5	<5	<5
Acetone	50	<100	<100	<100	<100	<100	<100	<1,000	<10	<10	51	<10	63

MW-3S													
Parameters	NYSDEC Groundwater Quality Standards and Guidance Values	09/07/07	10/18/07	04/30/08	10/16/08	04/30/09	10/06/09	04/29/10	10/14/10	05/12/11	10/26/11	04/19/12	11/20/12
Benzene	1	4	<100	2	4	2	3	3	2.49	2.41	3.90	4.14	2.00
Chloroform	7	<0.5	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	5	23	<100	18	24	39	29	23	34.7	22.3	67.0	28.5	13.9
1,2-Dichloroethene (total)	5	2,292	3,230	1,900	2,490	5,040	2,470	3,073	3,388.6	3,275.5	2,278.2	3,840	2,950.8
Tetrachloroethene	5	7	<100	<250	5	103 E	4	10	26.7	27.3	4.62	4.70	<0.5
Toluene	5	<0.5	<100	2	<0.5	1	<0.5	1	0.73	0.74	0.73	0.50	<0.5
Trichloroethene	5	1,650	1,140	10,400	1,760	7,820	1,430	2,380	3,620	4,160	2,380	2,080	102
Vinyl chloride	2	167	624	28	107	73.3 E	132 E	32	35.1	19.2	105	<100	564
Xylene (total)	5	<0.5	<200	1	<1	2	<1	<1	<1	<1	<1	<1	<1
Methyl isobutyl ketone	NA	<5	NA	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Acetone	50	<10	NA	<10	<10	<10	<10	<10	<10	<10	54.3	<10	<10

MW-3S													
Parameters	NYSDEC Groundwater Quality Standards and Guidance Values	04/25/13	10/24/13	04/23/14	10/28/14	04/28/15	10/22/15	04/21/16	10/19/16	04/25/17	10/18/17	05/02/18	10/23/18
Benzene	1	2.43	2.80	2.20	3.31	2.04	2.59	2.37	2.53	2.09	2.24	2.32	2.21
Chloroform	7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	5	26.7	13.6	29.6	19.6	22.9	10.7	14.3	5.01	31.0	5.05	16.7	1.35
1,2-Dichloroethene (total)	5	6,771.1	3,064.3	5,397.8	5,038	3,943.3	3062.4	4,060	1,754	4,653.1	2,089.2	4,281.1	824.3
Tetrachloroethene	5	30.8	0.60	17.6	<0.5	5.79	<0.5	1.64	<0.5	6.65	<0.5	2.64	<0.5
Toluene	5	0.58	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	5	4,840	305	2,300	316	1,140	164	846	16.3	1,620	52.8	942	2.21
Vinyl chloride	2	26.2	109	47.9	335	31.9	189	<100	413	104	323.0	76.9	281
Xylene (total)	5	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl isobutyl ketone	NA	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Acetone	50	59.4	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10

MW-3S													
Parameters	NYSDEC Groundwater Quality Standards and Guidance Values	04/17/19	10/30/19	10/14/20	12/08/21	10/18/22	09/12/24						
Benzene	1	<5	1.88	2.36	1.94	1.84	3.0 J						
Chloroform	7	<5	<0.5	<0.5	<0.5	<1	<4.0						
1,1-Dichloroethene	5	15.4	19.7	2.27	21.7	1.58	<4.0						
1,2-Dichloroethene (total)	5	4,574.3	4,113.5	1,046	4,523.9	1,459.7	290						
cis-1,2-Dichloroethene	5	4,540	4070E	984	4,490E	1,390	180						
trans-1,2-Dichloroethene	5	34.3	43.5	62	33.9	69.7	110						
Tetrachloroethene	5	<5	2.0	<0.5	0.60	<1	<4.0						
Toluene	5	<5	<0.5	<0.5	<0.5	<1	<4.0						
Trichloroethene	5	1,220	1,070	25.3	710	12.5	<4.0						
Vinyl chloride	2	60	107	204	87.0	617	370.0						
Xylene (total)	5	<10	<1	<1.0	<1.0	<2	NR						
Methyl isobutyl ketone	NA	<50	<5	<5.0	<5.0	<10	NR						
Acetone	50	<100	<10	<10.0	<10.0	<20	NR						

TABLE 3
Krutulis Property Site
State Superfund Program Site No. 727009
848 Marsh Mill Road, Kirkville, NY
2024 Annual Sampling and Site Summary Report
Historical and 2024 Groundwater Analytical Results

MW-3D

Parameters	NYSDEC Groundwater Quality Standards and Guidance Values	10/18/07	04/30/08	10/16/08	04/30/09	10/06/09	04/29/10	10/14/10	05/12/11	10/26/11	04/19/12	11/20/12	04/25/13
Benzene	1	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroform	7	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	5	<100	<100	1	<0.5	<0.5	1	0.75	0.74	1.03	0.74	0.76	0.56
1,2-Dichloroethene (total)	5	<100	255	370	184	286	173	178.3	211.9	221	222.3	284.6	186.4
Tetrachloroethene	5	<100	1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	5	<100	3	1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	5	1,030	728	318	193	126	110	77.3	78.2	58.8	52.2	38.8	46.1
Vinyl chloride	2	<200	<1	<1	<1	4	1	3.16	1.81	4.62	4.56	10.7	2.83
Xylene (total)	5	<200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl isobutyl ketone	NA	NA	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Acetone	50	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10

MW-3D

Parameters	NYSDEC Groundwater Quality Standards and Guidance Values	10/24/13	04/23/14	10/28/14	04/28/15	10/22/15	04/21/16	10/19/16	04/25/17	10/18/17	05/02/18	10/23/18	04/17/19
Benzene	1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroform	7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	5	0.74	0.67	0.83	0.51	0.61	0.51	0.86	<0.5	<0.5	0.56	<0.5	<0.5
1,2-Dichloroethene (total)	5	344.6	189.7	264.9	129.7	194.8	163	299.3	139.6	224.8	192.5	261	240.5
Tetrachloroethene	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	5	77.6	58.6	31.4	46.6	22.5	43.4	50.1	35.8	26.1	37.6	50.1	45.9
Vinyl chloride	2	8.39	2.42	12.4	<1	7.26	4.15	16.1	3.40	9.94	5.92	11.2	5.33
Xylene (total)	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl isobutyl ketone	NA	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Acetone	50	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10

MW-3D

Parameters	NYSDEC Groundwater Quality Standards and Guidance Values	10/30/19	10/14/20	12/08/21	10/18/22	09/12/24							
Benzene	1	<0.5	<0.5	<0.5	<0.5	<1.0							
Chloroform	7	<0.5	<0.5	<0.5	<0.5	<1.0							
1,1-Dichloroethene	5	0.53	<0.5	<0.5	<0.5	<1.0							
1,2-Dichloroethene (total)	5	193.7	141.2	198.4	219.9	89							
<i>cis</i> -1,2-Dichloroethene	5	157	115	152	176	65							
<i>trans</i> -1,2-Dichloroethene	5	36.7	26.2	46.4	43.9	24							
Tetrachloroethene	5	<0.5	<0.5	<0.5	<0.5	<1.0							
Toluene	5	<0.5	<0.5	<0.5	<0.5	<1.0							
Trichloroethene	5	19.8	6.94	26.2	5.92	<1.0							
Vinyl chloride	2	5.23	10.9	4.38	9.77	12.00							
Xylene (total)	5	<1	<1.0	<1.0	<1.0	NR							
Methyl isobutyl ketone	NA	<5	<5.0	<5.0	<5.0	NR							
Acetone	50	<10	<10.0	<10.0	<10.0	NR							

TABLE 3
Krutulis Property Site
State Superfund Program Site No. 727009
848 Marsh Mill Road, Kirkville, NY
2024 Annual Sampling and Site Summary Report
Historical and 2024 Groundwater Analytical Results

MW-4													
Parameters	NYSDEC Groundwater Quality Standards and Guidance Values	6/01/93	6/27/97	9/16/97	12/18/97	03/18/98	9/23/98	03/26/99	09/24/99	03/15/00	09/13/00	03/29/01	09/25/01
Benzene	1	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform	7	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	5	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (total)	5	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	5	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	5	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	5	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	2	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylene (total)	5	<10	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Methyl isobutyl ketone	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Acetone	50	<10	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100

MW-4													
Parameters	NYSDEC Groundwater Quality Standards and Guidance Values	03/14/02	09/10/02	05/16/03	09/22/03	05/04/04	09/30/04	03/28/05	09/29/05	04/19/06	10/02/06	05/17/07	09/07/07
Benzene	1	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroform	7	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	5	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloroethene (total)	5	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene	5	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	5	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	5	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Vinyl chloride	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylene (total)	5	<3	<3	<3	<3	<3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Methyl isobutyl ketone	NA	<10	<10	<10	<10	<10	<5	<5	<5	<5	<5	<5	<5
Acetone	50	<100	<100	<100	<100	<100	<10	<10	<10	<10	<10	<10	<10

MW-4													
Parameters	NYSDEC Groundwater Quality Standards and Guidance Values	04/30/08	10/16/08	04/30/09	10/06/09	04/29/10	10/14/10	05/12/11	10/26/11	04/19/12	11/20/12	04/25/13	10/24/13
Benzene	1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroform	7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloroethene (total)	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Vinyl chloride	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylene (total)	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl isobutyl ketone	NA	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Acetone	50	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10

MW-4													
Parameters	NYSDEC Groundwater Quality Standards and Guidance Values	04/23/14	10/28/14	04/28/15	10/22/15	04/21/16	10/19/16	04/25/17	10/18/17	05/02/18	10/23/18	04/17/19	10/30/19
Benzene	1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroform	7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloroethene (total)	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.85
<i>cis</i> -1,2-Dichloroethene	5	<0.5	2.25	<1									
<i>trans</i> -1,2-Dichloroethene	5	<0.5	<0.5	<1									
Tetrachloroethene	5	<0.5	<0.5	<1									
Toluene	5	<0.5	<0.5	<1									
Trichloroethene	5	<0.5	0.50	<1									0.67
Vinyl chloride	2	<1	<1.0	<2									
Xylene (total)	5	<1	<1.0	<2									
Methyl isobutyl ketone	NA	<5	<5.0	<10									
Acetone	50	<10	<10.0	<20									

MW-4				
Parameters	NYSDEC Groundwater Quality Standards and Guidance Values	10/14/20	12/08/21	10/18/22
Benzene	1	<0.5	<0.5	<1
Chloroform	7	<0.5	<0.5	<1
1,1-Dichloroethene	5	<0.5	<0.5	<1
1,2-Dichloroethene (total)	5	<0.5	2.25	<1
<i>cis</i> -1,2-Dichloroethene	5	<0.5	2.25	<1
<i>trans</i> -1,2-Dichloroethene	5	<0.5	<0.5	<1
Tetrachloroethene	5	<0.5	<0.5	<1
Toluene	5	<0.5	<0.5	<1
Trichloroethene	5	<0.5	0.50	<1
Vinyl chloride	2	<1	<1.0	<2
Xylene (total)	5	<1	<1.0	<2
Methyl isobutyl ketone	NA	<5	<5.0	<10
Acetone	50	<10	<10.0	<20

TABLE 3
Krutulis Property Site
State Superfund Program Site No. 727009
848 Marsh Mill Road, Kirkville, NY
2024 Annual Sampling and Site Summary Report
Historical and 2024 Groundwater Analytical Results

MW-5													
Parameters	NYSDEC Groundwater Quality Standards and Guidance Values	6/01/93	8/23/93	6/27/97	9/16/97	12/18/97	03/18/98	9/23/98	03/26/99	09/24/99	03/15/00	09/13/00	03/29/01
Benzene	1	<10	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform	7	<10	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	5	<10	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (total)	5	<10	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	5	<10	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	5	<10	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	5	<10	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	2	<10	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylene (total)	5	<10	<5	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Methyl isobutyl ketone	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Acetone	50	75	28	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100

MW-5													
Parameters	NYSDEC Groundwater Quality Standards and Guidance Values	9/25/2001	03/14/02	09/10/02	05/16/03	09/22/03	05/04/04	09/30/04	03/28/05	09/29/05	04/19/06	10/02/06	05/17/07
Benzene	1	<1	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroform	7	<1	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	5	<1	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloroethene (total)	5	<1	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene	5	<1	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	5	<1	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	5	<1	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Vinyl chloride	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylene (total)	5	<3	<3	<3	<3	<3	<3	<0.5	<0.5	<0.5	<0.5	<0.5	<1
Methyl isobutyl ketone	NA	<10	<10	<10	<10	<10	<10	<5	<5	<5	<5	<5	<5
Acetone	50	<100	<100	<100	<100	<100	<100	<10	<10	<10	<10	<10	<10

MW-5													
Parameters	NYSDEC Groundwater Quality Standards and Guidance Values	09/07/07	04/30/08	10/16/08	04/30/09	10/06/09	04/29/10	10/14/10	05/12/11	10/26/11	04/19/12	11/20/12	04/25/13
Benzene	1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroform	7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloroethene (total)	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	5	<0.5	1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Vinyl chloride	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylene (total)	5	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl isobutyl ketone	NA	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Acetone	50	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10

MW-5													
Parameters	NYSDEC Groundwater Quality Standards and Guidance Values	10/24/13	04/23/14	10/28/14	04/28/15	10/22/15	04/21/16	10/19/16	04/25/17	10/18/17	05/02/18	10/23/18	04/17/19
Benzene	1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroform	7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloroethene (total)	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Vinyl chloride	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylene (total)	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl isobutyl ketone	NA	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Acetone	50	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10

MW-5					
Parameters	NYSDEC Groundwater Quality Standards and Guidance Values	10/30/19	10/14/20	12/08/21	10/18/22
Benzene	1	<0.5	<0.5	<0.5	<1
Chloroform	7	<0.5	<0.5	<0.5	<1
1,1-Dichloroethene	5	<0.5	<0.5	<0.5	<1
1,2-Dichloroethene (total)	5	0.87	<0.5	0.80	<1
<i>cis-1,2-Dichloroethene</i>	5	0.87	<0.5	0.80	<1
<i>trans-1,2-Dichloroethene</i>	5	<0.5	<0.5	<0.5	<1
Tetrachloroethene	5	<0.5	<0.5	<0.5	<1
Toluene	5	<0.5	<0.5	<0.5	<1
Trichloroethene	5	<0.5	<0.5	<0.5	<1
Vinyl chloride	2	<1	<1	<1.0	<2
Xylene (total)	5	<1	<1	<1.0	<2
Methyl isobutyl ketone	NA	<5	<5	<5.0	<10
Acetone	50	<10	<10	<10.0	<20

TABLE 3
Krutulis Property Site
State Superfund Program Site No. 727009
848 Marsh Mill Road, Kirkville, NY
2024 Annual Sampling and Site Summary Report
Historical and 2024 Groundwater Analytical Results

MW-6S

Parameters	NYSDEC Groundwater Quality Standards and Guidance Values	10/24/13	04/23/14	10/28/14	04/28/15	10/22/15	04/21/16	10/19/16	04/25/17	10/18/17	05/02/18	10/23/18	04/17/19
Benzene	1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroform	7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloroethene (total)	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	5	1.12	<0.5	<0.5	<0.5	0.58	0.87	1.59	<0.5	0.64	<0.5	<0.5	<0.5
Vinyl chloride	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylene (total)	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl isobutyl ketone	NA	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Acetone	50	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10

MW-6S

Parameters	NYSDEC Groundwater Quality Standards and Guidance Values	10/30/19	10/14/20	12/08/21	10/18/22	09/12/24
Benzene	1	<0.5	<0.5	<0.5	<1	<1.0
Chloroform	7	<0.5	<0.5	<0.5	<1	<1.0
1,1-Dichloroethene	5	<0.5	<0.5	<0.5	<1	<1.0
1,2-Dichloroethene (total)	5	0.55	<0.5	0.56	<1	<1.0
<i>cis</i> -1,2-Dichloroethene	5	0.55	<0.5	0.56	<1	<1.0
<i>trans</i> -1,2-Dichloroethene	5	<0.5	<0.5	<0.5	<1	<1.0
Tetrachloroethene	5	<0.5	<0.5	<0.5	<1	<1.0
Toluene	5	<0.5	<0.5	<0.5	<1	<1.0
Trichloroethene	5	0.57	0.75	0.57	<1	<1.0
Vinyl chloride	2	<1	<1	<1.0	<2	<1.0
Xylene (total)	5	<1	<1	<1.0	<2	NR
Methyl isobutyl ketone	NA	<5	<5	<5.0	<10	NR
Acetone	50	<10	<10	<10.0	<20	NR

TABLE 3
Krutulis Property Site
State Superfund Program Site No. 727009
848 Marsh Mill Road, Kirkville, NY
2024 Annual Sampling and Site Summary Report
Historical and 2024 Groundwater Analytical Results

MW-6D

Parameters	NYSDEC Groundwater Quality Standards and Guidance Values	10/18/07	04/30/08	10/16/08	4/30/09	10/06/09	04/29/10	10/14/10	05/12/11	10/26/11	04/19/12	11/20/12	04/25/13
Benzene	1	<25	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroform	7	<25	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	5	<25	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloroethene (total)	5	<25	10	6	2	8	8	23.01	6.73	54.66	33.21	35.75	31.26
Tetrachloroethene	5	<25	1	1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	5	1,470	59	6	1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	5	1,940	253	175	82	77	71	42.1	13.5	14.0	11.9	5.83	6.61
Vinyl chloride	2	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylene (total)	5	<50	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl isobutyl ketone	NA	NA	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Acetone	50	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10

MW-6D

Parameters	NYSDEC Groundwater Quality Standards and Guidance Values	10/24/13	04/23/14	10/28/14	04/28/15	10/22/15	04/21/16	10/19/16	04/25/17	10/18/17	05/02/18	10/23/18	04/17/19
Benzene	1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroform	7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloroethene (total)	5	29.06	38.55	27.35	33.28	25.05	28.77	7.82	26.95	26.2	21.63	18.71	25.03
Tetrachloroethene	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	5	4.72	5.62	3.43	2.96	1.52	2.64	0.67	1.43	1.25	0.98	0.54	1.56
Vinyl chloride	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	3.12	<1
Xylene (total)	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl isobutyl ketone	NA	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Acetone	50	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10

MW-6D

Parameters	NYSDEC Groundwater Quality Standards and Guidance Values	10/30/19	10/14/20	12/08/21	10/18/22	09/12/24
Benzene	1	<0.5	<0.5	<0.5	<1	<1.0
Chloroform	7	<0.5	<0.5	<0.5	<1	<1.0
1,1-Dichloroethene	5	<0.5	<0.5	<0.5	<1	<1.0
1,2-Dichloroethene (total)	5	17.07	11.0	23.9	8.3	5.5
<i>cis-1,2-Dichloroethene</i>	5	16.2	11.0	20.5	8.3	5.5
<i>trans-1,2-Dichloroethene</i>	5	0.87	<0.5	3.4	<1	<1.0
Tetrachloroethene	5	<0.5	<0.5	<0.5	<1	<1.0
Toluene	5	<0.5	<0.5	<0.5	<1	<1.0
Trichloroethene	5	1.08	0.56	0.74	<1	<1.0
Vinyl chloride	2	4.46	3.77	3.01	10.5	11
Xylene (total)	5	<1	<1	<1.0	<2	NR
Methyl isobutyl ketone	NA	<5	<5	<5.0	<10	NR
Acetone	50	<10	<10	<10.0	<20	NR

Notes:
All values are in µg/L. Values exceeding criteria are shown in **bold** text.
J or E - Estimated Value
< - Not detected above the corresponding laboratory Practical Quantitation Limit
µg/L - micrograms per liter
mg/L - milligrams per liter
NA - Not Applicable
NR - Not Reported. As of 9/2024, xylene, methyl isobutyl ketone and acetone results are no longer reported due to lack of historical and recent detections.
The routine detection limit for acetone by Gas Chromatography (GC) is 100 mg/L. Samples that contain elevated concentrations of other parameters require a dilution of the sample to enable the instrument to analyze those parameters within the linear range. Therefore, the detection limits for the non-detected parameters must be raised by a correction factor equivalent to the dilution factor.
The 3/15/00 and 9/13/00 samples for MW-3S were re-analyzed to achieve lower detection limits. As a result, a J value of 150 mg/L for 1,1-Dichloroethene was determined for the 3/15/00 sample.
Effective 2020, the semi-annual monitoring program transitioned to annual monitoring.
Monitoring wells MW-1, MW-4 and MW-5 were abandoned in November 2024.

TABLE 4
Krutulis Property Site
State Superfund Program Site No. 727009
848 Marsh Mill Road, Kirkville NY
2024 Annual Sampling and Site Summary Report
2024 Supplemental Pre-Design Investigation - Soil Analytical Results

Parameters/Sample ID	Protection of Groundwater Standards ⁽¹⁾	SB-115 (10)	SB-115 (20)	SB-115 (34.5)	SB-116 (10)	SB-116 (20)	SB-116 (34.5)
Sample Date		9/12/2024	9/12/2024	9/12/2024	9/12/2024	9/12/2024	9/12/2024
1,1-Dichloroethane	0.27	0.0045 U	0.0041 U	0.0041 U	0.0043 U	0.0037 U	0.0038 U
4-Methyl-2-pentanone (MIBK)	NS	0.023 U	0.021 U	0.020 U	0.022 U	0.019 U	0.019 U
Acetone	0.05	0.023 U	0.021 U	0.020 U	0.022 U	0.019 U	0.019 U
Benzene	0.06	0.0045 U	0.0041 U	0.0041 U	0.0043 U	0.0037 U	0.0038 U
Chloroform	0.37	0.0045 U	0.0041 U	0.0041 U	0.0043 U	0.0037 U	0.00027 JB
cis-1,2-Dichloroethene	0.25	0.0045 U	0.0041 U	0.0041 U	0.0043 U	0.0037 U	0.0038 U
Tetrachloroethene	1.3	0.0045 U	0.0041 U	0.0041 U	0.0043 U	0.0037 U	0.0038 U
Toluene	0.7	0.0045 U	0.0041 U	0.0041 U	0.0043 U	0.0037 U	0.0038 U
trans- 1,2-Dichloroethene	0.19	0.0045 U	0.0041 U	0.0041 U	0.0043 U	0.0037 U	0.0038 U
Trichloroethene	0.47	0.0045 U	0.0041 U	0.0041 U	0.0043 U	0.0037 U	0.0038 U
Vinyl chloride	0.02	0.0045 U	0.0041 U	0.0041 U	0.0043 U	0.0037 U	0.0038 U
Xylenes, Total	1.6	0.009 U	0.0082 U	0.0082 U	0.0086 U	0.0075 U	0.0076 U

Notes:

(1) Protection of Groundwater standards from 6 NYCRR 375-6.8 Restricted Use Soil Cleanup Objectives
Sample depth in feet below ground surface (ft bgs) is listed at end of field sample ID (e.g., (10) = 10 ft bgs)
Samples analyzed by SW848 8260C
All values are in milligrams per kilogram (mg/kg)
B - Compound was also detected in laboratory blank for this sample run.
J - Estimated concentration between laboratory reporting limit and method detection limit
U - Not detected at the laboratory method detection limit

TABLE 5
Krutulis Property Site
State Superfund Program Site No. 727009
848 Marsh Mill Road, Kirkville NY
2024 Annual Sampling and Site Summary Report
2024 Supplemental Pre-Design Investigation - Groundwater Analytical Results

Parameters/Sample ID	NYSDEC GWQS	SB-115 (15-20)	SB-115 (25-30)	SB-116 (15-20)	SB-116 (25-30)
Sample Date		9/12/2024	9/12/2024	9/12/2024	9/12/2024
1,1-Dichloroethane	5	1.0 U	1.0 U	1.0 U	1.0 U
4-Methyl-2-pentanone (MIBK)	50	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	50	10 U	10 U	10 U	10 U
Benzene	1	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	7	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	5	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	5	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	1	1.0 U	1.0 U	1.0 U	1.0 U
trans- 1,2-Dichloroethene	5	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	5	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	2	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes, Total	10	2.0 U	2.0 U	2.0 U	2.0 U

Notes:

All values are in ug/L.

Sample collection depth in feet below ground surface (ft bgs) listed at end of field sample ID (e.g., (10-15) = 10-15 ft bgs)

Samples analyzed by SW846 8260C

NYSDEC GWQS: New York State Department of Environmental Conservation Class GW Groundwater Effluent Limitations listed in NYSDEC Division of Water Technical and Operation Guidance Series 1.1.1

ug/L - micrograms per liter

U - Not detected at the laboratory method detection limit

TABLE 6
Krutulis Property Site
State Superfund Program Site No. 727009
848 Marsh Mill Road, Kirkville NY
2024 Annual Sampling and Site Summary Report
2024 ERD Injection Baseline Sampling Event

Parameters/Sample ID	NYSDEC Groundwater Quality Standards and Guidance Values	MW-3S	MW-3D	MW-7	PZ-1	PZ-2	PZ-3	PZ-4
Sample Date		9/12/2024	9/12/2024	9/13/2024	9/13/2024	9/13/2024	9/13/2024	9/13/2024
VOCs (ug/L)								
Benzene	1	3.0 J	<1.0	<1.0	<20	<40	<10	<20
Chloroform	7	<4.0	<1.0	1.7	<20	<40	<10	<20
1,1-Dichloroethene	5	<4.0	<1.0	<1.0	<20	<40	<10	<20
1,2-Dichloroethene (total)	5	290	89	0.82 J	40 J	1,170	77	1,280
<i>cis</i> -1,2-Dichloroethene	5	180	65	0.82 J	16 J	740	24	1,100
<i>trans</i> -1,2-Dichloroethene	5	110	24	<1.0	24	430	53	180
Tetrachloroethene	5	<4.0	<1.0	<1.0	<20	<40	<10	<20
Toluene	5	<4.0	<1.0	<1.0	<20	48	<10	<20
Trichloroethene	5	<4.0	<1.0	4.2	950	1,800	500	<20
Vinyl chloride	2	370	12	<1.0	<20	<40	<10	<20
Xylene (total)	5	<8.0	<2.0	<2.0	<40	<80	<20	<40
Methyl isobutyl ketone	NA	<20	<5.0	<5.0	<100	<200	<50	<100
Acetone	50	<40	<10	<10	<200	<400	<100	<200
Biogeochemical parameters								
TOC (mg/L)	NA	1.2	<1.0	0.44 J	<1.0	<1.0	<1.0	<1.0
Iron, dissolved (mg/L)	NA	0.25	0.24	<0.05	0.15	0.66	0.21	0.25
Sulfate (mg/L)	NA	<5.0	4.6 J	11.7	15.9	10.5	8.9	3.3 J
Methane (ug/L)	NA	5,500	7,400	130	18,000	1,100	4,000	600
Ethane (ug/L)	NA	4.9 J	3.1 J	<7.5	16	<7.5	2.6 J	<7.5
Ethene (ug/L)	NA	86	<7.0	<7.0	<7.0	<7.0	<7.0	<7.0
Field Parameters								
Depth to water (ft)	NA	1.09	6.08	4.28	7.6	7.71	7.45	7.41
Temperature (°C)	NA	23.09	15.9	14.06	13.31	13.01	15.14	12.87
pH	NA	7.77	8.01	8.07	8.07	7.92	8.11	7.92
Conductivity (uS/cm)	NA	0.219	0.202	0.254	0.261	0.329	0.219	0.32
Dissolved Oxygen (mg/L)	NA	0.02	0.04	0.46	0.04	0.41	0.03	0.49
ORP (mV)	NA	-173.9	-94.7	-95.8	-116.3	-113.9	-146.1	-119.4
Turbidity (NTUs)	NA	5.01	2.74	37.2	27.1	4.09	47.7	16

Notes

Detected values shown in **bold** text.

VOCs - USEPA Method 8260C, TOC - Method 9060A, Iron - Method 6010C, Sulfate - Method D516, and dissolved gases (methane, ethane, and ethene) - Method RSK-175

J - Estimated concentration between laboratory reporting limit and method detection limit

< - Not detected above the corresponding laboratory reporting limit.

°C - degree celcius

ft - feet

uS/cm - microsiemens per centimeter

ug/L - micrograms per liter

mg/L - miligrams per liter

mV - millivolts

NA - Not Applicable

NTU - Nephelometric Turbidity unit

NYSDEC - New York State Department of Environmental Conservation

ORP - oxidation-reduction potential

TOC - total organic carbon

VOC - volatile organic compound

TABLE 7
Krutulis Property Site
State Superfund Program Site No. 727009
848 Marsh Mill Road, Kirkville NY
2024 Annual Sampling and Site Summary Report
2024 ERD Injections Summary

Injection Point	Injection Interval (ft bgs)	Injection Point Type	Start Date & Time	End Date & Time	Average pressure (psi)	Average flow rate (gpm)	Total Volume Injected interval/screen (gallons)	Total Volume Injected (gallons)	Notes
DPT#1	18-22	DPT	9/19/2024 14:41	9/20/2024 13:59	5.50	0.85	356	356	Daylighting
DPT#2	16-20	DPT	9/20/2024 10:20	9/20/2024 15:50	12.00	0.33	78	78	Daylighting
DPT#3	18-22	DPT	9/30/2024 14:57	10/3/2024 15:08	3.40	0.51	660	1320	
	12-16	DPT	10/4/2024 8:05	10/9/2024 11:54			660		
DPT #4	16-20	DPT	10/8/2024 12:55	10/15/2024 10:38	2.51	0.44	660	1218	
	10-14	DPT	10/15/2024 10:50	10/17/2024 15:31			558		
DPT#5	18-22	DPT	9/19/2024 15:17	9/24/2024 13:55	3.22	0.70	665	1325	
	12-16	DPT	9/24/2024 14:22	9/26/2024 15:09			660		
DPT#6	20-24	DPT	9/27/2024 13:50	10/2/2024 12:18	1.44	0.81	491	491	Daylighting
DPT#7	18-22	DPT	10/10/2024 13:44	10/14/2024 12:35	1.58	0.39	244	244	Daylighting
DPT#8	16-20	DPT	9/23/2024 12:52	9/26/2024 16:50	3.56	0.82	652	1331	
	10-14	DPT	9/25/2024 14:34	9/25/2024 16:02			679		
DPT#9	18-22	DPT	10/4/2024 9:49	10/9/2024 14:36	3.27	0.39	660	1320	
	12-16	DPT	10/9/2024 14:51	10/17/2024 13:40			660		
DPT#10	16-20	DPT	10/1/2024 9:32	10/3/2024 11:19	5.33	0.51	351	351	Daylighting
DPT#11	18-22	DPT	10/3/2024 9:40	10/9/2024 10:20	2.58	0.42	660	1320	
	12-16	DPT	10/9/2024 10:34	10/16/2024 10:57			660		
DPT#12	16-26	Temp	11/6/2024 13:52	12/3/2024 13:39	2.95	0.51	2939	2939	
DPT#13	14-24	Temp	10/24/2024 12:05	10/31/2024 15:30	1.30	0.66	1372	1372	
DPT#14	16-26	Temp	11/1/2024 9:20	12/4/2024 15:00	3.02	0.51	3303	3303	
DPT#15	14-24	Temp	10/24/2024 12:08	11/26/2024 11:35	2.27	0.57	2612	2612	
DPT#16	16-26	Temp	9/26/2024 16:46	9/26/2024 16:48	1.00	1.10	9	9	Daylighting
DPT#17	14-24	Temp	9/26/2024 14:25	9/26/2024 14:39	0.00	3.70	37	37	Daylighting
DPT#18	14-24	Temp	11/26/2024 11:40	12/4/2024 15:00	2.24	0.94	1345	1345	
DPT#19	16-26	Temp	11/13/2024 9:50	12/2/2024 11:09	2.70	0.55	2000	2000	
DPT#20	14-24	Temp	11/25/2024 12:25	12/4/2024 15:00	2.93	0.87	1680	1680	
DPT#21	16-26	Temp	11/12/2024 13:43	12/3/2024 10:17	2.98	0.51	2000	2000	
DPT#22	22-24	Temp	11/5/2024 10:30	11/7/2024 15:30	2.42	0.34	342	420	
	20-22	Temp	11/8/2024 8:20	11/11/2024 9:47			78		
DPT#23	24-26	Temp	11/5/2024 10:30	11/7/2024 12:34	2.92	0.34	216	216	Daylighting
DPT#24	16-26	Temp	11/14/2024 14:30	11/25/2024 15:30	2.14	0.82	2000	2000	
DPT#25	14-24	Temp	11/6/2024 13:52	11/14/2024 14:27	1.72	0.92	2000	2000	
DPT#26	16-26	Temp	10/24/2024 12:08	10/31/2024 15:30	2.36	0.70	1320	1320	
DPT#27	14-24	Temp	11/19/2024 11:02	12/3/2024 9:51	2.72	0.82	2000	2000	
DPT#28	22-26	DPT	9/23/2024 12:28	9/26/2024 11:13	4.26	0.36	660	1320	
	16-20	DPT	9/26/2024 11:31	10/7/2024 14:01			660		
DPT#29	14-24	Temp	10/15/2024 12:36	10/21/2024 9:08	2.53	0.99	1320	1320	
DPT#30	16-26	Temp	10/31/2024 14:38	11/6/2024 13:48	0.57	0.92	1320	1320	
DPT#31	14-24	Temp	10/31/2024 14:07	11/7/2024 13:42	1.99	0.79	1320	1320	
DPT#32	16-26	Temp	10/18/2024 8:51	10/25/2024 12:43	1.63	0.98	1320	1320	

TABLE 7
Krutulis Property Site
State Superfund Program Site No. 727009
848 Marsh Mill Road, Kirkville NY
2024 Annual Sampling and Site Summary Report
2024 ERD Injections Summary

Injection Point	Injection Interval (ft bgs)	Injection Point Type	Start Date & Time	End Date & Time	Average pressure (psi)	Average flow rate (gpm)	Total Volume Injected interval/screen (gallons)	Total Volume Injected (gallons)	Notes
DPT#33	14-24	Temp	10/24/2024 12:08	10/30/2024 14:05	0.90	0.83	1320	1320	
DPT#34	16-26	Temp	10/30/2024 14:14	11/6/2024 10:13	1.43	0.86	1320	1320	
DPT#35	14-24	Temp	11/5/2024 11:56	11/14/2024 13:52	1.71	0.80	2000	2000	
DPT#36	14-24	Temp	11/7/2024 13:49	11/19/2024 10:59	2.09	0.75	2000	2000	
DPT #37	20-24	DPT	9/30/2024 10:47	10/7/2024 12:51	3.25	0.87	660	1320	
	14-18	DPT	9/30/2024 10:47	10/7/2024 12:51			660		
DPT#38	16-26	Temp	10/25/2024 12:48	10/31/2024 14:33	1.29	0.87	1320	1320	
DPT#39	14-24	Temp	10/2/2024 11:30	10/8/2024 9:51	2.97	0.98	1320	1320	
DPT#40	22-26	DPT	9/23/2024 14:06	9/25/2024 12:50	3.60	0.77	660	1312	
	16-20	DPT	9/25/2024 13:09	9/27/2024 13:05			652		
DPT#41	14-24	Temp	10/11/2024 10:13	10/17/2024 11:27	2.89	0.92	1320	1320	
DPT#42	22-26	DPT	9/20/2024 15:17	9/25/2024 13:55	3.25	0.67	662	901	Daylighting
	16-20	DPT	9/25/2024 16:02	9/26/2024 13:18			239		
DPT#43	14-24	Temp	11/12/2024 9:00	11/20/2024 11:53	2.09	0.83	2000	2000	
DPT#44	16-26	Temp	10/8/2024 8:35	10/11/2024 10:08	1.50	0.99	1320	1320	
DPT#45	14-24	Temp	10/14/2024 14:13	10/21/2024 9:08	2.60	1.01	1320	1320	
DPT#46	16-26	Temp	10/7/2024 10:41	10/14/2024 13:34	1.27	0.62	1320	1320	
DPT#47	20-24	DPT	9/30/2024 12:33	10/3/2024 12:19	4.28	0.53	660	768	Daylighting
	14-18	DPT	10/3/2024 13:11	10/4/2024 9:05			108		
DPT#48	16-26	Temp	10/9/2024 16:00	10/14/2024 14:31	1.73	0.92	1320	1320	
DPT#49	14-24	Temp	10/16/2024 9:22	10/22/2024 10:11	3.39	0.86	1320	1320	
Average					2.68	0.78	Total	64708	

Notes

Injection solution strength ranged between 1.7 to 2.5% (averaging 2%) volume by volume.

DPT = 4 ft direct-push technology screen point

ft bgs = feet below ground surface

gpm - gallons per minute

psi - pounds per square inch

Temp = 10 ft temporary PVC well screen

TABLE 8
Krutulis Property Site
State Superfund Program Site No. 727009
848 Marsh Mill Road, Kirkville NY
2024 Annual Sampling and Site Summary Report
2024 ERD Injection Groundwater Monitoring - Total Organic Carbon

Sample Date	Baseline		Injection Monitoring			
	9/12/2024	10/3/2024	10/17/2024	10/31/2024	11/14/2024	12/6/2024
MW-3S	1.2	<1.0	0.57 J	1.9	1	81.6
MW-3D	<1.0	<1.0	0.73 J	1.5	<1.0	<1.0
MW-7	0.44 J	<1.0	1.2 B	1.3	<1.0	<1.0
PZ-1	<1.0	<1.0	0.78 J B	1,160	45.6	18.8
PZ-2	<1.0	<1.0	1.8 B	2.6	5.4	7.3
PZ-3	<1.0	<1.0	1.1 B	1.5	1.3	6.6
PZ-4	<1.0	<1.0	3.8 B	3.2	1.4	88.3

Notes:

Detected values shown in **bold** text.

Samples analyzed by Method 9060A

B - Compound was also detected in laboratory blank for this sample run.

J - Estimated concentration between laboratory reporting limit and method detection limit

< - Not detected above the corresponding laboratory reporting limit

All concentrations in milligrams per liter (mg/L)

TABLE 9
Krutulis Property Site
State Superfund Program Site No. 727009
848 Marsh Mill Road, Kirkville NY
2024 Annual Sampling and Site Summary Report
ERD Remedy Implementation Schedule

[illegible]

Notes:

Hatching indicates completed activities

1. Schedule is tentative and dates are subject to change based on actual agency/permitting entity review timeframe and other external factors.
2. United States Army Corps of Engineers Clean Water Act Section 404 Nationwide Permit and NYSDEC Section 401 Water Quality Certification.
3. UIC notification to USEPA Region 2.
4. The need for a second EVO injection event will be assessed after approximately 2 years of post-injection monitoring. The scope and schedule of the second injection event will be determined at this time, if necessary.
5. Post-injection monitoring performed quarterly for first year after injection, then semi-annually thereafter until CVOC trends demonstrate completion of remedy. Post-injection monitoring frequency may be transitioned from semiannual to annual if supported by the results. Post injection performance monitoring completed in conjunction with annual site-wide sampling events where possible. If second injection event is needed, then performance monitoring schedule will revert to quarterly for first year after the injection.

BMP - best management practices

E&SC - erosion and sedimentation control

ERD - enhanced reductive dechlorination

EVO - emulsified vegetable oil

CVOC - chlorinated volatile organic compound

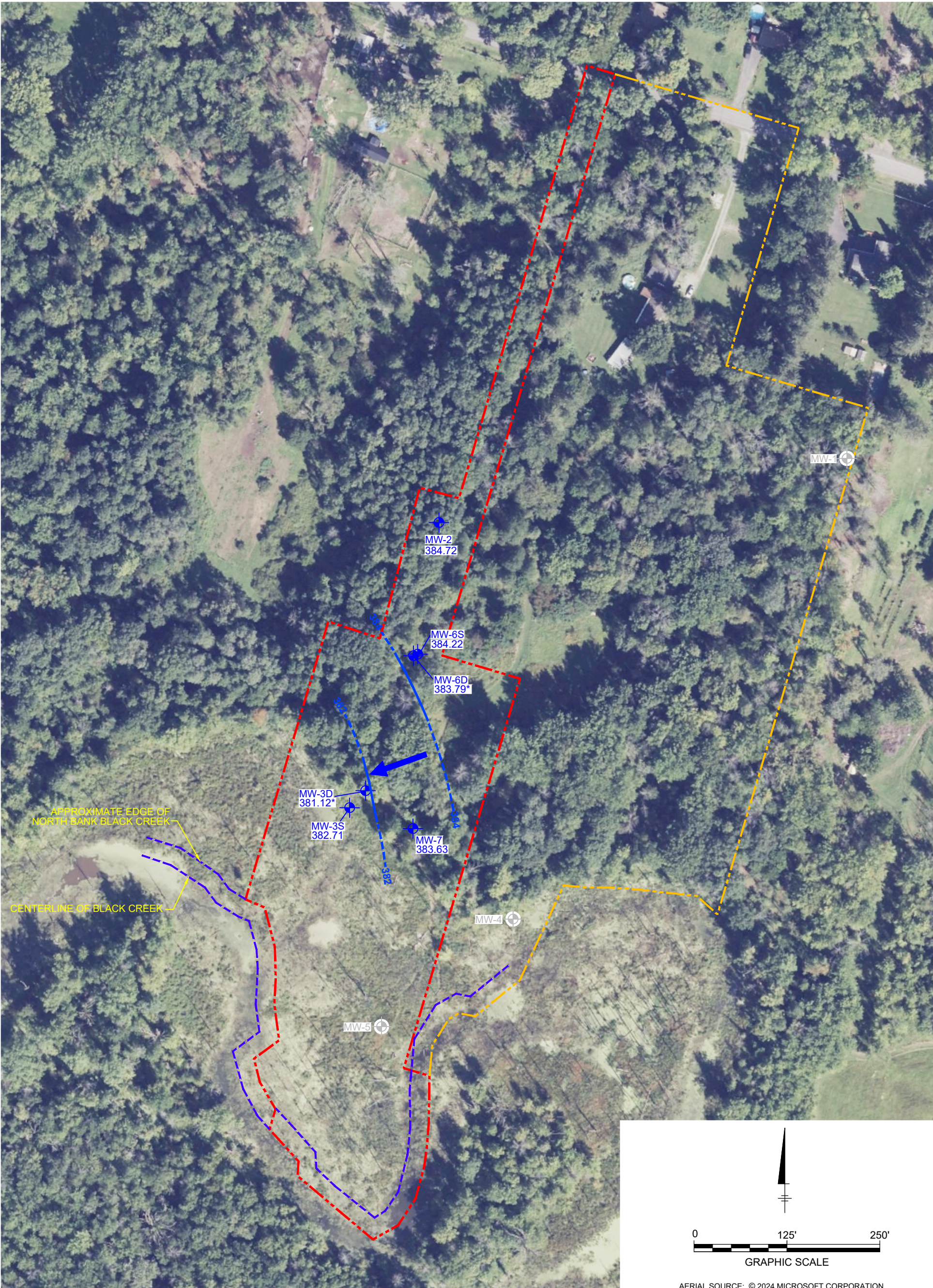
NYSDEC - New York State Department of Environmental Conservation

PDI - pre-design investigation

UIC - Underground Injection Control

USEPA - United States Environmental Protection Agency

Figures



LEGEND:

- SITE BOUNDARY (NYSDEC REGISTRY SITE #727009)
- SURVEY PROPERTY BOUNDARY (RYBINSKI, 1997)
- MONITORING WELL LOCATION
- FORMER MONITORING WELL LOCATION (ABANDONED NOVEMBER 2024)
- 384 GROUNDWATER ELEVATION CONTOUR
- APPROXIMATE DIRECTION OF GROUNDWATER FLOW

NOTES:

- GROUNDWATER ELEVATIONS MEASURED ON SEPTEMBER 12, 2024.
- * GAUGING DATA FROM MW-3D AND MW-3D NOT USED FOR GROUNDWATER CONTOURING AS THEY HAVE DEEPER SCREEN INTERVALS THAN THE OTHER SITE MONITORING WELLS.

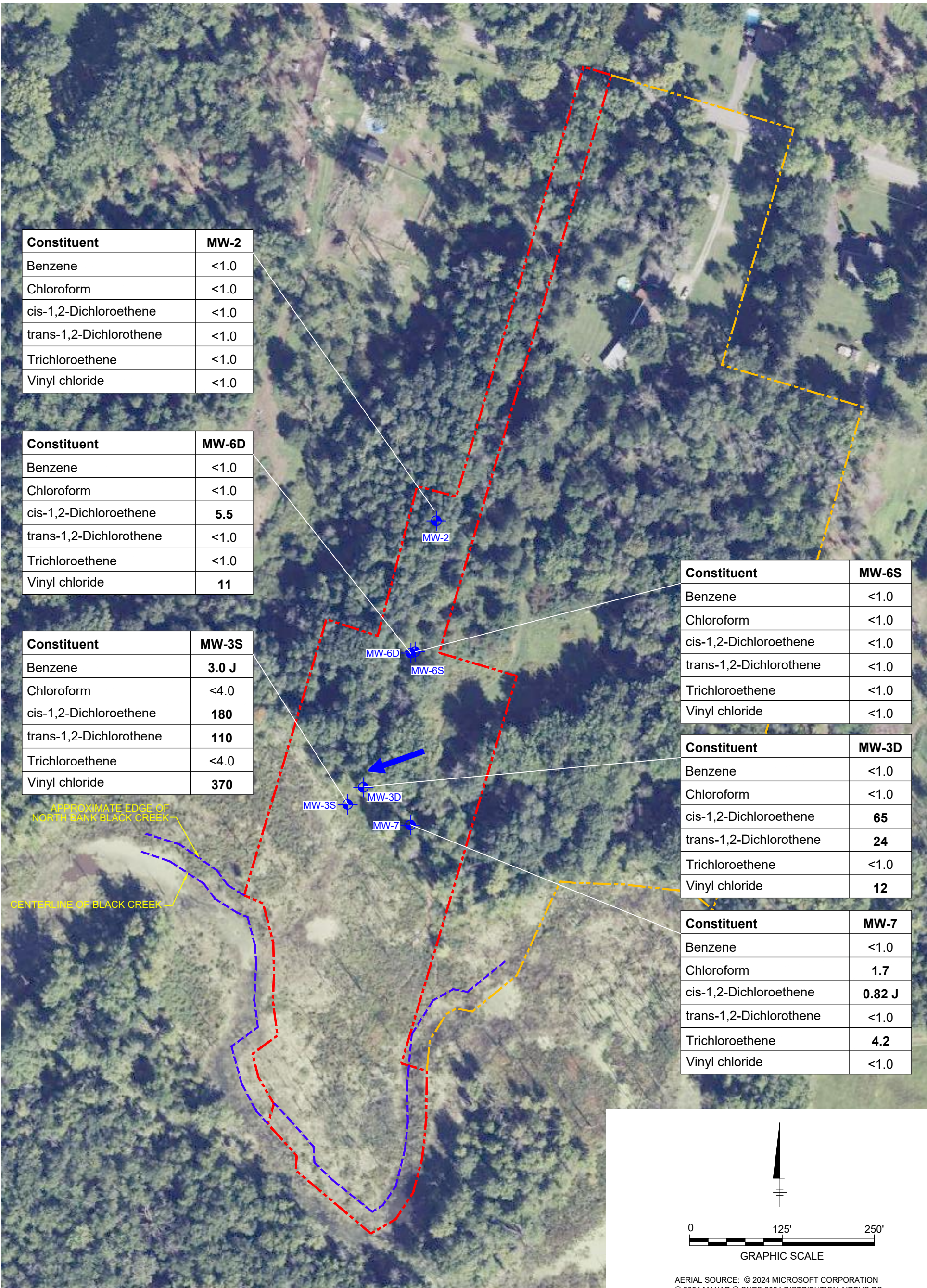
AERIAL SOURCE: © 2024 MICROSOFT CORPORATION
© 2024 MAXAR © CNES 2024 DISTRIBUTION AIRBUS DS

KRUTULIS PROPERTY SITE
STATE SUPERFUND PROGRAM SITE NO. 727009
848 MARSH MILL ROAD, KIRKVILLE, NY
2024 ANNUAL SAMPLING AND SITE SUMMARY REPORT

GROUNDWATER CONTOUR MAP

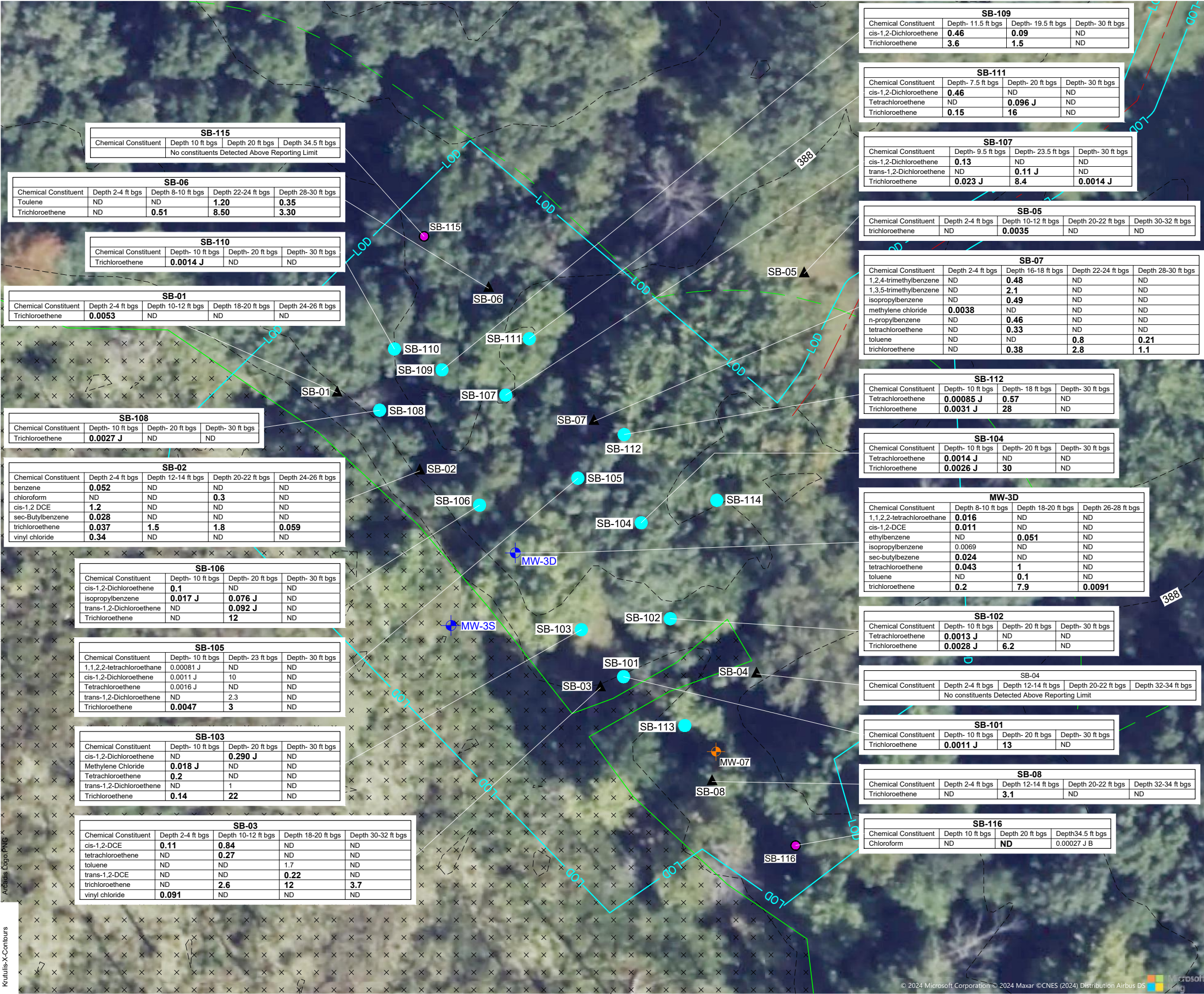


FIGURE
1



KRUTULIS PROPERTY SITE
STATE SUPERFUND PROGRAM SITE NO. 727009
848 MARSH MILL ROAD, KIRKVILLE, NY
2024 ANNUAL SAMPLING AND SITE SUMMARY REPORT

DETECTED VOCs IN GROUNDWATER



LEGEND:

- 200
- EXISTING ELEVATION CONTOUR
- x x x x
- FIELD DELINEATED WETLAND
- EXISTING MONITORING WELL LOCATION
- 2007 SOIL BORING
- PRE-DESIGN INVESTIGATION BORING LOCATION (JULY 31 - AUGUST 10, 2023)
- SUPPLEMENTAL PRE-DESIGN INVESTIGATION STEP-OUT BORING LOCATION (SEPTEMBER 12-13, 2024)
- NEW GROUNDWATER MONITORING WELL LOCATION
- ACCESS ROAD CENTERLINE
- NYSDEC REGULATED FRESHWATER WETLAND ADJACENT AREA
- LOD
- LIMITS OF DISTURBANCE FOR FULL-SCALE ERD APPLICATION

NOTES:

- ND = NOT DETECTED ABOVE ITS RESPECTIVE REPORTING LIMITS.
- J = RESULT IS LESS THAN THE REPORTED DETECTION LIMIT (RDL) BUT GREATER THAN OR EQUAL TO THE METHOD DETECTION LIMIT (MDL) AND THE CONCENTRATION IS AN ESTIMATED VALUE. B = CONSTITUENT DETECTED IN ASSOCIATED LABORATORY METHOD BLANK
- SOIL SAMPLES FROM THE PRE-DESIGN INVESTIGATION WERE COLLECTED BETWEEN JULY 31 AND AUGUST 10, 2023.
- SOIL SAMPLES FROM THE SUPPLEMENTAL PRE-DESIGN INVESTIGATION WERE COLLECTED ON SEPTEMBER 12 AND 13, 2024.
- ADDITIONAL SOIL SAMPLING RESULTS FROM 2007 INVESTIGATION WHICH INCLUDES BORING LOCATION FOR WELL MW-3D ARE SHOWN ON FIGURE FOR REFERENCE.
- ANALYTICAL DATA FOR DETECTED CONSTITUENTS ONLY PRESENTED ON FIGURE.
- SOIL ANALYTICAL DATA PRESENTED IN UNITS OF mg/kg.
- mg/kg = MILLIGRAMS PER KILOGRAM
- ft bgs = FEET BELOW GROUND SURFACE

0 15' 30'

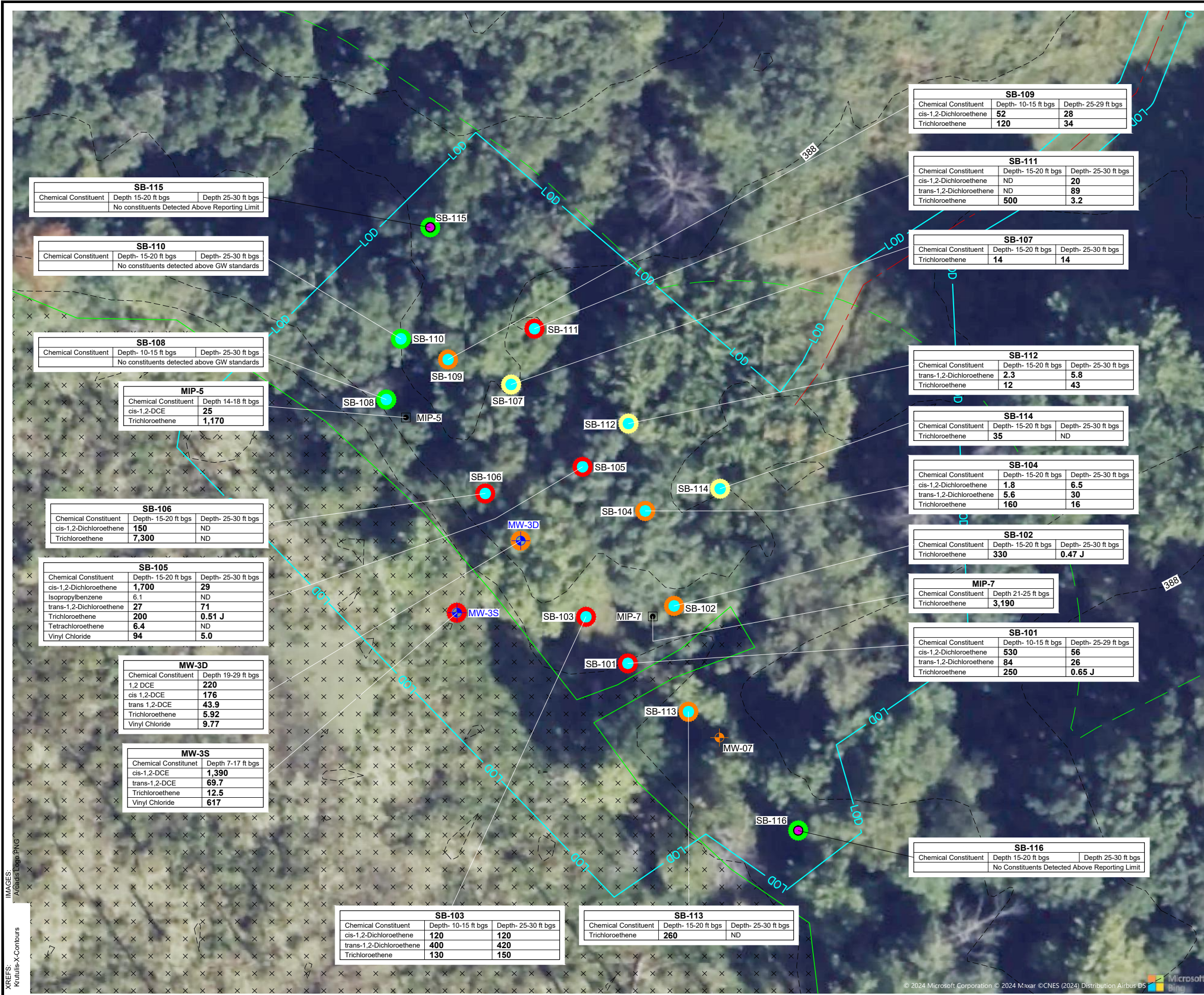
GRAPHIC SCALE

KRUTULIS PROPERTY SITE
STATE SUPERFUND PROGRAM SITE NO. 727009
848 MARSH MILL ROAD, KIRKVILLE, NY
2024 ANNUAL SAMPLING AND SITE SUMMARY REPORT

HISTORICAL AND PRE-DESIGN
INVESTIGATION SOIL SAMPLING
RESULTS

ARCADIS

FIGURE
3



LEGEND:

200

EXISTING ELEVATION CONTOUR

x x x x

FIELD DELINEATED WETLAND

EXISTING MONITORING WELL LOCATION

2007 MEMBRANE INTERFACE PROBE (MIP) GRAB GROUNDWATER SAMPLING LOCATION

PRE-DESIGN INVESTIGATION BORING LOCATION (AUGUST 1-11, 2023)

SUPPLEMENTAL PRE-DESIGN INVESTIGATION STEP-OUT BORING LOCATION (SEPTEMBER 12-13, 2024)

NEW GROUNDWATER MONITORING WELL LOCATION

ACCESS ROAD CENTERLINE

NYSDEC REGULATED FRESHWATER WETLAND ADJACENT AREA

LOD

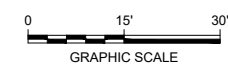
LIMITS OF DISTURBANCE FOR FULL-SCALE ERD APPLICATION

- NOTES:
- ND = NOT DETECTED ABOVE ITS RESPECTIVE REPORTING LIMITS.
 - J = RESULT IS LESS THAN THE REPORTED DETECTION LIMIT (RDL) BUT GREATER THAN OR EQUAL TO THE METHOD DETECTION LIMIT (MDL) AND THE CONCENTRATION IS AN ESTIMATED VALUE.
 - GROUNDWATER SAMPLES FROM THE PRE-DESIGN INVESTIGATION WERE COLLECTED BETWEEN AUGUST 1 AND 11, 2023.
 - GROUNDWATER SAMPLES FROM THE SUPPLEMENTAL PRE-DESIGN INVESTIGATION WERE COLLECTED ON SEPTEMBER 12 AND 13, 2024.
 - ADDITIONAL GROUNDWATER ANALYTICAL DATA SHOWN ON FIGURE INCLUDE GRAB GROUNDWATER SAMPLE RESULTS FROM 2007 INVESTIGATION AND 2022 ANNUAL GROUNDWATER SAMPLING RESULTS FOR WELLS MW-3S AND MW-3D.
 - INDIVIDUAL CONSTITUENTS INCLUDED IN DATA BOXES ON FIGURE WERE DETECTED AT CONCENTRATIONS ABOVE NYSDEC GROUNDWATER QUALITY STANDARDS IN AT LEAST ONE SAMPLE FROM THAT BORING/WELL.
 - GROUNDWATER ANALYTICAL DATA PRESENTED IN UNITS OF ug/L.
 - ug/L = MICROGRAM PER LITER
 - CVOCs = CHLORINATED VOLATILE ORGANIC COMPOUNDS
 - ft bgs = FEET BELOW GROUND SURFACE

TOTAL CVOC CONCENTRATIONS IN GROUNDWATER

- CVOCs < GW STANDARDS
- GW STANDARDS < CVOCs < 100 ug/L
- 100 ug/L < CVOCs < 500 ug/L
- CVOCs > 500 ug/L

COLOR CODING NOT SHOWN FOR 2007 GRAB GROUNDWATER SAMPLING LOCATIONS, AS THESE DATA ARE PRESENTED FOR COMPARISON ONLY AND ARE NOT REPRESENTATIVE OF CURRENT SITE CONDITIONS

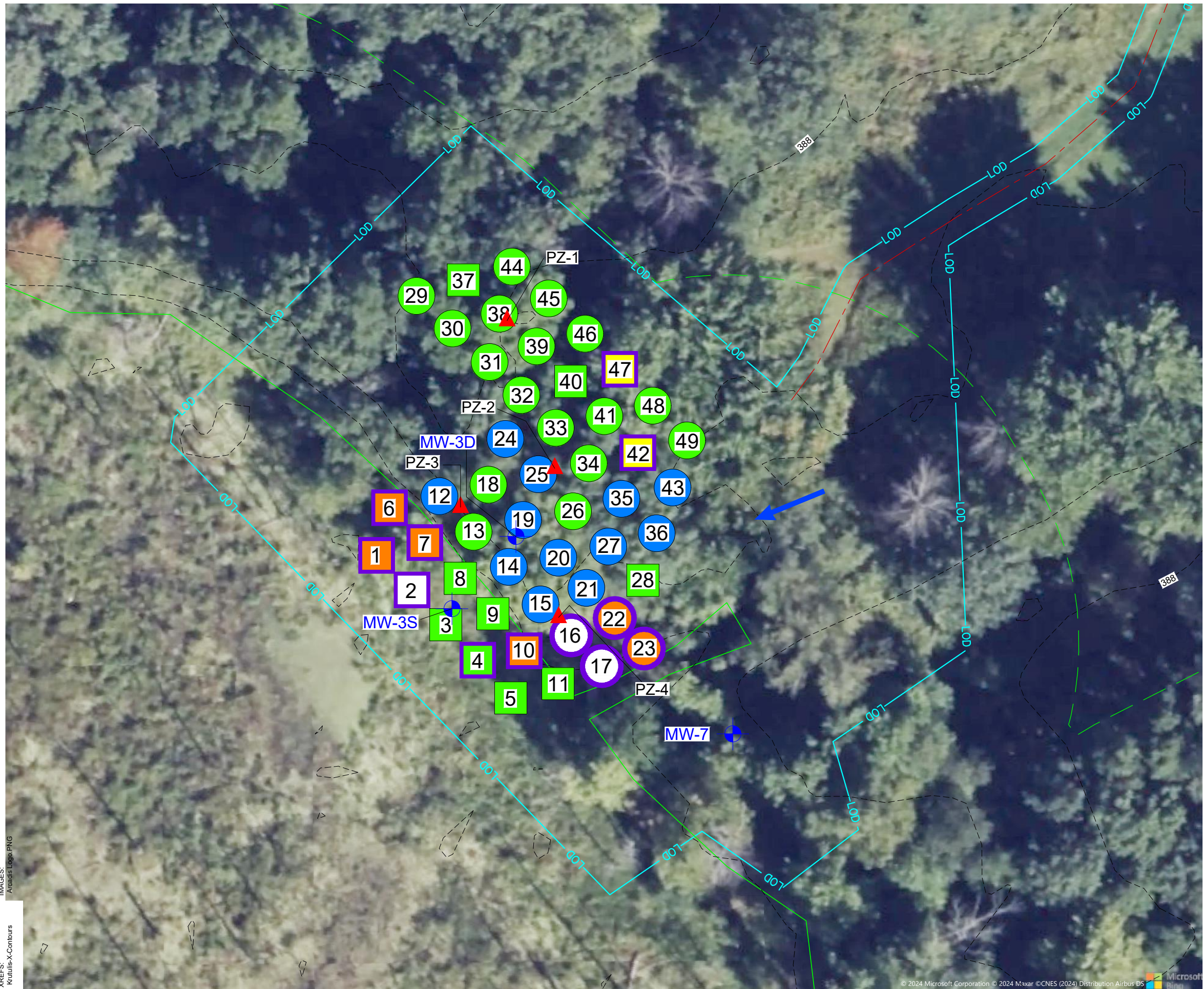


KRUTULIS PROPERTY SITE
STATE SUPERFUND PROGRAM SITE NO. 727009
848 MARSH MILL ROAD, KIRKVILLE, NY
2024 ANNUAL SAMPLING AND SITE SUMMARY REPORT

HISTORICAL AND PRE-DESIGN INVESTIGATION GROUNDWATER SAMPLING RESULTS

ARCADIS

FIGURE 4



200

x x x x

MONITORING WELL LOCATION

ACCESS ROAD CENTERLINE

NYSDEC REGULATED FRESHWATER WETLAND ADJACENT AREA

LOD LOD

GROUNDWATER DIRECTION ARROW

TEMPORARY PIEZOMETER LOCATION

1

12

>1,600 GALLONS (>125% OF PLANNED INJECTION VOLUME)

1,200 TO 1,400 GALLONS (100% + 10% OF PLANNED INJECTION VOLUME)

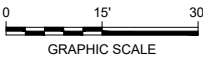
700 TO 900 GALLONS (50-70% OF PLANNED INJECTION VOLUME)

200 TO 500 GALLONS (10-40% OF PLANNED INJECTION VOLUME)

<100 GALLONS (<10% OF PLANNED INJECTION VOLUME)

DAYLIGHTING OBSERVED

- NOTES:
- INITIAL TARGET INJECTION VOLUME WAS 1,320 GALLONS AT EACH LOCATION. ACTUAL INJECTION VOLUMES VARIED BASED ON FIELD CONDITIONS.
 - DPT = DIRECT-PUSH TECHNOLOGY
 - ERD = ENHANCED REDUCTIVE DECHLORINATION

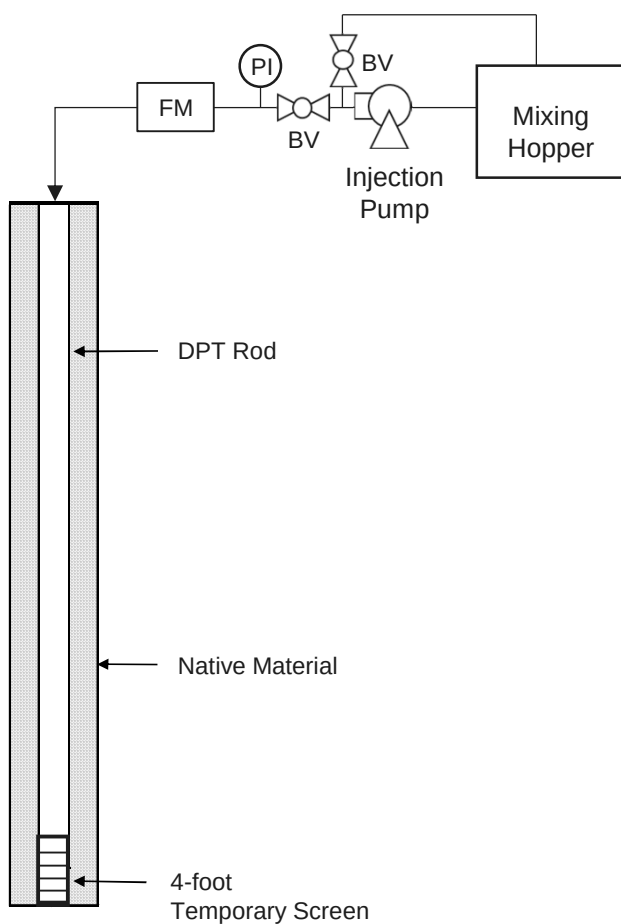


KRUTULIS PROPERTY SITE
STATE SUPERFUND PROGRAM SITE NO. 727009
848 MARSH MILL ROAD, KIRKVILLE, NY
2024 ANNUAL SAMPLING AND SITE SUMMARY REPORT

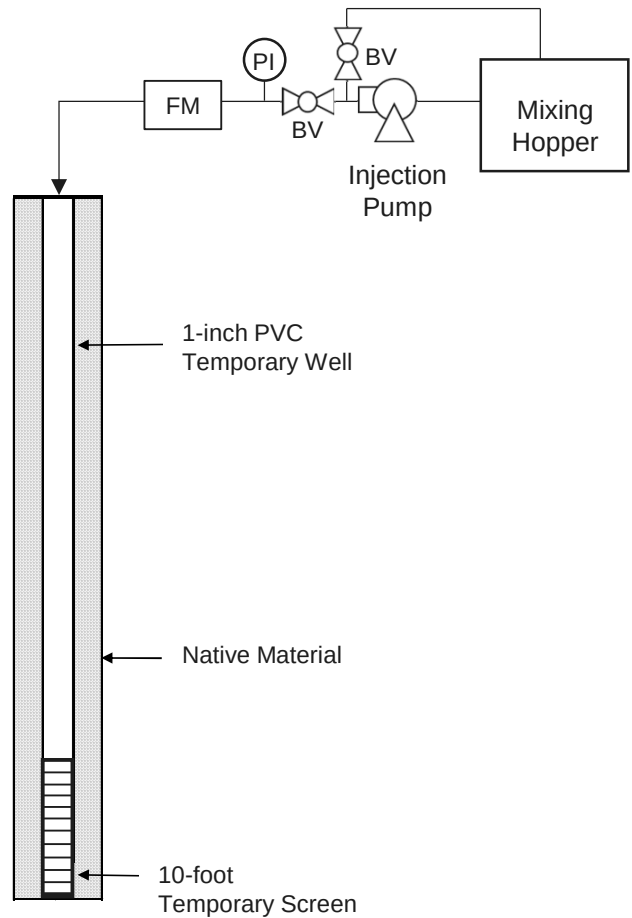
ERD INJECTION AREA

FIGURE
5

DPT Injection Schematic



Temporary Well Injection Schematic



Notes

1. Drawing is not to scale.
2. Injection interval targeted 12 to 22 feet below ground surface in the wetland area and 16 to 26 feet below ground surface in the upland area.
3. Injections in wetland are only using DPT. Both DPT and temporary wells used in the upland area.
4. Two 4-foot injection intervals with 2-foot vertical separation per DPT point, installed as separate co-located borings.
5. Temporary injection wells used one 10-foot screen.
6. ABC-Olé solution was mixed in 250-gallon batches and injected at average concentration of 2% by volume.
7. Temporary DPT injection points in the wetland area were allowed to close naturally following completion (placing bentonite or other materials into wetland is not permitted).
8. Upland injection points were filled with bentonite chips following completion. All temporary PVC well screens were removed from the ground prior to abandonment.

Abbreviations

DPT = direct-push technology
 FM = flow meter
 PI = pressure indicator
 PVC = polyvinyl chloride
 BV = ball valve

KRUTULIS PROPERTY SITE
 STATE SUPERFUND PROGRAM SITE NO. 727009
 848 MARSH MILL ROAD
 KIRKVILLE, NY
 2024 ANNUAL SAMPLING AND SITE SUMMARY REPORT

INJECTION SCHEMATIC

Notes

1. Drawing is not to scale.
2. If daylighting (i.e., inadvertent return) occurs during injections, solution will flow up the PVC casing pipe and into the overflow collection basin.

Abbreviations

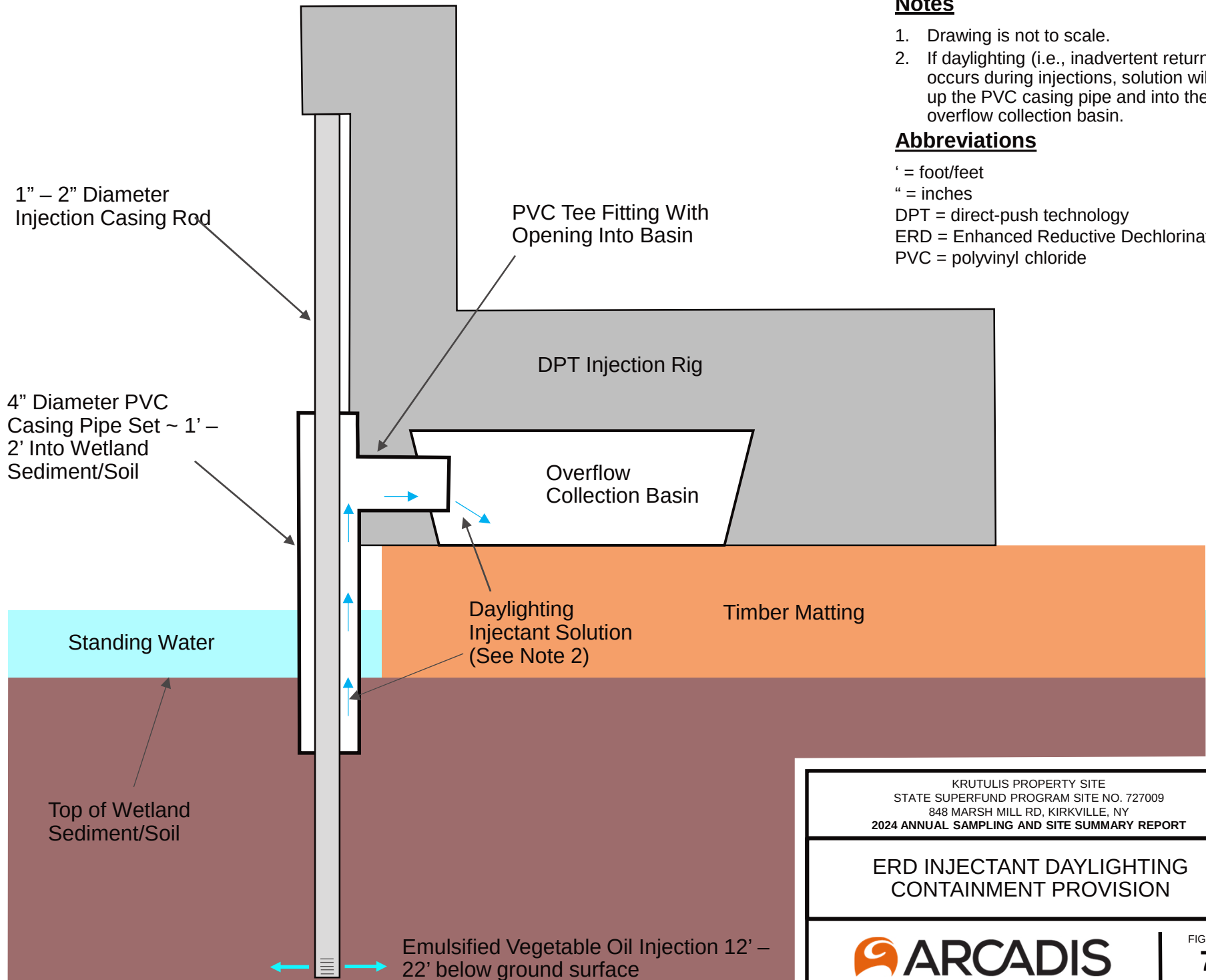
' = foot/feet

" = inches

DPT = direct-push technology

ERD = Enhanced Reductive Dechlorination

PVC = polyvinyl chloride

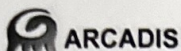


KRUTULIS PROPERTY SITE
STATE SUPERFUND PROGRAM SITE NO. 727009
848 MARSH MILL RD, KIRKVILLE, NY
2024 ANNUAL SAMPLING AND SITE SUMMARY REPORT

ERD INJECTANT DAYLIGHTING
CONTAINMENT PROVISION

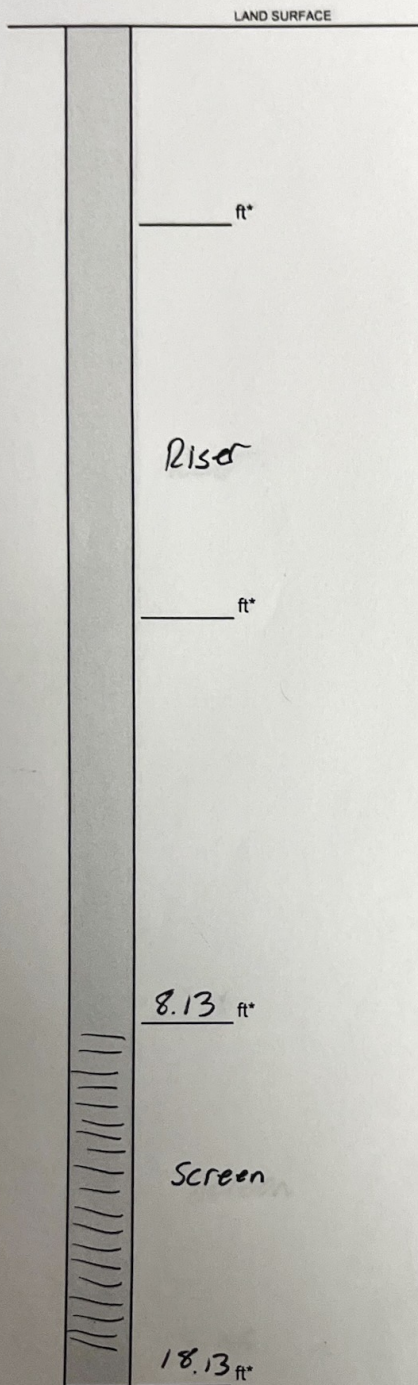
Attachment 1

Well Abandonment Logs



Borehole Information

Well Decommissioning Record



Project BMS Krutulis Injection Well ID MW-1

Site Location Kirkville NY

Driller Doug Richmond

Inspector Daniel Meandro

Date 10-31-24

Drilling Contractor Arcadis

NYRD# _____

Decommissioning Method Punch Pull Grout

Surface Completion Finish to native

Well Material Sch 40 PVC

Well Diameter 2"

Screen Interval (feet bgs) 8.13-18.13

Bottom of Well (feet bgs) 18.13

Additional Information _____

GROUTING

Interval Grouted (FBLS) 0-18.13'

Number of Batches Prepared 1

Quantity of Cement Used (lbs.) 94 lbs

Cement Type Type I/II Portland Cement

Quantity of Bentonite Used (lbs.) 5 lbs

Quantity of Calcium Chloride Used (lbs.) 0

Volume of Grout Prepared (gal.) 9 gal

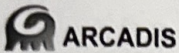
Volume of Grout Used (gal.) 4.5 gal

Comments: Grout to surface

* Depth Below Ground Surface

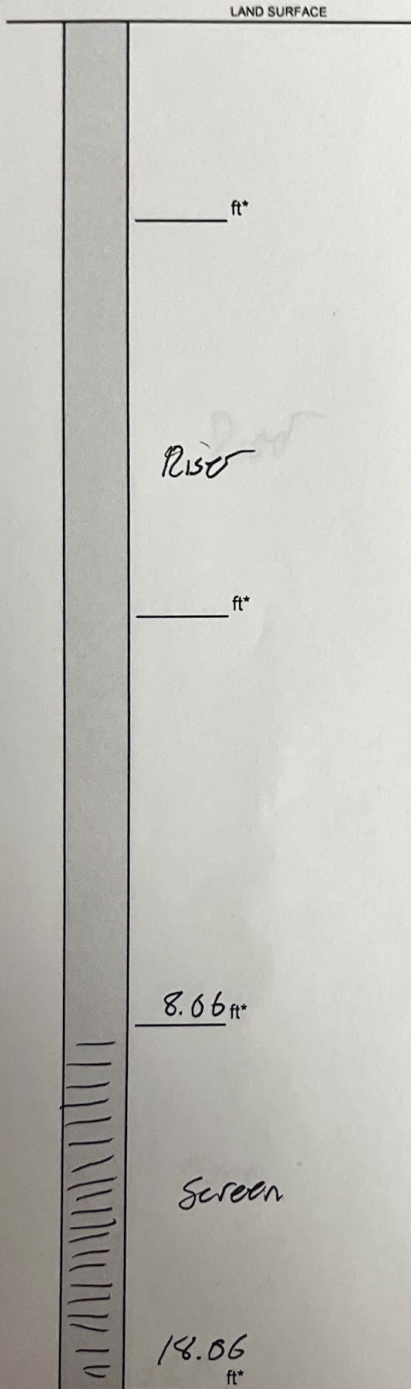
Prepared by Daniel Meandro

CWD # _____



Borehole Information

Well Decommissioning Record



Project BMS Kirkville Injection Well ID MW-4

Site Location Kirkville NY

Driller Doug Richmond

Inspector Daniel Meandro

Date 12-6-24

Drilling Contractor Arcadis

NYRD# _____

Decommissioning Method Punch Pull Grout

Surface Completion Finish to native

Well Material Sch 40 PVC

Well Diameter 2"

Screen Interval (feet bgs) 8.06-18.06

Bottom of Well (feet bgs) 18.06

Additional Information _____

GROUTING

Interval Grouted (FBLs) 0-18.06

Number of Batches Prepared 1

Quantity of Cement Used (lbs.) 94 lbs

Cement Type Type I/II Portland Cement

Quantity of Bentonite Used (lbs.) 5 lbs

Quantity of Calcium Chloride Used (lbs.) 0

Volume of Grout Prepared (gal.) 9 gal

Volume of Grout Used (gal.) 4.5 gal

Comments: Grout to surface

* Depth Below Ground Surface

Prepared by Daniel Meandro

CWD # _____



Borehole Information

Well Decommissioning Record

LAND SURFACE

ft*

Diso

ft*

8.68

Screen

18.68 ft*

Project BMS Krukowski Injections Well ID MW-5
Site Location Kirkville NY
Driller Doug Richmond
Inspector Daniel Meandro
Date 11-5-24

Drilling Contractor Arcadis
NYRD# _____
Decommissioning Method Punch Pull, Grout
Surface Completion Finish to native
Well Material Sch 40 PVC
Well Diameter 2"
Screen Interval (feet bgs) 8.68-18.68
Bottom of Well (feet bgs) 18.68
Additional Information _____

GROUTING

Interval Grouted (FBLs) 0-18.68
Number of Batches Prepared 1
Quantity of Cement Used (lbs.) 94 lbs
Cement Type Type I/II Portland Cement
Quantity of Bentonite Used (lbs.) 5 lbs
Quantity of Calcium Chloride Used (lbs.) 0
Volume of Grout Prepared (gal.) 9 gal
Volume of Grout Used (gal.) 4.5 gal

Comments: Grout to surface

Prepared by Daniel Meandro

CWD # _____

* Depth Below Ground Surface

Attachment 2

Laboratory Reports

Supplemental Pre-Design Investigation Analytical Data

ANALYTICAL REPORT

PREPARED FOR

Attn: Ms. Urvi Tulsiani
Arcadis U.S., Inc.
126 North Jefferson Street
Suite 400
Milwaukee, Wisconsin 53202

Generated 9/16/2024 4:57:28 PM

JOB DESCRIPTION

BMS Krutulis GW Sampling Project

JOB NUMBER

480-223322-1

Eurofins Buffalo

Job Notes

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

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

Authorization



Generated
9/16/2024 4:57:28 PM

Authorized for release by
John Schove, Project Manager II
John.Schove@et.eurofinsus.com
(716)504-9838

Table of Contents

Cover Page	1
Table of Contents	3
Definitions/Glossary	4
Case Narrative	5
Detection Summary	6
Client Sample Results	7
Surrogate Summary	11
QC Sample Results	12
QC Association Summary	14
Lab Chronicle	15
Certification Summary	17
Method Summary	18
Sample Summary	19
Chain of Custody	20
Receipt Checklists	21



Definitions/Glossary

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223322-1

Qualifiers

GC/MS VOA

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Arcadis U.S., Inc.
Project: BMS Krutulis GW Sampling Project

Job ID: 480-223322-1

Job ID: 480-223322-1

Eurofins Buffalo

Job Narrative 480-223322-1

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

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

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

Receipt

The samples were received on 9/12/2024 10:30 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.0°C.

GC/MS VOA

Method 8260C: The continuing calibration verification (CCV) associated with batch 480-725146 recovered above the upper control limit for Vinyl chloride, 1,1-Dichloroethene, Trichloroethene and trans-1,2-Dichloroethene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: SB-115 (10) (480-223322-1), SB-115 (20) (480-223322-2) and SB-115 (34.5) (480-223322-3).

Method 8260C: Internal standard (ISTD) response for the following sample was outside control limits: SB-115 (20) (480-223322-2). The sample(s) was re-analyzed and ISTD response was outside control limits. Matrix interference is suspected.

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

General Chemistry

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

Eurofins Buffalo

Detection Summary

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223322-1

Client Sample ID: SB-115 (10)

Lab Sample ID: 480-223322-1

No Detections.

Client Sample ID: SB-115 (20)

Lab Sample ID: 480-223322-2

No Detections.

Client Sample ID: SB-115 (34.5)

Lab Sample ID: 480-223322-3

No Detections.

Client Sample ID: TRIP BLANK

Lab Sample ID: 480-223322-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Chloroform	1.4		1.0	0.34	ug/L		1		8260C	Total/NA

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulís GW Sampling Project

Job ID: 480-223322-1

Client Sample ID: SB-115 (10)

Lab Sample ID: 480-223322-1

Date Collected: 09/11/24 13:55

Matrix: Solid

Date Received: 09/12/24 10:30

Percent Solids: 72.8

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	4.5	U	4.5	0.55	ug/Kg	✱	09/12/24 12:00	09/15/24 17:58	1
4-Methyl-2-pentanone (MIBK)	23	U	23	1.5	ug/Kg	✱	09/12/24 12:00	09/15/24 17:58	1
Acetone	23	U	23	3.8	ug/Kg	✱	09/12/24 12:00	09/15/24 17:58	1
Benzene	4.5	U	4.5	0.22	ug/Kg	✱	09/12/24 12:00	09/15/24 17:58	1
Chloroform	4.5	U	4.5	0.28	ug/Kg	✱	09/12/24 12:00	09/15/24 17:58	1
cis-1,2-Dichloroethene	4.5	U	4.5	0.58	ug/Kg	✱	09/12/24 12:00	09/15/24 17:58	1
Tetrachloroethene	4.5	U	4.5	0.61	ug/Kg	✱	09/12/24 12:00	09/15/24 17:58	1
Toluene	4.5	U	4.5	0.34	ug/Kg	✱	09/12/24 12:00	09/15/24 17:58	1
trans-1,2-Dichloroethene	4.5	U	4.5	0.47	ug/Kg	✱	09/12/24 12:00	09/15/24 17:58	1
Trichloroethene	4.5	U	4.5	1.0	ug/Kg	✱	09/12/24 12:00	09/15/24 17:58	1
Vinyl chloride	4.5	U	4.5	0.55	ug/Kg	✱	09/12/24 12:00	09/15/24 17:58	1
Xylenes, Total	9.0	U	9.0	0.76	ug/Kg	✱	09/12/24 12:00	09/15/24 17:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		64 - 126	09/12/24 12:00	09/15/24 17:58	1
Dibromofluoromethane (Surr)	104		60 - 140	09/12/24 12:00	09/15/24 17:58	1
Toluene-d8 (Surr)	96		71 - 125	09/12/24 12:00	09/15/24 17:58	1

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulís GW Sampling Project

Job ID: 480-223322-1

Client Sample ID: SB-115 (20)

Lab Sample ID: 480-223322-2

Date Collected: 09/11/24 14:20

Matrix: Solid

Date Received: 09/12/24 10:30

Percent Solids: 75.4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	4.1	U	4.1	0.50	ug/Kg	✱	09/12/24 12:00	09/15/24 18:21	1
4-Methyl-2-pentanone (MIBK)	21	U	21	1.4	ug/Kg	✱	09/12/24 12:00	09/15/24 18:21	1
Acetone	21	U	21	3.5	ug/Kg	✱	09/12/24 12:00	09/15/24 18:21	1
Benzene	4.1	U	4.1	0.20	ug/Kg	✱	09/12/24 12:00	09/15/24 18:21	1
Chloroform	4.1	U	4.1	0.25	ug/Kg	✱	09/12/24 12:00	09/15/24 18:21	1
cis-1,2-Dichloroethene	4.1	U	4.1	0.53	ug/Kg	✱	09/12/24 12:00	09/15/24 18:21	1
Tetrachloroethene	4.1	U	4.1	0.55	ug/Kg	✱	09/12/24 12:00	09/15/24 18:21	1
Toluene	4.1	U	4.1	0.31	ug/Kg	✱	09/12/24 12:00	09/15/24 18:21	1
trans-1,2-Dichloroethene	4.1	U	4.1	0.42	ug/Kg	✱	09/12/24 12:00	09/15/24 18:21	1
Trichloroethene	4.1	U	4.1	0.91	ug/Kg	✱	09/12/24 12:00	09/15/24 18:21	1
Vinyl chloride	4.1	U	4.1	0.50	ug/Kg	✱	09/12/24 12:00	09/15/24 18:21	1
Xylenes, Total	8.2	U	8.2	0.69	ug/Kg	✱	09/12/24 12:00	09/15/24 18:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		64 - 126	09/12/24 12:00	09/15/24 18:21	1
Dibromofluoromethane (Surr)	107		60 - 140	09/12/24 12:00	09/15/24 18:21	1
Toluene-d8 (Surr)	114		71 - 125	09/12/24 12:00	09/15/24 18:21	1

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulius GW Sampling Project

Job ID: 480-223322-1

Client Sample ID: SB-115 (34.5)

Lab Sample ID: 480-223322-3

Date Collected: 09/11/24 14:40

Matrix: Solid

Date Received: 09/12/24 10:30

Percent Solids: 82.0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	4.1	U	4.1	0.50	ug/Kg	☼	09/12/24 12:00	09/15/24 18:46	1
4-Methyl-2-pentanone (MIBK)	20	U	20	1.3	ug/Kg	☼	09/12/24 12:00	09/15/24 18:46	1
Acetone	20	U	20	3.4	ug/Kg	☼	09/12/24 12:00	09/15/24 18:46	1
Benzene	4.1	U	4.1	0.20	ug/Kg	☼	09/12/24 12:00	09/15/24 18:46	1
Chloroform	4.1	U	4.1	0.25	ug/Kg	☼	09/12/24 12:00	09/15/24 18:46	1
cis-1,2-Dichloroethene	4.1	U	4.1	0.52	ug/Kg	☼	09/12/24 12:00	09/15/24 18:46	1
Tetrachloroethene	4.1	U	4.1	0.55	ug/Kg	☼	09/12/24 12:00	09/15/24 18:46	1
Toluene	4.1	U	4.1	0.31	ug/Kg	☼	09/12/24 12:00	09/15/24 18:46	1
trans-1,2-Dichloroethene	4.1	U	4.1	0.42	ug/Kg	☼	09/12/24 12:00	09/15/24 18:46	1
Trichloroethene	4.1	U	4.1	0.90	ug/Kg	☼	09/12/24 12:00	09/15/24 18:46	1
Vinyl chloride	4.1	U	4.1	0.50	ug/Kg	☼	09/12/24 12:00	09/15/24 18:46	1
Xylenes, Total	8.2	U	8.2	0.69	ug/Kg	☼	09/12/24 12:00	09/15/24 18:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		64 - 126	09/12/24 12:00	09/15/24 18:46	1
Dibromofluoromethane (Surr)	107		60 - 140	09/12/24 12:00	09/15/24 18:46	1
Toluene-d8 (Surr)	101		71 - 125	09/12/24 12:00	09/15/24 18:46	1

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223322-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 480-223322-4

Date Collected: 09/11/24 00:00

Matrix: Water

Date Received: 09/12/24 10:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			09/13/24 14:10	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			09/13/24 14:10	1
Acetone	10	U	10	3.0	ug/L			09/13/24 14:10	1
Benzene	1.0	U	1.0	0.41	ug/L			09/13/24 14:10	1
Chloroform	1.4		1.0	0.34	ug/L			09/13/24 14:10	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			09/13/24 14:10	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			09/13/24 14:10	1
Toluene	1.0	U	1.0	0.51	ug/L			09/13/24 14:10	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			09/13/24 14:10	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			09/13/24 14:10	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			09/13/24 14:10	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			09/13/24 14:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		77 - 120		09/13/24 14:10	1
Dibromofluoromethane (Surr)	94		75 - 123		09/13/24 14:10	1
Toluene-d8 (Surr)	95		80 - 120		09/13/24 14:10	1

Surrogate Summary

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulio GW Sampling Project

Job ID: 480-223322-1

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
Lab Sample ID	Client Sample ID	DCA	DBFM	TOL
		(64-126)	(60-140)	(71-125)
480-223322-1	SB-115 (10)	103	104	96
480-223322-2	SB-115 (20)	106	107	114
480-223322-3	SB-115 (34.5)	108	107	101
LCS 480-725145/1-A	Lab Control Sample	100	103	96
MB 480-725145/2-A	Method Blank	104	101	95
Surrogate Legend				
DCA = 1,2-Dichloroethane-d4 (Surr)				
DBFM = Dibromofluoromethane (Surr)				
TOL = Toluene-d8 (Surr)				

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

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
Lab Sample ID	Client Sample ID	DCA	DBFM	TOL
		(77-120)	(75-123)	(80-120)
480-223322-4	TRIP BLANK	98	94	95
LCS 480-724996/6	Lab Control Sample	95	93	95
MB 480-724996/8	Method Blank	97	94	98
Surrogate Legend				
DCA = 1,2-Dichloroethane-d4 (Surr)				
DBFM = Dibromofluoromethane (Surr)				
TOL = Toluene-d8 (Surr)				

QC Sample Results

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulius GW Sampling Project

Job ID: 480-223322-1

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

Lab Sample ID: MB 480-724996/8

Matrix: Water

Analysis Batch: 724996

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			09/13/24 12:44	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			09/13/24 12:44	1
Acetone	10	U	10	3.0	ug/L			09/13/24 12:44	1
Benzene	1.0	U	1.0	0.41	ug/L			09/13/24 12:44	1
Chloroform	1.0	U	1.0	0.34	ug/L			09/13/24 12:44	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			09/13/24 12:44	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			09/13/24 12:44	1
Toluene	1.0	U	1.0	0.51	ug/L			09/13/24 12:44	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			09/13/24 12:44	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			09/13/24 12:44	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			09/13/24 12:44	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			09/13/24 12:44	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		77 - 120		09/13/24 12:44	1
Dibromofluoromethane (Surr)	94		75 - 123		09/13/24 12:44	1
Toluene-d8 (Surr)	98		80 - 120		09/13/24 12:44	1

Lab Sample ID: LCS 480-724996/6

Matrix: Water

Analysis Batch: 724996

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1-Dichloroethene	25.0	22.9		ug/L		92	66 - 127
4-Methyl-2-pentanone (MIBK)	125	110		ug/L		88	71 - 125
Acetone	125	102		ug/L		82	56 - 142
Benzene	25.0	22.8		ug/L		91	71 - 124
Chloroform	25.0	21.6		ug/L		86	73 - 127
cis-1,2-Dichloroethene	25.0	22.5		ug/L		90	74 - 124
Tetrachloroethene	25.0	24.3		ug/L		97	74 - 122
Toluene	25.0	22.9		ug/L		92	80 - 122
trans-1,2-Dichloroethene	25.0	23.9		ug/L		96	73 - 127
Trichloroethene	25.0	22.7		ug/L		91	74 - 123
Vinyl chloride	25.0	25.9		ug/L		104	65 - 133
Xylenes, Total	50.0	46.0		ug/L		92	76 - 122

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	95		77 - 120
Dibromofluoromethane (Surr)	93		75 - 123
Toluene-d8 (Surr)	95		80 - 120

Lab Sample ID: MB 480-725145/2-A

Matrix: Solid

Analysis Batch: 725146

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 725145

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	5.0	U	5.0	0.61	ug/Kg		09/15/24 13:37	09/15/24 17:10	1
4-Methyl-2-pentanone (MIBK)	25	U	25	1.6	ug/Kg		09/15/24 13:37	09/15/24 17:10	1

Eurofins Buffalo

QC Sample Results

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223322-1

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

Lab Sample ID: MB 480-725145/2-A

Matrix: Solid

Analysis Batch: 725146

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 725145

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	25	U	25	4.2	ug/Kg		09/15/24 13:37	09/15/24 17:10	1
Benzene	5.0	U	5.0	0.25	ug/Kg		09/15/24 13:37	09/15/24 17:10	1
Chloroform	0.431	J	5.0	0.31	ug/Kg		09/15/24 13:37	09/15/24 17:10	1
cis-1,2-Dichloroethene	5.0	U	5.0	0.64	ug/Kg		09/15/24 13:37	09/15/24 17:10	1
Tetrachloroethene	5.0	U	5.0	0.67	ug/Kg		09/15/24 13:37	09/15/24 17:10	1
Toluene	5.0	U	5.0	0.38	ug/Kg		09/15/24 13:37	09/15/24 17:10	1
trans-1,2-Dichloroethene	5.0	U	5.0	0.52	ug/Kg		09/15/24 13:37	09/15/24 17:10	1
Trichloroethene	5.0	U	5.0	1.1	ug/Kg		09/15/24 13:37	09/15/24 17:10	1
Vinyl chloride	5.0	U	5.0	0.61	ug/Kg		09/15/24 13:37	09/15/24 17:10	1
Xylenes, Total	10	U	10	0.84	ug/Kg		09/15/24 13:37	09/15/24 17:10	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		64 - 126	09/15/24 13:37	09/15/24 17:10	1
Dibromofluoromethane (Surr)	101		60 - 140	09/15/24 13:37	09/15/24 17:10	1
Toluene-d8 (Surr)	95		71 - 125	09/15/24 13:37	09/15/24 17:10	1

Lab Sample ID: LCS 480-725145/1-A

Matrix: Solid

Analysis Batch: 725146

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 725145

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1-Dichloroethene	50.0	56.8		ug/Kg		114	59 - 125
4-Methyl-2-pentanone (MIBK)	250	273		ug/Kg		109	65 - 133
Acetone	250	273		ug/Kg		109	61 - 137
Benzene	50.0	53.8		ug/Kg		108	79 - 127
Chloroform	50.0	52.5		ug/Kg		105	80 - 120
cis-1,2-Dichloroethene	50.0	52.8		ug/Kg		106	81 - 120
Tetrachloroethene	50.0	47.7		ug/Kg		95	74 - 122
Toluene	50.0	48.3		ug/Kg		97	74 - 128
trans-1,2-Dichloroethene	50.0	55.2		ug/Kg		110	78 - 126
Trichloroethene	50.0	54.0		ug/Kg		108	77 - 129
Vinyl chloride	50.0	53.2		ug/Kg		106	61 - 133
Xylenes, Total	100	94.0		ug/Kg		94	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	100		64 - 126
Dibromofluoromethane (Surr)	103		60 - 140
Toluene-d8 (Surr)	96		71 - 125

Eurofins Buffalo

QC Association Summary

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223322-1

GC/MS VOA

Analysis Batch: 724996

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-223322-4	TRIP BLANK	Total/NA	Water	8260C	
MB 480-724996/8	Method Blank	Total/NA	Water	8260C	
LCS 480-724996/6	Lab Control Sample	Total/NA	Water	8260C	

Prep Batch: 725145

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-223322-1	SB-115 (10)	Total/NA	Solid	5035A_L	
480-223322-2	SB-115 (20)	Total/NA	Solid	5035A_L	
480-223322-3	SB-115 (34.5)	Total/NA	Solid	5035A_L	
MB 480-725145/2-A	Method Blank	Total/NA	Solid	5035A_L	
LCS 480-725145/1-A	Lab Control Sample	Total/NA	Solid	5035A_L	

Analysis Batch: 725146

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-223322-1	SB-115 (10)	Total/NA	Solid	8260C	725145
480-223322-2	SB-115 (20)	Total/NA	Solid	8260C	725145
480-223322-3	SB-115 (34.5)	Total/NA	Solid	8260C	725145
MB 480-725145/2-A	Method Blank	Total/NA	Solid	8260C	725145
LCS 480-725145/1-A	Lab Control Sample	Total/NA	Solid	8260C	725145

General Chemistry

Analysis Batch: 725148

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-223322-1	SB-115 (10)	Total/NA	Solid	Moisture	
480-223322-2	SB-115 (20)	Total/NA	Solid	Moisture	
480-223322-3	SB-115 (34.5)	Total/NA	Solid	Moisture	

Lab Chronicle

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223322-1

Client Sample ID: SB-115 (10)

Date Collected: 09/11/24 13:55

Date Received: 09/12/24 10:30

Lab Sample ID: 480-223322-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	725148	DSC	EET BUF	09/15/24 14:29

Client Sample ID: SB-115 (10)

Date Collected: 09/11/24 13:55

Date Received: 09/12/24 10:30

Lab Sample ID: 480-223322-1

Matrix: Solid

Percent Solids: 72.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035A_L			725145	CDC	EET BUF	09/12/24 12:00
Total/NA	Analysis	8260C		1	725146	LCH	EET BUF	09/15/24 17:58

Client Sample ID: SB-115 (20)

Date Collected: 09/11/24 14:20

Date Received: 09/12/24 10:30

Lab Sample ID: 480-223322-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	725148	DSC	EET BUF	09/15/24 14:29

Client Sample ID: SB-115 (20)

Date Collected: 09/11/24 14:20

Date Received: 09/12/24 10:30

Lab Sample ID: 480-223322-2

Matrix: Solid

Percent Solids: 75.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035A_L			725145	CDC	EET BUF	09/12/24 12:00
Total/NA	Analysis	8260C		1	725146	LCH	EET BUF	09/15/24 18:21

Client Sample ID: SB-115 (34.5)

Date Collected: 09/11/24 14:40

Date Received: 09/12/24 10:30

Lab Sample ID: 480-223322-3

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	725148	DSC	EET BUF	09/15/24 14:29

Client Sample ID: SB-115 (34.5)

Date Collected: 09/11/24 14:40

Date Received: 09/12/24 10:30

Lab Sample ID: 480-223322-3

Matrix: Solid

Percent Solids: 82.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035A_L			725145	CDC	EET BUF	09/12/24 12:00
Total/NA	Analysis	8260C		1	725146	LCH	EET BUF	09/15/24 18:46

Client Sample ID: TRIP BLANK

Date Collected: 09/11/24 00:00

Date Received: 09/12/24 10:30

Lab Sample ID: 480-223322-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260C		1	724996	ZN	EET BUF	09/13/24 14:10

Eurofins Buffalo

Lab Chronicle

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223322-1

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

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15

Accreditation/Certification Summary

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223322-1

Laboratory: Eurofins Buffalo

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

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

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
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids

Method Summary

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223322-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	EET BUF
Moisture	Percent Moisture	EPA	EET BUF
5030C	Purge and Trap	SW846	EET BUF
5035A_L	Closed System Purge and Trap	SW846	EET BUF

Protocol References:

EPA = US Environmental Protection Agency

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

Laboratory References:

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

Sample Summary

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223322-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-223322-1	SB-115 (10)	Solid	09/11/24 13:55	09/12/24 10:30
480-223322-2	SB-115 (20)	Solid	09/11/24 14:20	09/12/24 10:30
480-223322-3	SB-115 (34.5)	Solid	09/11/24 14:40	09/12/24 10:30
480-223322-4	TRIP BLANK	Water	09/11/24 00:00	09/12/24 10:30

Login Sample Receipt Checklist

Client: Arcadis U.S., Inc.

Job Number: 480-223322-1

Login Number: 223322

List Number: 1

Creator: Stopa, Erik S

List Source: Eurofins Buffalo

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

ANALYTICAL REPORT

PREPARED FOR

Attn: Ms. Urvi Tulsiani
Arcadis U.S., Inc.
126 North Jefferson Street
Suite 400
Milwaukee, Wisconsin 53202

Generated 9/17/2024 12:38:56 PM

JOB DESCRIPTION

BMS Krutulis GW Sampling Project

JOB NUMBER

480-223353-1

Eurofins Buffalo

Job Notes

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

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

Authorization



Generated
9/17/2024 12:38:56 PM

Authorized for release by
John Schove, Project Manager II
John.Schove@et.eurofinsus.com
(716)504-9838

Table of Contents

Cover Page	1
Table of Contents	3
Definitions/Glossary	4
Case Narrative	5
Detection Summary	6
Client Sample Results	7
Surrogate Summary	15
QC Sample Results	16
QC Association Summary	19
Lab Chronicle	20
Certification Summary	22
Method Summary	23
Sample Summary	24
Chain of Custody	25
Receipt Checklists	26



Definitions/Glossary

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223353-1

Qualifiers

GC/MS VOA

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	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: Arcadis U.S., Inc.
Project: BMS Krutulis GW Sampling Project

Job ID: 480-223353-1

Job ID: 480-223353-1

Eurofins Buffalo

Job Narrative 480-223353-1

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

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

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

Receipt

The samples were received on 9/13/2024 10:30 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.9°C.

GC/MS VOA

Method 8260C: The following sample(s) was collected in a properly preserved vial; however, the pH was outside the required criteria when verified by the laboratory. The samples were analyzed within the 7-day holding time specified for unpreserved samples: SB-115 (25-30) (480-223353-1), SB-115 (15-20) (480-223353-2) and SB-116 (25-30) (480-223353-3).

Method 8260C: Internal standard (ISTD) response for the following samples were outside control limits: SB-116 (20) (480-223353-6) and SB-116 (34.5) (480-223353-7). The sample(s) was re-analyzed and ISTD response was outside control limits. Matrix interference is suspected.

Method 8260C: The continuing calibration verification (CCV) associated with batch 480-725146 recovered above the upper control limit for 1,1-Dichloroethene, trans-1,2-Dichloroethene, Vinyl chloride and Trichloroethene. The sample associated with this CCV was non-detect for the affected analytes; therefore, the data has been reported. The associated samples are impacted: SB-116 (10) (480-223353-5), SB-116 (20) (480-223353-6) and SB-116 (34.5) (480-223353-7).

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

General Chemistry

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

Eurofins Buffalo

Detection Summary

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223353-1

Client Sample ID: SB-115 (25-30)

Lab Sample ID: 480-223353-1

No Detections.

Client Sample ID: SB-115 (15-20)

Lab Sample ID: 480-223353-2

No Detections.

Client Sample ID: SB-116 (25-30)

Lab Sample ID: 480-223353-3

No Detections.

Client Sample ID: SB-116 (15-20)

Lab Sample ID: 480-223353-4

No Detections.

Client Sample ID: SB-116 (10)

Lab Sample ID: 480-223353-5

No Detections.

Client Sample ID: SB-116 (20)

Lab Sample ID: 480-223353-6

No Detections.

Client Sample ID: SB-116 (34.5)

Lab Sample ID: 480-223353-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloroform	0.27	J B	3.8	0.24	ug/Kg	1	✱	8260C	Total/NA

Client Sample ID: TRIP BLANK

Lab Sample ID: 480-223353-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Toluene	1.0		1.0	0.51	ug/L	1		8260C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Buffalo

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223353-1

Client Sample ID: SB-115 (25-30)

Lab Sample ID: 480-223353-1

Date Collected: 09/12/24 10:30

Matrix: Water

Date Received: 09/13/24 10:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			09/16/24 17:48	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			09/16/24 17:48	1
Acetone	10	U	10	3.0	ug/L			09/16/24 17:48	1
Benzene	1.0	U	1.0	0.41	ug/L			09/16/24 17:48	1
Chloroform	1.0	U	1.0	0.34	ug/L			09/16/24 17:48	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			09/16/24 17:48	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			09/16/24 17:48	1
Toluene	1.0	U	1.0	0.51	ug/L			09/16/24 17:48	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			09/16/24 17:48	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			09/16/24 17:48	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			09/16/24 17:48	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			09/16/24 17:48	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		77 - 120					09/16/24 17:48	1
Dibromofluoromethane (Surr)	111		75 - 123					09/16/24 17:48	1
Toluene-d8 (Surr)	108		80 - 120					09/16/24 17:48	1

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223353-1

Client Sample ID: SB-115 (15-20)

Lab Sample ID: 480-223353-2

Date Collected: 09/12/24 11:00

Matrix: Water

Date Received: 09/13/24 10:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			09/16/24 18:10	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			09/16/24 18:10	1
Acetone	10	U	10	3.0	ug/L			09/16/24 18:10	1
Benzene	1.0	U	1.0	0.41	ug/L			09/16/24 18:10	1
Chloroform	1.0	U	1.0	0.34	ug/L			09/16/24 18:10	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			09/16/24 18:10	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			09/16/24 18:10	1
Toluene	1.0	U	1.0	0.51	ug/L			09/16/24 18:10	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			09/16/24 18:10	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			09/16/24 18:10	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			09/16/24 18:10	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			09/16/24 18:10	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		77 - 120					09/16/24 18:10	1
Dibromofluoromethane (Surr)	109		75 - 123					09/16/24 18:10	1
Toluene-d8 (Surr)	108		80 - 120					09/16/24 18:10	1

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223353-1

Client Sample ID: SB-116 (25-30)

Lab Sample ID: 480-223353-3

Date Collected: 09/12/24 15:25

Matrix: Water

Date Received: 09/13/24 10:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			09/16/24 18:32	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			09/16/24 18:32	1
Acetone	10	U	10	3.0	ug/L			09/16/24 18:32	1
Benzene	1.0	U	1.0	0.41	ug/L			09/16/24 18:32	1
Chloroform	1.0	U	1.0	0.34	ug/L			09/16/24 18:32	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			09/16/24 18:32	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			09/16/24 18:32	1
Toluene	1.0	U	1.0	0.51	ug/L			09/16/24 18:32	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			09/16/24 18:32	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			09/16/24 18:32	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			09/16/24 18:32	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			09/16/24 18:32	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		77 - 120					09/16/24 18:32	1
Dibromofluoromethane (Surr)	109		75 - 123					09/16/24 18:32	1
Toluene-d8 (Surr)	106		80 - 120					09/16/24 18:32	1

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223353-1

Client Sample ID: SB-116 (15-20)

Lab Sample ID: 480-223353-4

Date Collected: 09/12/24 15:50

Matrix: Water

Date Received: 09/13/24 10:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			09/16/24 18:55	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			09/16/24 18:55	1
Acetone	10	U	10	3.0	ug/L			09/16/24 18:55	1
Benzene	1.0	U	1.0	0.41	ug/L			09/16/24 18:55	1
Chloroform	1.0	U	1.0	0.34	ug/L			09/16/24 18:55	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			09/16/24 18:55	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			09/16/24 18:55	1
Toluene	1.0	U	1.0	0.51	ug/L			09/16/24 18:55	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			09/16/24 18:55	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			09/16/24 18:55	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			09/16/24 18:55	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			09/16/24 18:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		77 - 120		09/16/24 18:55	1
Dibromofluoromethane (Surr)	110		75 - 123		09/16/24 18:55	1
Toluene-d8 (Surr)	108		80 - 120		09/16/24 18:55	1

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223353-1

Client Sample ID: SB-116 (10)

Lab Sample ID: 480-223353-5

Date Collected: 09/12/24 13:30

Matrix: Solid

Date Received: 09/13/24 10:30

Percent Solids: 77.3

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	4.3	U	4.3	0.53	ug/Kg	☼	09/13/24 12:00	09/15/24 19:40	1
4-Methyl-2-pentanone (MIBK)	22	U	22	1.4	ug/Kg	☼	09/13/24 12:00	09/15/24 19:40	1
Acetone	22	U	22	3.6	ug/Kg	☼	09/13/24 12:00	09/15/24 19:40	1
Benzene	4.3	U	4.3	0.21	ug/Kg	☼	09/13/24 12:00	09/15/24 19:40	1
Chloroform	4.3	U	4.3	0.27	ug/Kg	☼	09/13/24 12:00	09/15/24 19:40	1
cis-1,2-Dichloroethene	4.3	U	4.3	0.55	ug/Kg	☼	09/13/24 12:00	09/15/24 19:40	1
Tetrachloroethene	4.3	U	4.3	0.58	ug/Kg	☼	09/13/24 12:00	09/15/24 19:40	1
Toluene	4.3	U	4.3	0.33	ug/Kg	☼	09/13/24 12:00	09/15/24 19:40	1
trans-1,2-Dichloroethene	4.3	U	4.3	0.44	ug/Kg	☼	09/13/24 12:00	09/15/24 19:40	1
Trichloroethene	4.3	U	4.3	0.95	ug/Kg	☼	09/13/24 12:00	09/15/24 19:40	1
Vinyl chloride	4.3	U	4.3	0.53	ug/Kg	☼	09/13/24 12:00	09/15/24 19:40	1
Xylenes, Total	8.6	U	8.6	0.72	ug/Kg	☼	09/13/24 12:00	09/15/24 19:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		64 - 126	09/13/24 12:00	09/15/24 19:40	1
Dibromofluoromethane (Surr)	105		60 - 140	09/13/24 12:00	09/15/24 19:40	1
Toluene-d8 (Surr)	96		71 - 125	09/13/24 12:00	09/15/24 19:40	1

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223353-1

Client Sample ID: SB-116 (20)

Lab Sample ID: 480-223353-6

Date Collected: 09/12/24 13:50

Matrix: Solid

Date Received: 09/13/24 10:30

Percent Solids: 83.4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	3.7	U	3.7	0.46	ug/Kg	✱	09/13/24 12:00	09/15/24 20:04	1
4-Methyl-2-pentanone (MIBK)	19	U	19	1.2	ug/Kg	✱	09/13/24 12:00	09/15/24 20:04	1
Acetone	19	U	19	3.1	ug/Kg	✱	09/13/24 12:00	09/15/24 20:04	1
Benzene	3.7	U	3.7	0.18	ug/Kg	✱	09/13/24 12:00	09/15/24 20:04	1
Chloroform	3.7	U	3.7	0.23	ug/Kg	✱	09/13/24 12:00	09/15/24 20:04	1
cis-1,2-Dichloroethene	3.7	U	3.7	0.48	ug/Kg	✱	09/13/24 12:00	09/15/24 20:04	1
Tetrachloroethene	3.7	U	3.7	0.50	ug/Kg	✱	09/13/24 12:00	09/15/24 20:04	1
Toluene	3.7	U	3.7	0.28	ug/Kg	✱	09/13/24 12:00	09/15/24 20:04	1
trans-1,2-Dichloroethene	3.7	U	3.7	0.39	ug/Kg	✱	09/13/24 12:00	09/15/24 20:04	1
Trichloroethene	3.7	U	3.7	0.82	ug/Kg	✱	09/13/24 12:00	09/15/24 20:04	1
Vinyl chloride	3.7	U	3.7	0.46	ug/Kg	✱	09/13/24 12:00	09/15/24 20:04	1
Xylenes, Total	7.5	U	7.5	0.63	ug/Kg	✱	09/13/24 12:00	09/15/24 20:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		64 - 126	09/13/24 12:00	09/15/24 20:04	1
Dibromofluoromethane (Surr)	107		60 - 140	09/13/24 12:00	09/15/24 20:04	1
Toluene-d8 (Surr)	105		71 - 125	09/13/24 12:00	09/15/24 20:04	1

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223353-1

Client Sample ID: SB-116 (34.5)

Lab Sample ID: 480-223353-7

Date Collected: 09/12/24 14:20

Matrix: Solid

Date Received: 09/13/24 10:30

Percent Solids: 83.5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	3.8	U	3.8	0.47	ug/Kg	☼	09/13/24 12:00	09/15/24 20:27	1
4-Methyl-2-pentanone (MIBK)	19	U	19	1.3	ug/Kg	☼	09/13/24 12:00	09/15/24 20:27	1
Acetone	19	U	19	3.2	ug/Kg	☼	09/13/24 12:00	09/15/24 20:27	1
Benzene	3.8	U	3.8	0.19	ug/Kg	☼	09/13/24 12:00	09/15/24 20:27	1
Chloroform	0.27	J B	3.8	0.24	ug/Kg	☼	09/13/24 12:00	09/15/24 20:27	1
cis-1,2-Dichloroethene	3.8	U	3.8	0.49	ug/Kg	☼	09/13/24 12:00	09/15/24 20:27	1
Tetrachloroethene	3.8	U	3.8	0.51	ug/Kg	☼	09/13/24 12:00	09/15/24 20:27	1
Toluene	3.8	U	3.8	0.29	ug/Kg	☼	09/13/24 12:00	09/15/24 20:27	1
trans-1,2-Dichloroethene	3.8	U	3.8	0.39	ug/Kg	☼	09/13/24 12:00	09/15/24 20:27	1
Trichloroethene	3.8	U	3.8	0.84	ug/Kg	☼	09/13/24 12:00	09/15/24 20:27	1
Vinyl chloride	3.8	U	3.8	0.47	ug/Kg	☼	09/13/24 12:00	09/15/24 20:27	1
Xylenes, Total	7.6	U	7.6	0.64	ug/Kg	☼	09/13/24 12:00	09/15/24 20:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		64 - 126	09/13/24 12:00	09/15/24 20:27	1
Dibromofluoromethane (Surr)	111		60 - 140	09/13/24 12:00	09/15/24 20:27	1
Toluene-d8 (Surr)	111		71 - 125	09/13/24 12:00	09/15/24 20:27	1

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223353-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 480-223353-8

Date Collected: 09/12/24 00:00

Matrix: Water

Date Received: 09/13/24 10:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			09/16/24 19:17	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			09/16/24 19:17	1
Acetone	10	U	10	3.0	ug/L			09/16/24 19:17	1
Benzene	1.0	U	1.0	0.41	ug/L			09/16/24 19:17	1
Chloroform	1.0	U	1.0	0.34	ug/L			09/16/24 19:17	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			09/16/24 19:17	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			09/16/24 19:17	1
Toluene	1.0		1.0	0.51	ug/L			09/16/24 19:17	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			09/16/24 19:17	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			09/16/24 19:17	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			09/16/24 19:17	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			09/16/24 19:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		77 - 120		09/16/24 19:17	1
Dibromofluoromethane (Surr)	112		75 - 123		09/16/24 19:17	1
Toluene-d8 (Surr)	106		80 - 120		09/16/24 19:17	1

Surrogate Summary

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223353-1

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

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA (64-126)	DBFM (60-140)	TOL (71-125)
480-223353-5	SB-116 (10)	104	105	96
480-223353-6	SB-116 (20)	106	107	105
480-223353-7	SB-116 (34.5)	108	111	111
LCS 480-725145/1-A	Lab Control Sample	100	103	96
LCSD 480-725145/13-A	Lab Control Sample Dup	101	105	95
MB 480-725145/2-A	Method Blank	104	101	95

Surrogate Legend

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

DBFM = Dibromofluoromethane (Surr)

TOL = Toluene-d8 (Surr)

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA (77-120)	DBFM (75-123)	TOL (80-120)
480-223353-1	SB-115 (25-30)	110	111	108
480-223353-2	SB-115 (15-20)	109	109	108
480-223353-3	SB-116 (25-30)	110	109	106
480-223353-4	SB-116 (15-20)	110	110	108
480-223353-8	TRIP BLANK	111	112	106
LCS 480-725191/6	Lab Control Sample	105	105	112
MB 480-725191/8	Method Blank	107	108	108

Surrogate Legend

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

DBFM = Dibromofluoromethane (Surr)

TOL = Toluene-d8 (Surr)

QC Sample Results

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223353-1

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

Lab Sample ID: MB 480-725145/2-A

Matrix: Solid

Analysis Batch: 725146

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 725145

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	5.0	U	5.0	0.61	ug/Kg		09/15/24 13:37	09/15/24 17:10	1
4-Methyl-2-pentanone (MIBK)	25	U	25	1.6	ug/Kg		09/15/24 13:37	09/15/24 17:10	1
Acetone	25	U	25	4.2	ug/Kg		09/15/24 13:37	09/15/24 17:10	1
Benzene	5.0	U	5.0	0.25	ug/Kg		09/15/24 13:37	09/15/24 17:10	1
Chloroform	0.431	J	5.0	0.31	ug/Kg		09/15/24 13:37	09/15/24 17:10	1
cis-1,2-Dichloroethene	5.0	U	5.0	0.64	ug/Kg		09/15/24 13:37	09/15/24 17:10	1
Tetrachloroethene	5.0	U	5.0	0.67	ug/Kg		09/15/24 13:37	09/15/24 17:10	1
Toluene	5.0	U	5.0	0.38	ug/Kg		09/15/24 13:37	09/15/24 17:10	1
trans-1,2-Dichloroethene	5.0	U	5.0	0.52	ug/Kg		09/15/24 13:37	09/15/24 17:10	1
Trichloroethene	5.0	U	5.0	1.1	ug/Kg		09/15/24 13:37	09/15/24 17:10	1
Vinyl chloride	5.0	U	5.0	0.61	ug/Kg		09/15/24 13:37	09/15/24 17:10	1
Xylenes, Total	10	U	10	0.84	ug/Kg		09/15/24 13:37	09/15/24 17:10	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		64 - 126	09/15/24 13:37	09/15/24 17:10	1
Dibromofluoromethane (Surr)	101		60 - 140	09/15/24 13:37	09/15/24 17:10	1
Toluene-d8 (Surr)	95		71 - 125	09/15/24 13:37	09/15/24 17:10	1

Lab Sample ID: LCS 480-725145/1-A

Matrix: Solid

Analysis Batch: 725146

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 725145

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1-Dichloroethene	50.0	56.8		ug/Kg		114	59 - 125
4-Methyl-2-pentanone (MIBK)	250	273		ug/Kg		109	65 - 133
Acetone	250	273		ug/Kg		109	61 - 137
Benzene	50.0	53.8		ug/Kg		108	79 - 127
Chloroform	50.0	52.5		ug/Kg		105	80 - 120
cis-1,2-Dichloroethene	50.0	52.8		ug/Kg		106	81 - 120
Tetrachloroethene	50.0	47.7		ug/Kg		95	74 - 122
Toluene	50.0	48.3		ug/Kg		97	74 - 128
trans-1,2-Dichloroethene	50.0	55.2		ug/Kg		110	78 - 126
Trichloroethene	50.0	54.0		ug/Kg		108	77 - 129
Vinyl chloride	50.0	53.2		ug/Kg		106	61 - 133
Xylenes, Total	100	94.0		ug/Kg		94	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	100		64 - 126
Dibromofluoromethane (Surr)	103		60 - 140
Toluene-d8 (Surr)	96		71 - 125

Lab Sample ID: LCSD 480-725145/13-A

Matrix: Solid

Analysis Batch: 725146

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 725145

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1-Dichloroethene	50.0	50.5		ug/Kg		101	59 - 125	12	20
4-Methyl-2-pentanone (MIBK)	250	273		ug/Kg		109	65 - 133	0	20

Eurofins Buffalo

QC Sample Results

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223353-1

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

Lab Sample ID: LCSD 480-725145/13-A

Matrix: Solid

Analysis Batch: 725146

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 725145

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits			
Acetone	250	278		ug/Kg		111	61 - 137		2	20
Benzene	50.0	52.8		ug/Kg		106	79 - 127		2	20
Chloroform	50.0	52.7		ug/Kg		105	80 - 120		0	20
cis-1,2-Dichloroethene	50.0	52.9		ug/Kg		106	81 - 120		0	20
Tetrachloroethene	50.0	39.6		ug/Kg		79	74 - 122		19	20
Toluene	50.0	44.3		ug/Kg		89	74 - 128		9	20
trans-1,2-Dichloroethene	50.0	51.7		ug/Kg		103	78 - 126		7	20
Trichloroethene	50.0	50.7		ug/Kg		101	77 - 129		6	20
Vinyl chloride	50.0	49.5		ug/Kg		99	61 - 133		7	20
Xylenes, Total	100	87.5		ug/Kg		88	70 - 130		7	20

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	101		64 - 126
Dibromofluoromethane (Surr)	105		60 - 140
Toluene-d8 (Surr)	95		71 - 125

Lab Sample ID: MB 480-725191/8

Matrix: Water

Analysis Batch: 725191

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			09/16/24 12:36	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			09/16/24 12:36	1
Acetone	10	U	10	3.0	ug/L			09/16/24 12:36	1
Benzene	1.0	U	1.0	0.41	ug/L			09/16/24 12:36	1
Chloroform	1.0	U	1.0	0.34	ug/L			09/16/24 12:36	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			09/16/24 12:36	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			09/16/24 12:36	1
Toluene	1.0	U	1.0	0.51	ug/L			09/16/24 12:36	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			09/16/24 12:36	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			09/16/24 12:36	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			09/16/24 12:36	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			09/16/24 12:36	1

Surrogate	MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	107		77 - 120		09/16/24 12:36	1
Dibromofluoromethane (Surr)	108		75 - 123		09/16/24 12:36	1
Toluene-d8 (Surr)	108		80 - 120		09/16/24 12:36	1

Lab Sample ID: LCS 480-725191/6

Matrix: Water

Analysis Batch: 725191

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec	
							Limits	
1,1-Dichloroethene	25.0	24.3		ug/L		97	66 - 127	
4-Methyl-2-pentanone (MIBK)	125	144		ug/L		115	71 - 125	
Acetone	125	140		ug/L		112	56 - 142	
Benzene	25.0	23.4		ug/L		94	71 - 124	

Eurofins Buffalo

QC Sample Results

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223353-1

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

Lab Sample ID: LCS 480-725191/6

Matrix: Water

Analysis Batch: 725191

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloroform	25.0	21.9		ug/L		88	73 - 127
cis-1,2-Dichloroethene	25.0	22.8		ug/L		91	74 - 124
Tetrachloroethene	25.0	25.7		ug/L		103	74 - 122
Toluene	25.0	23.7		ug/L		95	80 - 122
trans-1,2-Dichloroethene	25.0	23.0		ug/L		92	73 - 127
Trichloroethene	25.0	22.5		ug/L		90	74 - 123
Vinyl chloride	25.0	24.9		ug/L		100	65 - 133
Xylenes, Total	50.0	45.6		ug/L		91	76 - 122

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	105		77 - 120
Dibromofluoromethane (Surr)	105		75 - 123
Toluene-d8 (Surr)	112		80 - 120

QC Association Summary

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223353-1

GC/MS VOA

Prep Batch: 725145

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-223353-5	SB-116 (10)	Total/NA	Solid	5035A_L	
480-223353-6	SB-116 (20)	Total/NA	Solid	5035A_L	
480-223353-7	SB-116 (34.5)	Total/NA	Solid	5035A_L	
MB 480-725145/2-A	Method Blank	Total/NA	Solid	5035A_L	
LCS 480-725145/1-A	Lab Control Sample	Total/NA	Solid	5035A_L	
LCSD 480-725145/13-A	Lab Control Sample Dup	Total/NA	Solid	5035A_L	

Analysis Batch: 725146

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-223353-5	SB-116 (10)	Total/NA	Solid	8260C	725145
480-223353-6	SB-116 (20)	Total/NA	Solid	8260C	725145
480-223353-7	SB-116 (34.5)	Total/NA	Solid	8260C	725145
MB 480-725145/2-A	Method Blank	Total/NA	Solid	8260C	725145
LCS 480-725145/1-A	Lab Control Sample	Total/NA	Solid	8260C	725145
LCSD 480-725145/13-A	Lab Control Sample Dup	Total/NA	Solid	8260C	725145

Analysis Batch: 725191

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-223353-1	SB-115 (25-30)	Total/NA	Water	8260C	
480-223353-2	SB-115 (15-20)	Total/NA	Water	8260C	
480-223353-3	SB-116 (25-30)	Total/NA	Water	8260C	
480-223353-4	SB-116 (15-20)	Total/NA	Water	8260C	
480-223353-8	TRIP BLANK	Total/NA	Water	8260C	
MB 480-725191/8	Method Blank	Total/NA	Water	8260C	
LCS 480-725191/6	Lab Control Sample	Total/NA	Water	8260C	

General Chemistry

Analysis Batch: 725107

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-223353-5	SB-116 (10)	Total/NA	Solid	Moisture	
480-223353-6	SB-116 (20)	Total/NA	Solid	Moisture	
480-223353-7	SB-116 (34.5)	Total/NA	Solid	Moisture	

Lab Chronicle

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223353-1

Client Sample ID: SB-115 (25-30)

Lab Sample ID: 480-223353-1

Date Collected: 09/12/24 10:30

Matrix: Water

Date Received: 09/13/24 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260C		1	725191	LCH	EET BUF	09/16/24 17:48

Client Sample ID: SB-115 (15-20)

Lab Sample ID: 480-223353-2

Date Collected: 09/12/24 11:00

Matrix: Water

Date Received: 09/13/24 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260C		1	725191	LCH	EET BUF	09/16/24 18:10

Client Sample ID: SB-116 (25-30)

Lab Sample ID: 480-223353-3

Date Collected: 09/12/24 15:25

Matrix: Water

Date Received: 09/13/24 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260C		1	725191	LCH	EET BUF	09/16/24 18:32

Client Sample ID: SB-116 (15-20)

Lab Sample ID: 480-223353-4

Date Collected: 09/12/24 15:50

Matrix: Water

Date Received: 09/13/24 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260C		1	725191	LCH	EET BUF	09/16/24 18:55

Client Sample ID: SB-116 (10)

Lab Sample ID: 480-223353-5

Date Collected: 09/12/24 13:30

Matrix: Solid

Date Received: 09/13/24 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	725107	JMM	EET BUF	09/13/24 15:39

Client Sample ID: SB-116 (10)

Lab Sample ID: 480-223353-5

Date Collected: 09/12/24 13:30

Matrix: Solid

Date Received: 09/13/24 10:30

Percent Solids: 77.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035A_L			725145	CDC	EET BUF	09/13/24 12:00
Total/NA	Analysis	8260C		1	725146	LCH	EET BUF	09/15/24 19:40

Client Sample ID: SB-116 (20)

Lab Sample ID: 480-223353-6

Date Collected: 09/12/24 13:50

Matrix: Solid

Date Received: 09/13/24 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	725107	JMM	EET BUF	09/13/24 15:39

Eurofins Buffalo

Lab Chronicle

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223353-1

Client Sample ID: SB-116 (20)

Lab Sample ID: 480-223353-6

Date Collected: 09/12/24 13:50

Matrix: Solid

Date Received: 09/13/24 10:30

Percent Solids: 83.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035A_L			725145	CDC	EET BUF	09/13/24 12:00
Total/NA	Analysis	8260C		1	725146	LCH	EET BUF	09/15/24 20:04

Client Sample ID: SB-116 (34.5)

Lab Sample ID: 480-223353-7

Date Collected: 09/12/24 14:20

Matrix: Solid

Date Received: 09/13/24 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	725107	JMM	EET BUF	09/13/24 15:39

Client Sample ID: SB-116 (34.5)

Lab Sample ID: 480-223353-7

Date Collected: 09/12/24 14:20

Matrix: Solid

Date Received: 09/13/24 10:30

Percent Solids: 83.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035A_L			725145	CDC	EET BUF	09/13/24 12:00
Total/NA	Analysis	8260C		1	725146	LCH	EET BUF	09/15/24 20:27

Client Sample ID: TRIP BLANK

Lab Sample ID: 480-223353-8

Date Collected: 09/12/24 00:00

Matrix: Water

Date Received: 09/13/24 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260C		1	725191	LCH	EET BUF	09/16/24 19:17

Laboratory References:

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

Accreditation/Certification Summary

Client: Arcadis U.S., Inc.

Job ID: 480-223353-1

Project/Site: BMS Krutulis GW Sampling Project

Laboratory: Eurofins Buffalo

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

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

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
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids

Pennsylvania	NELAP	68-00281	08-31-25
--------------	-------	----------	----------

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
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids

Method Summary

Client: Arcadis U.S., Inc.

Job ID: 480-223353-1

Project/Site: BMS Krutulis GW Sampling Project

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	EET BUF
Moisture	Percent Moisture	EPA	EET BUF
5030C	Purge and Trap	SW846	EET BUF
5035A_L	Closed System Purge and Trap	SW846	EET BUF

Protocol References:

EPA = US Environmental Protection Agency

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

Laboratory References:

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

Sample Summary

Client: Arcadis U.S., Inc.

Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223353-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-223353-1	SB-115 (25-30)	Water	09/12/24 10:30	09/13/24 10:30
480-223353-2	SB-115 (15-20)	Water	09/12/24 11:00	09/13/24 10:30
480-223353-3	SB-116 (25-30)	Water	09/12/24 15:25	09/13/24 10:30
480-223353-4	SB-116 (15-20)	Water	09/12/24 15:50	09/13/24 10:30
480-223353-5	SB-116 (10)	Solid	09/12/24 13:30	09/13/24 10:30
480-223353-6	SB-116 (20)	Solid	09/12/24 13:50	09/13/24 10:30
480-223353-7	SB-116 (34.5)	Solid	09/12/24 14:20	09/13/24 10:30
480-223353-8	TRIP BLANK	Water	09/12/24 00:00	09/13/24 10:30

Chain of Custody Record



Client Information		Lab PM: Schove, John R		Carrier Tracking # #225		COC No: 480-199256-41116.1	
Client Contact: Ms. Urvi Tulsiani		Phone: 315-992-0566		E-Mail: John.Schove@et.eurofins.com		Page: 1 of 1	
Company: Arcadis U.S., Inc.		PWSID		Analysis Requested		Job #:	
Address: 126 North Jefferson Street Suite 400		Due Date Requested:		Preservation Codes: A - HCL			
City: Milwaukee		TAT Requested (days): 2 Day TAT					
State, Zip: WI, 53202		Compliance Project: ☐ Yes ☒ No					
Phone: 315-992-0566		PO # 30238141.01					
Email: urvi.tulsiani@arcadis.com		WO # 30238141-082724					
Project Name: BMS Krutulis GW Sampling Project		Project # 48027987					
Site:		SSOW#					
Sample Identification		Sample Date		Sample Time		Sample Type (C=Comp, G=grab)	
SB-115 (25-30)		9/12/24		030		G Water	
SB-115 (15-20)		9/12/24		1100		G Water	
SB-116 (25-30)		9/12/24		1525		G Water	
SB-116 (15-20)		9/12/24		1530		G Water	
SB-116 (10)		9/12/24		1330		G S	
SB-116 (20)		9/12/24		1350		G S	
SB-116 (34.5)		9/12/24		1420		G S	
TRIP BLANK							
Possible Hazard Identification		☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological					
Deliverable Requested: ☒ I, II, III, IV, Other (specify)							
Empty Kit Relinquished by: [Signature]		Date: 9/12/24		Time: 1900			
Relinquished by:		Date/Time: 9/13/24		Date/Time: 1030		Company: JTA	
Relinquished by:		Date/Time:		Date/Time:		Company:	
Relinquished by:		Date/Time:		Date/Time:		Company:	
Custody Seals Intact: ☒ Yes ☐ No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:		3.9 #1 File	

Login Sample Receipt Checklist

Client: Arcadis U.S., Inc.

Job Number: 480-223353-1

Login Number: 223353

List Source: Eurofins Buffalo

List Number: 1

Creator: Kolb, Chris M

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	TCORE PUT IN FREEZER 9/13 @ 1200
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	ARCADIS
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	N/A	

**2024 Annual Groundwater Monitoring
and ERD Baseline Monitoring
Analytical Data**

ANALYTICAL REPORT

PREPARED FOR

Attn: Ms. Urvi Tulsiani
Arcadis U.S., Inc.
126 North Jefferson Street
Suite 400
Milwaukee, Wisconsin 53202

Generated 9/20/2024 2:28:59 PM

JOB DESCRIPTION

BMS Krutulis GW Sampling Project

JOB NUMBER

480-223361-1

Eurofins Buffalo

Job Notes

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

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

Authorization



Generated
9/20/2024 2:28:59 PM

Authorized for release by
Joshua Velez, Project Management Assistant I
Joshua.Velez@et.eurofinsus.com
Designee for
John Schove, Project Manager II
John.Schove@et.eurofinsus.com
(716)504-9838

Table of Contents

Cover Page	1
Table of Contents	3
Definitions/Glossary	4
Case Narrative	5
Detection Summary	6
Client Sample Results	7
Surrogate Summary	12
QC Sample Results	13
QC Association Summary	19
Lab Chronicle	21
Certification Summary	22
Method Summary	23
Sample Summary	24
Chain of Custody	25
Receipt Checklists	26



Definitions/Glossary

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223361-1

Qualifiers

GC/MS VOA

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

GC VOA

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

Metals

Qualifier	Qualifier Description
^5-	Linear Range Check (LRC) is outside acceptance limits, low biased.
U	Indicates the analyte was analyzed for but not detected.

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Arcadis U.S., Inc.
Project: BMS Krutulis GW Sampling Project

Job ID: 480-223361-1

Job ID: 480-223361-1

Eurofins Buffalo

Job Narrative 480-223361-1

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

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

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

Receipt

The samples were received on 9/13/2024 10:30 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 4.1° C.

GC/MS VOA

Method 8260C: The following sample was diluted to bring the concentration of target analytes within the calibration range: MW-3S (480-223361-3). 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.

GC VOA

Method RSK-175: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-3S (480-223361-3) and MW-3D (480-223361-4). 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.

Metals

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

General Chemistry

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

Eurofins Buffalo

Detection Summary

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223361-1

Client Sample ID: MW-6S

Lab Sample ID: 480-223361-1

No Detections.

Client Sample ID: MW-6D

Lab Sample ID: 480-223361-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	5.5		1.0	0.81	ug/L	1			8260C	Total/NA
Vinyl chloride	11		1.0	0.90	ug/L	1			8260C	Total/NA

Client Sample ID: MW-3S

Lab Sample ID: 480-223361-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Benzene	3.0	J	4.0	1.6	ug/L	4			8260C	Total/NA
cis-1,2-Dichloroethene	180		4.0	3.2	ug/L	4			8260C	Total/NA
trans-1,2-Dichloroethene	110		4.0	3.6	ug/L	4			8260C	Total/NA
Vinyl chloride	370		4.0	3.6	ug/L	4			8260C	Total/NA
Ethane	4.9	J	7.5	1.5	ug/L	1			RSK-175	Total/NA
Ethene	86		7.0	1.5	ug/L	1			RSK-175	Total/NA
Methane - DL	5500		88	22	ug/L	22			RSK-175	Total/NA
Iron, Dissolved	0.25	^5-	0.050	0.019	mg/L	1			6010C	Dissolved
Total Organic Carbon	1.2		1.0	0.43	mg/L	1			9060A	Total/NA

Client Sample ID: MW-3D

Lab Sample ID: 480-223361-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	65		1.0	0.81	ug/L	1			8260C	Total/NA
trans-1,2-Dichloroethene	24		1.0	0.90	ug/L	1			8260C	Total/NA
Vinyl chloride	12		1.0	0.90	ug/L	1			8260C	Total/NA
Ethane	3.1	J	7.5	1.5	ug/L	1			RSK-175	Total/NA
Methane - DL	7400		88	22	ug/L	22			RSK-175	Total/NA
Iron, Dissolved	0.24	^5-	0.050	0.019	mg/L	1			6010C	Dissolved
Sulfate	4.6	J	5.0	1.5	mg/L	1			D516-90, 02	Total/NA

Client Sample ID: TRIP BLANK

Lab Sample ID: 480-223361-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Toluene	1.0		1.0	0.51	ug/L	1			8260C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Buffalo

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulius GW Sampling Project

Job ID: 480-223361-1

Client Sample ID: MW-6S

Lab Sample ID: 480-223361-1

Date Collected: 09/12/24 11:25

Matrix: Water

Date Received: 09/13/24 10:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			09/17/24 20:08	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			09/17/24 20:08	1
Acetone	10	U	10	3.0	ug/L			09/17/24 20:08	1
Benzene	1.0	U	1.0	0.41	ug/L			09/17/24 20:08	1
Chloroform	1.0	U	1.0	0.34	ug/L			09/17/24 20:08	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			09/17/24 20:08	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			09/17/24 20:08	1
Toluene	1.0	U	1.0	0.51	ug/L			09/17/24 20:08	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			09/17/24 20:08	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			09/17/24 20:08	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			09/17/24 20:08	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			09/17/24 20:08	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		77 - 120					09/17/24 20:08	1
Dibromofluoromethane (Surr)	109		75 - 123					09/17/24 20:08	1
Toluene-d8 (Surr)	105		80 - 120					09/17/24 20:08	1

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulil GW Sampling Project

Job ID: 480-223361-1

Client Sample ID: MW-6D

Lab Sample ID: 480-223361-2

Date Collected: 09/12/24 12:30

Matrix: Water

Date Received: 09/13/24 10:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			09/16/24 20:01	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			09/16/24 20:01	1
Acetone	10	U	10	3.0	ug/L			09/16/24 20:01	1
Benzene	1.0	U	1.0	0.41	ug/L			09/16/24 20:01	1
Chloroform	1.0	U	1.0	0.34	ug/L			09/16/24 20:01	1
cis-1,2-Dichloroethene	5.5		1.0	0.81	ug/L			09/16/24 20:01	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			09/16/24 20:01	1
Toluene	1.0	U	1.0	0.51	ug/L			09/16/24 20:01	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			09/16/24 20:01	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			09/16/24 20:01	1
Vinyl chloride	11		1.0	0.90	ug/L			09/16/24 20:01	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			09/16/24 20:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		77 - 120		09/16/24 20:01	1
Dibromofluoromethane (Surr)	110		75 - 123		09/16/24 20:01	1
Toluene-d8 (Surr)	106		80 - 120		09/16/24 20:01	1

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223361-1

Client Sample ID: MW-3S

Lab Sample ID: 480-223361-3

Date Collected: 09/12/24 14:55

Matrix: Water

Date Received: 09/13/24 10:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	4.0	U	4.0	1.2	ug/L			09/17/24 20:30	4
4-Methyl-2-pentanone (MIBK)	20	U	20	8.4	ug/L			09/17/24 20:30	4
Acetone	40	U	40	12	ug/L			09/17/24 20:30	4
Benzene	3.0	J	4.0	1.6	ug/L			09/17/24 20:30	4
Chloroform	4.0	U	4.0	1.4	ug/L			09/17/24 20:30	4
cis-1,2-Dichloroethene	180		4.0	3.2	ug/L			09/17/24 20:30	4
Tetrachloroethene	4.0	U	4.0	1.4	ug/L			09/17/24 20:30	4
Toluene	4.0	U	4.0	2.0	ug/L			09/17/24 20:30	4
trans-1,2-Dichloroethene	110		4.0	3.6	ug/L			09/17/24 20:30	4
Trichloroethene	4.0	U	4.0	1.8	ug/L			09/17/24 20:30	4
Vinyl chloride	370		4.0	3.6	ug/L			09/17/24 20:30	4
Xylenes, Total	8.0	U	8.0	2.6	ug/L			09/17/24 20:30	4

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		77 - 120		09/17/24 20:30	4
Dibromofluoromethane (Surr)	106		75 - 123		09/17/24 20:30	4
Toluene-d8 (Surr)	108		80 - 120		09/17/24 20:30	4

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	4.9	J	7.5	1.5	ug/L			09/16/24 14:36	1
Ethene	86		7.0	1.5	ug/L			09/16/24 14:36	1

Method: RSK-175 - Dissolved Gases (GC) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	5500		88	22	ug/L			09/17/24 11:22	22

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Dissolved	0.25	^5-	0.050	0.019	mg/L		09/16/24 09:20	09/17/24 02:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SW846 9060A)	1.2		1.0	0.43	mg/L			09/17/24 07:15	1
Sulfate (ASTM D516-90, 02)	5.0	U	5.0	1.5	mg/L			09/17/24 09:23	1

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223361-1

Client Sample ID: MW-3D

Lab Sample ID: 480-223361-4

Date Collected: 09/12/24 16:55

Matrix: Water

Date Received: 09/13/24 10:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			09/17/24 20:52	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			09/17/24 20:52	1
Acetone	10	U	10	3.0	ug/L			09/17/24 20:52	1
Benzene	1.0	U	1.0	0.41	ug/L			09/17/24 20:52	1
Chloroform	1.0	U	1.0	0.34	ug/L			09/17/24 20:52	1
cis-1,2-Dichloroethene	65		1.0	0.81	ug/L			09/17/24 20:52	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			09/17/24 20:52	1
Toluene	1.0	U	1.0	0.51	ug/L			09/17/24 20:52	1
trans-1,2-Dichloroethene	24		1.0	0.90	ug/L			09/17/24 20:52	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			09/17/24 20:52	1
Vinyl chloride	12		1.0	0.90	ug/L			09/17/24 20:52	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			09/17/24 20:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		77 - 120		09/17/24 20:52	1
Dibromofluoromethane (Surr)	108		75 - 123		09/17/24 20:52	1
Toluene-d8 (Surr)	109		80 - 120		09/17/24 20:52	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	3.1	J	7.5	1.5	ug/L			09/16/24 14:55	1
Ethene	7.0	U	7.0	1.5	ug/L			09/16/24 14:55	1

Method: RSK-175 - Dissolved Gases (GC) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	7400		88	22	ug/L			09/17/24 11:40	22

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Dissolved	0.24	^5-	0.050	0.019	mg/L		09/16/24 09:20	09/17/24 02:34	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SW846 9060A)	1.0	U	1.0	0.43	mg/L			09/17/24 07:44	1
Sulfate (ASTM D516-90, 02)	4.6	J	5.0	1.5	mg/L			09/17/24 09:26	1

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223361-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 480-223361-5

Date Collected: 09/12/24 00:00

Matrix: Water

Date Received: 09/13/24 10:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			09/16/24 21:07	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			09/16/24 21:07	1
Acetone	10	U	10	3.0	ug/L			09/16/24 21:07	1
Benzene	1.0	U	1.0	0.41	ug/L			09/16/24 21:07	1
Chloroform	1.0	U	1.0	0.34	ug/L			09/16/24 21:07	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			09/16/24 21:07	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			09/16/24 21:07	1
Toluene	1.0		1.0	0.51	ug/L			09/16/24 21:07	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			09/16/24 21:07	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			09/16/24 21:07	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			09/16/24 21:07	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			09/16/24 21:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		77 - 120		09/16/24 21:07	1
Dibromofluoromethane (Surr)	110		75 - 123		09/16/24 21:07	1
Toluene-d8 (Surr)	107		80 - 120		09/16/24 21:07	1

Surrogate Summary

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223361-1

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

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
Lab Sample ID	Client Sample ID	DCA (77-120)	DBFM (75-123)	TOL (80-120)
480-223361-1	MW-6S	108	109	105
480-223361-2	MW-6D	110	110	106
480-223361-3	MW-3S	106	106	108
480-223361-4	MW-3D	107	108	109
480-223361-5	TRIP BLANK	110	110	107
LCS 480-725191/6	Lab Control Sample	105	105	112
LCS 480-725400/6	Lab Control Sample	102	103	111
MB 480-725191/8	Method Blank	107	108	108
MB 480-725400/8	Method Blank	107	107	109

Surrogate Legend

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

QC Sample Results

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulius GW Sampling Project

Job ID: 480-223361-1

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

Lab Sample ID: MB 480-725191/8

Matrix: Water

Analysis Batch: 725191

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			09/16/24 12:36	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			09/16/24 12:36	1
Acetone	10	U	10	3.0	ug/L			09/16/24 12:36	1
Benzene	1.0	U	1.0	0.41	ug/L			09/16/24 12:36	1
Chloroform	1.0	U	1.0	0.34	ug/L			09/16/24 12:36	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			09/16/24 12:36	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			09/16/24 12:36	1
Toluene	1.0	U	1.0	0.51	ug/L			09/16/24 12:36	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			09/16/24 12:36	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			09/16/24 12:36	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			09/16/24 12:36	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			09/16/24 12:36	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		77 - 120		09/16/24 12:36	1
Dibromofluoromethane (Surr)	108		75 - 123		09/16/24 12:36	1
Toluene-d8 (Surr)	108		80 - 120		09/16/24 12:36	1

Lab Sample ID: LCS 480-725191/6

Matrix: Water

Analysis Batch: 725191

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1-Dichloroethene	25.0	24.3		ug/L		97	66 - 127
4-Methyl-2-pentanone (MIBK)	125	144		ug/L		115	71 - 125
Acetone	125	140		ug/L		112	56 - 142
Benzene	25.0	23.4		ug/L		94	71 - 124
Chloroform	25.0	21.9		ug/L		88	73 - 127
cis-1,2-Dichloroethene	25.0	22.8		ug/L		91	74 - 124
Tetrachloroethene	25.0	25.7		ug/L		103	74 - 122
Toluene	25.0	23.7		ug/L		95	80 - 122
trans-1,2-Dichloroethene	25.0	23.0		ug/L		92	73 - 127
Trichloroethene	25.0	22.5		ug/L		90	74 - 123
Vinyl chloride	25.0	24.9		ug/L		100	65 - 133
Xylenes, Total	50.0	45.6		ug/L		91	76 - 122

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	105		77 - 120
Dibromofluoromethane (Surr)	105		75 - 123
Toluene-d8 (Surr)	112		80 - 120

Lab Sample ID: MB 480-725400/8

Matrix: Water

Analysis Batch: 725400

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			09/17/24 19:46	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			09/17/24 19:46	1

Eurofins Buffalo

QC Sample Results

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulius GW Sampling Project

Job ID: 480-223361-1

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

Lab Sample ID: MB 480-725400/8

Matrix: Water

Analysis Batch: 725400

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	3.0	ug/L			09/17/24 19:46	1
Benzene	1.0	U	1.0	0.41	ug/L			09/17/24 19:46	1
Chloroform	1.0	U	1.0	0.34	ug/L			09/17/24 19:46	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			09/17/24 19:46	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			09/17/24 19:46	1
Toluene	1.0	U	1.0	0.51	ug/L			09/17/24 19:46	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			09/17/24 19:46	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			09/17/24 19:46	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			09/17/24 19:46	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			09/17/24 19:46	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		77 - 120		09/17/24 19:46	1
Dibromofluoromethane (Surr)	107		75 - 123		09/17/24 19:46	1
Toluene-d8 (Surr)	109		80 - 120		09/17/24 19:46	1

Lab Sample ID: LCS 480-725400/6

Matrix: Water

Analysis Batch: 725400

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1-Dichloroethene	25.0	23.8		ug/L		95	66 - 127
4-Methyl-2-pentanone (MIBK)	125	148		ug/L		119	71 - 125
Acetone	125	142		ug/L		114	56 - 142
Benzene	25.0	23.6		ug/L		94	71 - 124
Chloroform	25.0	22.4		ug/L		89	73 - 127
cis-1,2-Dichloroethene	25.0	23.3		ug/L		93	74 - 124
Tetrachloroethene	25.0	26.6		ug/L		106	74 - 122
Toluene	25.0	24.3		ug/L		97	80 - 122
trans-1,2-Dichloroethene	25.0	23.3		ug/L		93	73 - 127
Trichloroethene	25.0	23.5		ug/L		94	74 - 123
Vinyl chloride	25.0	25.6		ug/L		103	65 - 133
Xylenes, Total	50.0	48.2		ug/L		96	76 - 122

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	102		77 - 120
Dibromofluoromethane (Surr)	103		75 - 123
Toluene-d8 (Surr)	111		80 - 120

Method: RSK-175 - Dissolved Gases (GC)

Lab Sample ID: MB 480-725169/6

Matrix: Water

Analysis Batch: 725169

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	4.0	U	4.0	1.0	ug/L			09/16/24 09:00	1
Ethane	7.5	U	7.5	1.5	ug/L			09/16/24 09:00	1

Eurofins Buffalo

QC Sample Results

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223361-1

Method: RSK-175 - Dissolved Gases (GC) (Continued)

Lab Sample ID: MB 480-725169/6

Matrix: Water

Analysis Batch: 725169

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethene	7.0	U	7.0	1.5	ug/L			09/16/24 09:00	1

Lab Sample ID: LCS 480-725169/7

Matrix: Water

Analysis Batch: 725169

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Methane	19.5	18.8		ug/L		96	85 - 120
Ethane	36.5	35.1		ug/L		96	79 - 120
Ethene	34.0	32.3		ug/L		95	85 - 120

Lab Sample ID: LCSD 480-725169/8

Matrix: Water

Analysis Batch: 725169

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	19.5	18.8		ug/L		96	85 - 120	0	50
Ethane	36.5	35.3		ug/L		97	79 - 120	0	50
Ethene	34.0	32.7		ug/L		96	85 - 120	1	50

Lab Sample ID: MB 480-725301/3

Matrix: Water

Analysis Batch: 725301

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	4.0	U	4.0	1.0	ug/L			09/17/24 08:30	1
Ethane	7.5	U	7.5	1.5	ug/L			09/17/24 08:30	1
Ethene	7.0	U	7.0	1.5	ug/L			09/17/24 08:30	1

Lab Sample ID: LCS 480-725301/4

Matrix: Water

Analysis Batch: 725301

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Methane	19.5	19.2		ug/L		98	85 - 120
Ethane	36.5	36.3		ug/L		99	79 - 120
Ethene	34.0	33.6		ug/L		99	85 - 120

Lab Sample ID: LCSD 480-725301/5

Matrix: Water

Analysis Batch: 725301

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	19.5	19.6		ug/L		101	85 - 120	2	50
Ethane	36.5	36.9		ug/L		101	79 - 120	1	50
Ethene	34.0	34.1		ug/L		100	85 - 120	1	50

Eurofins Buffalo

QC Sample Results

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223361-1

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 480-725089/1-A
Matrix: Water
Analysis Batch: 725298

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 725089

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Dissolved	0.050	U ^5-	0.050	0.019	mg/L		09/16/24 09:20	09/17/24 02:20	1

Lab Sample ID: LCS 480-725089/2-A
Matrix: Water
Analysis Batch: 725298

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 725089

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Iron, Dissolved	5.10	5.77	^5-	mg/L		113	80 - 120

Lab Sample ID: 480-223361-3 MS
Matrix: Water
Analysis Batch: 725298

Client Sample ID: MW-3S
Prep Type: Dissolved
Prep Batch: 725089

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Iron, Dissolved	0.25	^5-	5.10	5.97	^5-	mg/L		112	75 - 125

Lab Sample ID: 480-223361-3 MSD
Matrix: Water
Analysis Batch: 725298

Client Sample ID: MW-3S
Prep Type: Dissolved
Prep Batch: 725089

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Iron, Dissolved	0.25	^5-	5.10	5.98	^5-	mg/L		112	75 - 125	0	20

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

Lab Sample ID: MB 480-725465/28
Matrix: Water
Analysis Batch: 725465

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	1.0	U	1.0	0.43	mg/L			09/17/24 03:56	1

Lab Sample ID: MB 480-725465/4
Matrix: Water
Analysis Batch: 725465

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	1.0	U	1.0	0.43	mg/L			09/16/24 16:28	1

Lab Sample ID: LCS 480-725465/29
Matrix: Water
Analysis Batch: 725465

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon	60.0	59.42		mg/L		99	90 - 110

Eurofins Buffalo

QC Sample Results

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223361-1

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

Lab Sample ID: LCS 480-725465/5
Matrix: Water
Analysis Batch: 725465

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon	60.0	61.12		mg/L		102	90 - 110

Method: D516-90, 02 - Sulfate

Lab Sample ID: MB 480-725374/44
Matrix: Water
Analysis Batch: 725374

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	5.0	U	5.0	1.5	mg/L			09/17/24 09:19	1

Lab Sample ID: MB 480-725374/51
Matrix: Water
Analysis Batch: 725374

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	5.0	U	5.0	1.5	mg/L			09/17/24 09:22	1

Lab Sample ID: MB 480-725374/59
Matrix: Water
Analysis Batch: 725374

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	5.0	U	5.0	1.5	mg/L			09/17/24 09:25	1

Lab Sample ID: LCS 480-725374/50
Matrix: Water
Analysis Batch: 725374

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfate	30.0	30.17		mg/L		101	90 - 110

Lab Sample ID: LCS 480-725374/58
Matrix: Water
Analysis Batch: 725374

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfate	30.0	30.44		mg/L		101	90 - 110

Lab Sample ID: 480-223361-4 MS
Matrix: Water
Analysis Batch: 725374

Client Sample ID: MW-3D
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfate	4.6	J	20.0	26.03		mg/L		107	60 - 128

Eurofins Buffalo

QC Sample Results

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223361-1

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

Lab Sample ID: 480-223361-4 MSD							Client Sample ID: MW-3D					
Matrix: Water							Prep Type: Total/NA					
Analysis Batch: 725374												
Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit	
Sulfate	4.6	J	20.0	27.27		mg/L		113	60 - 128	5	20	

QC Association Summary

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223361-1

GC/MS VOA

Analysis Batch: 725191

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-223361-2	MW-6D	Total/NA	Water	8260C	
480-223361-5	TRIP BLANK	Total/NA	Water	8260C	
MB 480-725191/8	Method Blank	Total/NA	Water	8260C	
LCS 480-725191/6	Lab Control Sample	Total/NA	Water	8260C	

Analysis Batch: 725400

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-223361-1	MW-6S	Total/NA	Water	8260C	
480-223361-3	MW-3S	Total/NA	Water	8260C	
480-223361-4	MW-3D	Total/NA	Water	8260C	
MB 480-725400/8	Method Blank	Total/NA	Water	8260C	
LCS 480-725400/6	Lab Control Sample	Total/NA	Water	8260C	

GC VOA

Analysis Batch: 725169

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-223361-3	MW-3S	Total/NA	Water	RSK-175	
480-223361-4	MW-3D	Total/NA	Water	RSK-175	
MB 480-725169/6	Method Blank	Total/NA	Water	RSK-175	
LCS 480-725169/7	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 480-725169/8	Lab Control Sample Dup	Total/NA	Water	RSK-175	

Analysis Batch: 725301

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-223361-3 - DL	MW-3S	Total/NA	Water	RSK-175	
480-223361-4 - DL	MW-3D	Total/NA	Water	RSK-175	
MB 480-725301/3	Method Blank	Total/NA	Water	RSK-175	
LCS 480-725301/4	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 480-725301/5	Lab Control Sample Dup	Total/NA	Water	RSK-175	

Metals

Prep Batch: 725089

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-223361-3	MW-3S	Dissolved	Water	3005A	
480-223361-4	MW-3D	Dissolved	Water	3005A	
MB 480-725089/1-A	Method Blank	Total/NA	Water	3005A	
LCS 480-725089/2-A	Lab Control Sample	Total/NA	Water	3005A	
480-223361-3 MS	MW-3S	Dissolved	Water	3005A	
480-223361-3 MSD	MW-3S	Dissolved	Water	3005A	

Analysis Batch: 725298

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-223361-3	MW-3S	Dissolved	Water	6010C	725089
480-223361-4	MW-3D	Dissolved	Water	6010C	725089
MB 480-725089/1-A	Method Blank	Total/NA	Water	6010C	725089
LCS 480-725089/2-A	Lab Control Sample	Total/NA	Water	6010C	725089
480-223361-3 MS	MW-3S	Dissolved	Water	6010C	725089
480-223361-3 MSD	MW-3S	Dissolved	Water	6010C	725089

Eurofins Buffalo

QC Association Summary

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223361-1

General Chemistry

Analysis Batch: 725374

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-223361-3	MW-3S	Total/NA	Water	D516-90, 02	
480-223361-4	MW-3D	Total/NA	Water	D516-90, 02	
MB 480-725374/44	Method Blank	Total/NA	Water	D516-90, 02	
MB 480-725374/51	Method Blank	Total/NA	Water	D516-90, 02	
MB 480-725374/59	Method Blank	Total/NA	Water	D516-90, 02	
LCS 480-725374/50	Lab Control Sample	Total/NA	Water	D516-90, 02	
LCS 480-725374/58	Lab Control Sample	Total/NA	Water	D516-90, 02	
480-223361-4 MS	MW-3D	Total/NA	Water	D516-90, 02	
480-223361-4 MSD	MW-3D	Total/NA	Water	D516-90, 02	

Analysis Batch: 725465

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-223361-3	MW-3S	Total/NA	Water	9060A	
480-223361-4	MW-3D	Total/NA	Water	9060A	
MB 480-725465/28	Method Blank	Total/NA	Water	9060A	
MB 480-725465/4	Method Blank	Total/NA	Water	9060A	
LCS 480-725465/29	Lab Control Sample	Total/NA	Water	9060A	
LCS 480-725465/5	Lab Control Sample	Total/NA	Water	9060A	

Lab Chronicle

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223361-1

Client Sample ID: MW-6S

Date Collected: 09/12/24 11:25

Date Received: 09/13/24 10:30

Lab Sample ID: 480-223361-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260C		1	725400	AXK	EET BUF	09/17/24 20:08

Client Sample ID: MW-6D

Date Collected: 09/12/24 12:30

Date Received: 09/13/24 10:30

Lab Sample ID: 480-223361-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260C		1	725191	LCH	EET BUF	09/16/24 20:01

Client Sample ID: MW-3S

Date Collected: 09/12/24 14:55

Date Received: 09/13/24 10:30

Lab Sample ID: 480-223361-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260C		4	725400	AXK	EET BUF	09/17/24 20:30
Total/NA	Analysis	RSK-175		1	725169	MAN	EET BUF	09/16/24 14:36
Total/NA	Analysis	RSK-175	DL	22	725301	MAN	EET BUF	09/17/24 11:22
Dissolved	Prep	3005A			725089	EMO	EET BUF	09/16/24 09:20
Dissolved	Analysis	6010C		1	725298	BMB	EET BUF	09/17/24 02:24
Total/NA	Analysis	9060A		1	725465	AF	EET BUF	09/17/24 07:15
Total/NA	Analysis	D516-90, 02		1	725374	CG	EET BUF	09/17/24 09:23

Client Sample ID: MW-3D

Date Collected: 09/12/24 16:55

Date Received: 09/13/24 10:30

Lab Sample ID: 480-223361-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260C		1	725400	AXK	EET BUF	09/17/24 20:52
Total/NA	Analysis	RSK-175		1	725169	MAN	EET BUF	09/16/24 14:55
Total/NA	Analysis	RSK-175	DL	22	725301	MAN	EET BUF	09/17/24 11:40
Dissolved	Prep	3005A			725089	EMO	EET BUF	09/16/24 09:20
Dissolved	Analysis	6010C		1	725298	BMB	EET BUF	09/17/24 02:34
Total/NA	Analysis	9060A		1	725465	AF	EET BUF	09/17/24 07:44
Total/NA	Analysis	D516-90, 02		1	725374	CG	EET BUF	09/17/24 09:26

Client Sample ID: TRIP BLANK

Date Collected: 09/12/24 00:00

Date Received: 09/13/24 10:30

Lab Sample ID: 480-223361-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260C		1	725191	LCH	EET BUF	09/16/24 21:07

Laboratory References:

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

Eurofins Buffalo

Accreditation/Certification Summary

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223361-1

Laboratory: Eurofins Buffalo

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

Authority	Program	Identification Number	Expiration Date
New York	NELAP	10026	03-31-25
Pennsylvania	NELAP	68-00281	08-31-25

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15

Method Summary

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223361-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	EET BUF
RSK-175	Dissolved Gases (GC)	RSK	EET BUF
6010C	Metals (ICP)	SW846	EET BUF
9060A	Organic Carbon, Total (TOC)	SW846	EET BUF
D516-90, 02	Sulfate	ASTM	EET BUF
3005A	Preparation, Total Metals	SW846	EET BUF
5030C	Purge and Trap	SW846	EET BUF

Protocol References:

ASTM = ASTM International

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

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

Laboratory References:

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

Sample Summary

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223361-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-223361-1	MW-6S	Water	09/12/24 11:25	09/13/24 10:30
480-223361-2	MW-6D	Water	09/12/24 12:30	09/13/24 10:30
480-223361-3	MW-3S	Water	09/12/24 14:55	09/13/24 10:30
480-223361-4	MW-3D	Water	09/12/24 16:55	09/13/24 10:30
480-223361-5	TRIP BLANK	Water	09/12/24 00:00	09/13/24 10:30

Chain of Custody Record

Syracuse

Client Information		Sampler: <u>D. Miranda</u>		Lab PM: <u>Schove, John R</u>		COC No: <u>480-199549-41161.1</u>																													
Client Contact: <u>Carla DaParma</u>		Phone: <u>315-992-0568</u>		E-Mail: <u>John.Schove@et.eurofins.com</u>		Page: <u>1 of 1</u>																													
Company: <u>Arcadis U.S., Inc.</u>		PWSID: _____		State: <u>#225</u>		Job #:																													
Address: <u>Arcadis 2100 Georgetown Drive, Suite 402</u>		Due Date Requested:		Analysis Requested																															
City: <u>Sewickley</u>		TAT Requested (days): <u>10 Day Standard</u>																																	
State: <u>PA</u>		Compliance Project: <u>Yes</u> ☐ <u>No</u> ☐																																	
Zip: <u>15143</u>		PO #: <u>30239951.01</u>																																	
Phone: <u>724-742-9180(Tel) 724-742-9189(Fax)</u>		WO #: <u>30239951-090623</u>																																	
Email: <u>Carla.DaParma@arcadis-us.com</u>		Project #: <u>48027987</u>																																	
Project Name: <u>BMS Krutulis GW Sampling Project</u>		SSOW#: _____																																	
Site: <u>BMS Krutulis</u>																																			
Sample Identification		Sample Date		Sample Time		Sample Type (C=Comp, G=grab)		Matrix (W=water, S=solid, O=water/oil, B=soil, A=air)		Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		6010C - Metals - Iron, Dissolved		RSK 175 - Methane, Ethane, Ethene		8260C - VOCs - Site Specific List		9060A - Organic Carbon, Total (TOC)		D516 - Sulfate		Total Number of Containers		Preservation Codes: D - HNO3 A - HCL S - H2SO4 N - None		Other:		Special Instructions/Notes:					
<u>MW-6S</u>		<u>9/12/24</u>		<u>1125</u>		<u>G</u>		<u>Water</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>3</u>		<u>3</u>		<u>11</u>		<u>11</u>		<u>2</u>		<u>480-223361 Chain of Custody</u>	
<u>MW-6D</u>		<u>9/12/24</u>		<u>1230</u>		<u>G</u>		<u>Water</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>3</u>		<u>3</u>		<u>11</u>		<u>11</u>		<u>2</u>			
<u>MW-3S</u>		<u>9/12/24</u>		<u>1433</u>		<u>G</u>		<u>Water</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>3</u>		<u>3</u>		<u>11</u>		<u>11</u>					
<u>MW-3D</u>		<u>9/12/24</u>		<u>1633</u>		<u>G</u>		<u>Water</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>3</u>		<u>3</u>		<u>11</u>		<u>11</u>					
<u>TREE BLANK</u>								<u>Water</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>3</u>		<u>3</u>		<u>11</u>		<u>11</u>					
								<u>Water</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>3</u>		<u>3</u>		<u>11</u>		<u>11</u>					
								<u>Water</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>3</u>		<u>3</u>		<u>11</u>		<u>11</u>					
								<u>Water</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>3</u>		<u>3</u>		<u>11</u>		<u>11</u>					
								<u>Water</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>3</u>		<u>3</u>		<u>11</u>		<u>11</u>					
								<u>Water</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>3</u>		<u>3</u>		<u>11</u>		<u>11</u>					
								<u>Water</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>3</u>		<u>3</u>		<u>11</u>		<u>11</u>					
								<u>Water</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>3</u>		<u>3</u>		<u>11</u>		<u>11</u>					
								<u>Water</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>3</u>		<u>3</u>		<u>11</u>		<u>11</u>					
								<u>Water</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>3</u>		<u>3</u>		<u>11</u>		<u>11</u>					
								<u>Water</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>3</u>		<u>3</u>		<u>11</u>		<u>11</u>					
								<u>Water</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>3</u>		<u>3</u>		<u>11</u>		<u>11</u>					
								<u>Water</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>3</u>		<u>3</u>		<u>11</u>		<u>11</u>					
								<u>Water</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>3</u>		<u>3</u>		<u>11</u>		<u>11</u>					
								<u>Water</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>3</u>		<u>3</u>		<u>11</u>		<u>11</u>					
								<u>Water</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>3</u>		<u>3</u>		<u>11</u>		<u>11</u>					
								<u>Water</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>3</u>		<u>3</u>		<u>11</u>		<u>11</u>					
								<u>Water</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>3</u>		<u>3</u>		<u>11</u>		<u>11</u>					
								<u>Water</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>3</u>		<u>3</u>		<u>11</u>		<u>11</u>					
								<u>Water</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>3</u>		<u>3</u>		<u>11</u>		<u>11</u>					
								<u>Water</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>3</u>		<u>3</u>		<u>11</u>		<u>11</u>					
								<u>Water</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>3</u>		<u>3</u>		<u>11</u>		<u>11</u>					
								<u>Water</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>3</u>		<u>3</u>		<u>11</u>		<u>11</u>					
								<u>Water</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>3</u>		<u>3</u>		<u>11</u>		<u>11</u>					
								<u>Water</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>3</u>		<u>3</u>		<u>11</u>		<u>11</u>					
								<u>Water</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>3</u>		<u>3</u>		<u>11</u>		<u>11</u>					
								<u>Water</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>3</u>		<u>3</u>		<u>11</u>		<u>11</u>					
								<u>Water</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>3</u>		<u>3</u>		<u>11</u>		<u>11</u>					
								<u>Water</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>3</u>		<u>3</u>		<u>11</u>		<u>11</u>					
								<u>Water</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>3</u>		<u>3</u>		<u>11</u>		<u>11</u>					
								<u>Water</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>3</u>		<u>3</u>		<u>11</u>		<u>11</u>					
								<u>Water</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>3</u>		<u>3</u>		<u>11</u>		<u>11</u>					
								<u>Water</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>3</u>		<u>3</u>		<u>11</u>		<u>11</u>					
								<u>Water</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>3</u>		<u>3</u>		<u>11</u>		<u>11</u>					
								<u>Water</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>3</u>		<u>3</u>		<u>11</u>		<u>11</u>					
								<u>Water</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>3</u>		<u>3</u>		<u>11</u>		<u>11</u>					
								<u>Water</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>3</u>		<u>3</u>		<u>11</u>		<u>11</u>					
								<u>Water</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>3</u>		<u>3</u>		<u>11</u>		<u>11</u>					
								<u>Water</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>3</u>		<u>3</u>		<u>11</u>		<u>11</u>					
								<u>Water</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>3</u>		<u>3</u>		<u>11</u>		<u>11</u>					
								<u>Water</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>3</u>		<u>3</u>		<u>11</u>		<u>11</u>					
								<u>Water</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>3</u>		<u>3</u>		<u>11</u>		<u>11</u>					
								<u>Water</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>3</u>		<u>3</u>		<u>11</u>		<u>11</u>					
								<u>Water</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>3</u>		<u>3</u>		<u>11</u>		<u>11</u>					
								<u>Water</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>3</u>		<u>3</u>		<u>11</u>		<u>11</u>					
								<u>Water</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>3</u>		<u>3</u>		<u>11</u>		<u>11</u>					
								<u>Water</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>3</u>		<u>3</u>		<u>11</u>		<u>11</u>					
								<u>Water</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>3</u>		<u>3</u>		<u>11</u>		<u>11</u>					
								<u>Water</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>3</u>		<u>3</u>		<u>11</u>		<u>11</u>					
								<u>Water</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>3</u>		<u>3</u>		<u>11</u>		<u>11</u>					
								<u>Water</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>3</u>		<u>3</u>		<u>11</u>		<u>11</u>					
								<u>Water</u>		<u>X</u>		<u>X</u>		<u>X</u>																					

Login Sample Receipt Checklist

Client: Arcadis U.S., Inc.

Job Number: 480-223361-1

Login Number: 223361

List Number: 1

Creator: Wallace, Cameron

List Source: Eurofins Buffalo

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

ANALYTICAL REPORT

PREPARED FOR

Attn: Ms. Urvi Tulsiani
Arcadis U.S., Inc.
126 North Jefferson Street
Suite 400
Milwaukee, Wisconsin 53202

Generated 9/20/2024 4:11:40 PM

JOB DESCRIPTION

BMS Krutulis GW Sampling Project

JOB NUMBER

480-223403-1

Eurofins Buffalo

Job Notes

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

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

Authorization



Generated
9/20/2024 4:11:40 PM

Authorized for release by
Wyatt Watson, Project Management Assistant I
Wyatt.Watson@et.eurofinsus.com
Designee for
John Schove, Project Manager II
John.Schove@et.eurofinsus.com
(716)504-9838

Table of Contents

Cover Page	1
Table of Contents	3
Definitions/Glossary	4
Case Narrative	5
Detection Summary	6
Client Sample Results	8
Surrogate Summary	15
QC Sample Results	16
QC Association Summary	21
Lab Chronicle	23
Certification Summary	25
Method Summary	26
Sample Summary	27
Chain of Custody	28
Receipt Checklists	29



Definitions/Glossary

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223403-1

Qualifiers

GC/MS VOA

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

GC VOA

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

Metals

Qualifier	Qualifier Description
^5-	Linear Range Check (LRC) is outside acceptance limits, low biased.
U	Indicates the analyte was analyzed for but not detected.

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Arcadis U.S., Inc.
Project: BMS Krutulis GW Sampling Project

Job ID: 480-223403-1

Job ID: 480-223403-1

Eurofins Buffalo

Job Narrative 480-223403-1

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

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

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

Receipt

The samples were received on 9/14/2024 10:30 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.7° C.

GC/MS VOA

Method 8260C: The following samples were diluted to bring the concentration of target analytes within the calibration range: PZ-4 (480-223403-1), PZ-1 (480-223403-4), PZ-2 (480-223403-5) and PZ-3 (480-223403-6). 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.

GC VOA

Method RSK-175: The following samples were diluted to bring the concentration of target analytes within the calibration range: PZ-4 (480-223403-1), PZ-1 (480-223403-4), PZ-2 (480-223403-5) and PZ-3 (480-223403-6). 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.

Metals

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

General Chemistry

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

Eurofins Buffalo

Detection Summary

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223403-1

Client Sample ID: PZ-4

Lab Sample ID: 480-223403-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1100		20	16	ug/L	20		8260C	Total/NA
trans-1,2-Dichloroethene	180		20	18	ug/L	20		8260C	Total/NA
Methane - DL	600		44	11	ug/L	11		RSK-175	Total/NA
Iron, Dissolved	0.25	^5-	0.050	0.019	mg/L	1		6010C	Dissolved
Sulfate	3.3	J	5.0	1.5	mg/L	1		D516-90, 02	Total/NA

Client Sample ID: MW-2

Lab Sample ID: 480-223403-2

No Detections.

Client Sample ID: MW-7

Lab Sample ID: 480-223403-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloroform	1.7		1.0	0.34	ug/L	1		8260C	Total/NA
cis-1,2-Dichloroethene	0.82	J	1.0	0.81	ug/L	1		8260C	Total/NA
Trichloroethene	4.2		1.0	0.46	ug/L	1		8260C	Total/NA
Methane	130		4.0	1.0	ug/L	1		RSK-175	Total/NA
Total Organic Carbon	0.44	J	1.0	0.43	mg/L	1		9060A	Total/NA
Sulfate	11.7		5.0	1.5	mg/L	1		D516-90, 02	Total/NA

Client Sample ID: PZ-1

Lab Sample ID: 480-223403-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	16	J	20	16	ug/L	20		8260C	Total/NA
trans-1,2-Dichloroethene	24		20	18	ug/L	20		8260C	Total/NA
Trichloroethene	950		20	9.2	ug/L	20		8260C	Total/NA
Ethane	16		7.5	1.5	ug/L	1		RSK-175	Total/NA
Methane - DL	18000		440	110	ug/L	110		RSK-175	Total/NA
Iron, Dissolved	0.15	^5-	0.050	0.019	mg/L	1		6010C	Dissolved
Sulfate	15.9		5.0	1.5	mg/L	1		D516-90, 02	Total/NA

Client Sample ID: PZ-2

Lab Sample ID: 480-223403-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	740		40	32	ug/L	40		8260C	Total/NA
Toluene	48		40	20	ug/L	40		8260C	Total/NA
trans-1,2-Dichloroethene	430		40	36	ug/L	40		8260C	Total/NA
Trichloroethene	1800		40	18	ug/L	40		8260C	Total/NA
Methane - DL	1100		88	22	ug/L	22		RSK-175	Total/NA
Iron, Dissolved	0.66	^5-	0.050	0.019	mg/L	1		6010C	Dissolved
Sulfate	10.5		5.0	1.5	mg/L	1		D516-90, 02	Total/NA

Client Sample ID: PZ-3

Lab Sample ID: 480-223403-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	24		10	8.1	ug/L	10		8260C	Total/NA
trans-1,2-Dichloroethene	53		10	9.0	ug/L	10		8260C	Total/NA
Trichloroethene	500		10	4.6	ug/L	10		8260C	Total/NA
Ethane	2.6	J	7.5	1.5	ug/L	1		RSK-175	Total/NA
Methane - DL	4000		88	22	ug/L	22		RSK-175	Total/NA
Iron, Dissolved	0.21	^5-	0.050	0.019	mg/L	1		6010C	Dissolved
Sulfate	8.9		5.0	1.5	mg/L	1		D516-90, 02	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Buffalo

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

Job ID: 480-223403-1

Lab Sample ID: 480-223403-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Toluene	0.96	J	1.0	0.51	ug/L	1			8260C	Total/NA

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223403-1

Client Sample ID: PZ-4

Lab Sample ID: 480-223403-1

Date Collected: 09/13/24 09:05

Matrix: Water

Date Received: 09/14/24 10:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	20	U	20	5.8	ug/L			09/18/24 13:44	20
4-Methyl-2-pentanone (MIBK)	100	U	100	42	ug/L			09/18/24 13:44	20
Acetone	200	U	200	60	ug/L			09/18/24 13:44	20
Benzene	20	U	20	8.2	ug/L			09/18/24 13:44	20
Chloroform	20	U	20	6.8	ug/L			09/18/24 13:44	20
cis-1,2-Dichloroethene	1100		20	16	ug/L			09/18/24 13:44	20
Tetrachloroethene	20	U	20	7.2	ug/L			09/18/24 13:44	20
Toluene	20	U	20	10	ug/L			09/18/24 13:44	20
trans-1,2-Dichloroethene	180		20	18	ug/L			09/18/24 13:44	20
Trichloroethene	20	U	20	9.2	ug/L			09/18/24 13:44	20
Vinyl chloride	20	U	20	18	ug/L			09/18/24 13:44	20
Xylenes, Total	40	U	40	13	ug/L			09/18/24 13:44	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		77 - 120		09/18/24 13:44	20
Dibromofluoromethane (Surr)	93		75 - 123		09/18/24 13:44	20
Toluene-d8 (Surr)	95		80 - 120		09/18/24 13:44	20

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	7.5	U	7.5	1.5	ug/L			09/18/24 09:46	1
Ethene	7.0	U	7.0	1.5	ug/L			09/18/24 09:46	1

Method: RSK-175 - Dissolved Gases (GC) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	600		44	11	ug/L			09/18/24 11:22	11

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Dissolved	0.25	^5-	0.050	0.019	mg/L		09/17/24 08:36	09/17/24 20:29	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SW846 9060A)	1.0	U	1.0	0.43	mg/L			09/17/24 01:04	1
Sulfate (ASTM D516-90, 02)	3.3	J	5.0	1.5	mg/L			09/17/24 09:26	1

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulius GW Sampling Project

Job ID: 480-223403-1

Client Sample ID: MW-2

Lab Sample ID: 480-223403-2

Date Collected: 09/13/24 09:10

Matrix: Water

Date Received: 09/14/24 10:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			09/17/24 14:21	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			09/17/24 14:21	1
Acetone	10	U	10	3.0	ug/L			09/17/24 14:21	1
Benzene	1.0	U	1.0	0.41	ug/L			09/17/24 14:21	1
Chloroform	1.0	U	1.0	0.34	ug/L			09/17/24 14:21	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			09/17/24 14:21	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			09/17/24 14:21	1
Toluene	1.0	U	1.0	0.51	ug/L			09/17/24 14:21	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			09/17/24 14:21	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			09/17/24 14:21	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			09/17/24 14:21	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			09/17/24 14:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		77 - 120		09/17/24 14:21	1
Dibromofluoromethane (Surr)	96		75 - 123		09/17/24 14:21	1
Toluene-d8 (Surr)	97		80 - 120		09/17/24 14:21	1

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223403-1

Client Sample ID: MW-7

Lab Sample ID: 480-223403-3

Date Collected: 09/13/24 10:05

Matrix: Water

Date Received: 09/14/24 10:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			09/17/24 14:43	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			09/17/24 14:43	1
Acetone	10	U	10	3.0	ug/L			09/17/24 14:43	1
Benzene	1.0	U	1.0	0.41	ug/L			09/17/24 14:43	1
Chloroform	1.7		1.0	0.34	ug/L			09/17/24 14:43	1
cis-1,2-Dichloroethene	0.82	J	1.0	0.81	ug/L			09/17/24 14:43	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			09/17/24 14:43	1
Toluene	1.0	U	1.0	0.51	ug/L			09/17/24 14:43	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			09/17/24 14:43	1
Trichloroethene	4.2		1.0	0.46	ug/L			09/17/24 14:43	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			09/17/24 14:43	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			09/17/24 14:43	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		77 - 120					09/17/24 14:43	1
Dibromofluoromethane (Surr)	95		75 - 123					09/17/24 14:43	1
Toluene-d8 (Surr)	98		80 - 120					09/17/24 14:43	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	130		4.0	1.0	ug/L			09/18/24 10:05	1
Ethane	7.5	U	7.5	1.5	ug/L			09/18/24 10:05	1
Ethene	7.0	U	7.0	1.5	ug/L			09/18/24 10:05	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Dissolved	0.050	U ^5-	0.050	0.019	mg/L		09/17/24 08:36	09/17/24 20:39	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SW846 9060A)	0.44	J	1.0	0.43	mg/L			09/17/24 01:32	1
Sulfate (ASTM D516-90, 02)	11.7		5.0	1.5	mg/L			09/17/24 09:28	1

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulius GW Sampling Project

Job ID: 480-223403-1

Client Sample ID: PZ-1

Lab Sample ID: 480-223403-4

Date Collected: 09/13/24 10:45

Matrix: Water

Date Received: 09/14/24 10:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	20	U	20	5.8	ug/L			09/18/24 14:07	20
4-Methyl-2-pentanone (MIBK)	100	U	100	42	ug/L			09/18/24 14:07	20
Acetone	200	U	200	60	ug/L			09/18/24 14:07	20
Benzene	20	U	20	8.2	ug/L			09/18/24 14:07	20
Chloroform	20	U	20	6.8	ug/L			09/18/24 14:07	20
cis-1,2-Dichloroethene	16	J	20	16	ug/L			09/18/24 14:07	20
Tetrachloroethene	20	U	20	7.2	ug/L			09/18/24 14:07	20
Toluene	20	U	20	10	ug/L			09/18/24 14:07	20
trans-1,2-Dichloroethene	24		20	18	ug/L			09/18/24 14:07	20
Trichloroethene	950		20	9.2	ug/L			09/18/24 14:07	20
Vinyl chloride	20	U	20	18	ug/L			09/18/24 14:07	20
Xylenes, Total	40	U	40	13	ug/L			09/18/24 14:07	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		77 - 120		09/18/24 14:07	20
Dibromofluoromethane (Surr)	93		75 - 123		09/18/24 14:07	20
Toluene-d8 (Surr)	93		80 - 120		09/18/24 14:07	20

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	16		7.5	1.5	ug/L			09/18/24 10:23	1
Ethene	7.0	U	7.0	1.5	ug/L			09/18/24 10:23	1

Method: RSK-175 - Dissolved Gases (GC) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	18000		440	110	ug/L			09/18/24 11:41	110

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Dissolved	0.15	^5-	0.050	0.019	mg/L		09/17/24 08:36	09/17/24 20:41	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SW846 9060A)	1.0	U	1.0	0.43	mg/L			09/17/24 02:01	1
Sulfate (ASTM D516-90, 02)	15.9		5.0	1.5	mg/L			09/17/24 09:28	1

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223403-1

Client Sample ID: PZ-2

Lab Sample ID: 480-223403-5

Date Collected: 09/13/24 11:30

Matrix: Water

Date Received: 09/14/24 10:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	40	U	40	12	ug/L			09/18/24 14:35	40
4-Methyl-2-pentanone (MIBK)	200	U	200	84	ug/L			09/18/24 14:35	40
Acetone	400	U	400	120	ug/L			09/18/24 14:35	40
Benzene	40	U	40	16	ug/L			09/18/24 14:35	40
Chloroform	40	U	40	14	ug/L			09/18/24 14:35	40
cis-1,2-Dichloroethene	740		40	32	ug/L			09/18/24 14:35	40
Tetrachloroethene	40	U	40	14	ug/L			09/18/24 14:35	40
Toluene	48		40	20	ug/L			09/18/24 14:35	40
trans-1,2-Dichloroethene	430		40	36	ug/L			09/18/24 14:35	40
Trichloroethene	1800		40	18	ug/L			09/18/24 14:35	40
Vinyl chloride	40	U	40	36	ug/L			09/18/24 14:35	40
Xylenes, Total	80	U	80	26	ug/L			09/18/24 14:35	40
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		77 - 120					09/18/24 14:35	40
Dibromofluoromethane (Surr)	95		75 - 123					09/18/24 14:35	40
Toluene-d8 (Surr)	96		80 - 120					09/18/24 14:35	40

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	7.5	U	7.5	1.5	ug/L			09/18/24 10:42	1
Ethene	7.0	U	7.0	1.5	ug/L			09/18/24 10:42	1

Method: RSK-175 - Dissolved Gases (GC) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	1100		88	22	ug/L			09/18/24 12:00	22

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Dissolved	0.66	^5-	0.050	0.019	mg/L		09/17/24 08:36	09/17/24 20:43	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SW846 9060A)	1.0	U	1.0	0.43	mg/L			09/17/24 02:29	1
Sulfate (ASTM D516-90, 02)	10.5		5.0	1.5	mg/L			09/17/24 09:28	1

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223403-1

Client Sample ID: PZ-3

Lab Sample ID: 480-223403-6

Date Collected: 09/13/24 13:30

Matrix: Water

Date Received: 09/14/24 10:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	10	U	10	2.9	ug/L			09/18/24 14:58	10
4-Methyl-2-pentanone (MIBK)	50	U	50	21	ug/L			09/18/24 14:58	10
Acetone	100	U	100	30	ug/L			09/18/24 14:58	10
Benzene	10	U	10	4.1	ug/L			09/18/24 14:58	10
Chloroform	10	U	10	3.4	ug/L			09/18/24 14:58	10
cis-1,2-Dichloroethene	24		10	8.1	ug/L			09/18/24 14:58	10
Tetrachloroethene	10	U	10	3.6	ug/L			09/18/24 14:58	10
Toluene	10	U	10	5.1	ug/L			09/18/24 14:58	10
trans-1,2-Dichloroethene	53		10	9.0	ug/L			09/18/24 14:58	10
Trichloroethene	500		10	4.6	ug/L			09/18/24 14:58	10
Vinyl chloride	10	U	10	9.0	ug/L			09/18/24 14:58	10
Xylenes, Total	20	U	20	6.6	ug/L			09/18/24 14:58	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	91		77 - 120		09/18/24 14:58	10
Dibromofluoromethane (Surr)	91		75 - 123		09/18/24 14:58	10
Toluene-d8 (Surr)	97		80 - 120		09/18/24 14:58	10

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	2.6	J	7.5	1.5	ug/L			09/18/24 11:01	1
Ethene	7.0	U	7.0	1.5	ug/L			09/18/24 11:01	1

Method: RSK-175 - Dissolved Gases (GC) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	4000		88	22	ug/L			09/18/24 12:19	22

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Dissolved	0.21	^5-	0.050	0.019	mg/L		09/17/24 08:36	09/17/24 20:45	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SW846 9060A)	1.0	U	1.0	0.43	mg/L			09/17/24 06:47	1
Sulfate (ASTM D516-90, 02)	8.9		5.0	1.5	mg/L			09/17/24 09:30	1

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223403-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 480-223403-7

Date Collected: 09/13/24 00:00

Matrix: Water

Date Received: 09/14/24 10:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			09/17/24 16:13	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			09/17/24 16:13	1
Acetone	10	U	10	3.0	ug/L			09/17/24 16:13	1
Benzene	1.0	U	1.0	0.41	ug/L			09/17/24 16:13	1
Chloroform	1.0	U	1.0	0.34	ug/L			09/17/24 16:13	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			09/17/24 16:13	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			09/17/24 16:13	1
Toluene	0.96	J	1.0	0.51	ug/L			09/17/24 16:13	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			09/17/24 16:13	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			09/17/24 16:13	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			09/17/24 16:13	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			09/17/24 16:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		77 - 120		09/17/24 16:13	1
Dibromofluoromethane (Surr)	91		75 - 123		09/17/24 16:13	1
Toluene-d8 (Surr)	98		80 - 120		09/17/24 16:13	1

Surrogate Summary

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223403-1

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

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
Lab Sample ID	Client Sample ID	DCA	DBFM	TOL
		(77-120)	(75-123)	(80-120)
480-223403-1	PZ-4	94	93	95
480-223403-2	MW-2	97	96	97
480-223403-3	MW-7	95	95	98
480-223403-4	PZ-1	92	93	93
480-223403-5	PZ-2	93	95	96
480-223403-6	PZ-3	91	91	97
480-223403-7	TRIP BLANK	92	91	98
LCS 480-725312/6	Lab Control Sample	97	93	98
LCS 480-725446/6	Lab Control Sample	91	86	99
MB 480-725312/8	Method Blank	93	96	98
MB 480-725446/8	Method Blank	97	95	97
Surrogate Legend				
DCA = 1,2-Dichloroethane-d4 (Surr)				
DBFM = Dibromofluoromethane (Surr)				
TOL = Toluene-d8 (Surr)				

QC Sample Results

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223403-1

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

Lab Sample ID: MB 480-725312/8

Matrix: Water

Analysis Batch: 725312

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			09/17/24 11:56	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			09/17/24 11:56	1
Acetone	10	U	10	3.0	ug/L			09/17/24 11:56	1
Benzene	1.0	U	1.0	0.41	ug/L			09/17/24 11:56	1
Chloroform	1.0	U	1.0	0.34	ug/L			09/17/24 11:56	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			09/17/24 11:56	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			09/17/24 11:56	1
Toluene	1.0	U	1.0	0.51	ug/L			09/17/24 11:56	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			09/17/24 11:56	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			09/17/24 11:56	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			09/17/24 11:56	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			09/17/24 11:56	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		77 - 120		09/17/24 11:56	1
Dibromofluoromethane (Surr)	96		75 - 123		09/17/24 11:56	1
Toluene-d8 (Surr)	98		80 - 120		09/17/24 11:56	1

Lab Sample ID: LCS 480-725312/6

Matrix: Water

Analysis Batch: 725312

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1-Dichloroethene	25.0	22.0		ug/L		88	66 - 127
4-Methyl-2-pentanone (MIBK)	125	119		ug/L		96	71 - 125
Acetone	125	133		ug/L		106	56 - 142
Benzene	25.0	23.0		ug/L		92	71 - 124
Chloroform	25.0	22.4		ug/L		89	73 - 127
cis-1,2-Dichloroethene	25.0	22.9		ug/L		91	74 - 124
Tetrachloroethene	25.0	24.4		ug/L		98	74 - 122
Toluene	25.0	22.8		ug/L		91	80 - 122
trans-1,2-Dichloroethene	25.0	22.4		ug/L		90	73 - 127
Trichloroethene	25.0	24.6		ug/L		98	74 - 123
Vinyl chloride	25.0	25.2		ug/L		101	65 - 133
Xylenes, Total	50.0	44.0		ug/L		88	76 - 122

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	97		77 - 120
Dibromofluoromethane (Surr)	93		75 - 123
Toluene-d8 (Surr)	98		80 - 120

Lab Sample ID: MB 480-725446/8

Matrix: Water

Analysis Batch: 725446

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			09/18/24 12:07	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			09/18/24 12:07	1

Eurofins Buffalo

QC Sample Results

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulís GW Sampling Project

Job ID: 480-223403-1

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

Lab Sample ID: MB 480-725446/8

Matrix: Water

Analysis Batch: 725446

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	3.0	ug/L			09/18/24 12:07	1
Benzene	1.0	U	1.0	0.41	ug/L			09/18/24 12:07	1
Chloroform	1.0	U	1.0	0.34	ug/L			09/18/24 12:07	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			09/18/24 12:07	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			09/18/24 12:07	1
Toluene	1.0	U	1.0	0.51	ug/L			09/18/24 12:07	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			09/18/24 12:07	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			09/18/24 12:07	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			09/18/24 12:07	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			09/18/24 12:07	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		77 - 120		09/18/24 12:07	1
Dibromofluoromethane (Surr)	95		75 - 123		09/18/24 12:07	1
Toluene-d8 (Surr)	97		80 - 120		09/18/24 12:07	1

Lab Sample ID: LCS 480-725446/6

Matrix: Water

Analysis Batch: 725446

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1-Dichloroethene	25.0	22.0		ug/L		88	66 - 127
4-Methyl-2-pentanone (MIBK)	125	131		ug/L		104	71 - 125
Acetone	125	129		ug/L		104	56 - 142
Benzene	25.0	23.8		ug/L		95	71 - 124
Chloroform	25.0	22.2		ug/L		89	73 - 127
cis-1,2-Dichloroethene	25.0	22.9		ug/L		92	74 - 124
Tetrachloroethene	25.0	27.0		ug/L		108	74 - 122
Toluene	25.0	26.1		ug/L		104	80 - 122
trans-1,2-Dichloroethene	25.0	22.1		ug/L		88	73 - 127
Trichloroethene	25.0	25.5		ug/L		102	74 - 123
Vinyl chloride	25.0	25.0		ug/L		100	65 - 133
Xylenes, Total	50.0	48.7		ug/L		97	76 - 122

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	91		77 - 120
Dibromofluoromethane (Surr)	86		75 - 123
Toluene-d8 (Surr)	99		80 - 120

Method: RSK-175 - Dissolved Gases (GC)

Lab Sample ID: MB 480-725447/3

Matrix: Water

Analysis Batch: 725447

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	4.0	U	4.0	1.0	ug/L			09/18/24 08:37	1
Ethane	7.5	U	7.5	1.5	ug/L			09/18/24 08:37	1

Eurofins Buffalo

QC Sample Results

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223403-1

Method: RSK-175 - Dissolved Gases (GC) (Continued)

Lab Sample ID: MB 480-725447/3
Matrix: Water
Analysis Batch: 725447

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethene	7.0	U	7.0	1.5	ug/L			09/18/24 08:37	1

Lab Sample ID: LCS 480-725447/4
Matrix: Water
Analysis Batch: 725447

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Methane	19.5	19.4		ug/L		99	85 - 120
Ethane	36.5	36.2		ug/L		99	79 - 120
Ethene	34.0	32.4		ug/L		95	85 - 120

Lab Sample ID: LCSD 480-725447/5
Matrix: Water
Analysis Batch: 725447

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	19.5	17.6		ug/L		90	85 - 120	9	50
Ethane	36.5	33.2		ug/L		91	79 - 120	9	50
Ethene	34.0	30.6		ug/L		90	85 - 120	6	50

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 480-725237/1-A
Matrix: Water
Analysis Batch: 725450

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 725237

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Dissolved	0.050	U ^5-	0.050	0.019	mg/L		09/17/24 08:36	09/17/24 20:20	1

Lab Sample ID: LCS 480-725237/2-A
Matrix: Water
Analysis Batch: 725450

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 725237

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Iron, Dissolved	5.10	5.42	^5-	mg/L		106	80 - 120

Lab Sample ID: 480-223403-1 MS
Matrix: Water
Analysis Batch: 725450

Client Sample ID: PZ-4
Prep Type: Dissolved
Prep Batch: 725237

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Iron, Dissolved	0.25	^5-	5.10	5.51	^5-	mg/L		103	75 - 125

Lab Sample ID: 480-223403-1 MSD
Matrix: Water
Analysis Batch: 725450

Client Sample ID: PZ-4
Prep Type: Dissolved
Prep Batch: 725237

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Iron, Dissolved	0.25	^5-	5.10	5.67	^5-	mg/L		106	75 - 125	3	20

Eurofins Buffalo

QC Sample Results

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223403-1

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

Lab Sample ID: MB 480-725465/28
Matrix: Water
Analysis Batch: 725465

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	1.0	U	1.0	0.43	mg/L			09/17/24 03:56	1

Lab Sample ID: MB 480-725465/4
Matrix: Water
Analysis Batch: 725465

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	1.0	U	1.0	0.43	mg/L			09/16/24 16:28	1

Lab Sample ID: LCS 480-725465/29
Matrix: Water
Analysis Batch: 725465

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon	60.0	59.42		mg/L		99	90 - 110

Lab Sample ID: LCS 480-725465/5
Matrix: Water
Analysis Batch: 725465

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon	60.0	61.12		mg/L		102	90 - 110

Method: D516-90, 02 - Sulfate

Lab Sample ID: MB 480-725374/44
Matrix: Water
Analysis Batch: 725374

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	5.0	U	5.0	1.5	mg/L			09/17/24 09:19	1

Lab Sample ID: MB 480-725374/51
Matrix: Water
Analysis Batch: 725374

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	5.0	U	5.0	1.5	mg/L			09/17/24 09:22	1

Lab Sample ID: MB 480-725374/59
Matrix: Water
Analysis Batch: 725374

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	5.0	U	5.0	1.5	mg/L			09/17/24 09:25	1

Eurofins Buffalo

QC Sample Results

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223403-1

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

Lab Sample ID: MB 480-725374/67

Matrix: Water

Analysis Batch: 725374

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	5.0	U	5.0	1.5	mg/L			09/17/24 09:27	1

Lab Sample ID: MB 480-725374/75

Matrix: Water

Analysis Batch: 725374

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	5.0	U	5.0	1.5	mg/L			09/17/24 09:30	1

Lab Sample ID: LCS 480-725374/50

Matrix: Water

Analysis Batch: 725374

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfate	30.0	30.17		mg/L		101	90 - 110

Lab Sample ID: LCS 480-725374/58

Matrix: Water

Analysis Batch: 725374

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfate	30.0	30.44		mg/L		101	90 - 110

Lab Sample ID: LCS 480-725374/66

Matrix: Water

Analysis Batch: 725374

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfate	30.0	30.13		mg/L		100	90 - 110

Lab Sample ID: LCS 480-725374/74

Matrix: Water

Analysis Batch: 725374

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfate	30.0	29.99		mg/L		100	90 - 110

QC Association Summary

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223403-1

GC/MS VOA

Analysis Batch: 725312

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-223403-2	MW-2	Total/NA	Water	8260C	
480-223403-3	MW-7	Total/NA	Water	8260C	
480-223403-7	TRIP BLANK	Total/NA	Water	8260C	
MB 480-725312/8	Method Blank	Total/NA	Water	8260C	
LCS 480-725312/6	Lab Control Sample	Total/NA	Water	8260C	

Analysis Batch: 725446

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-223403-1	PZ-4	Total/NA	Water	8260C	
480-223403-4	PZ-1	Total/NA	Water	8260C	
480-223403-5	PZ-2	Total/NA	Water	8260C	
480-223403-6	PZ-3	Total/NA	Water	8260C	
MB 480-725446/8	Method Blank	Total/NA	Water	8260C	
LCS 480-725446/6	Lab Control Sample	Total/NA	Water	8260C	

GC VOA

Analysis Batch: 725447

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-223403-1	PZ-4	Total/NA	Water	RSK-175	
480-223403-1 - DL	PZ-4	Total/NA	Water	RSK-175	
480-223403-3	MW-7	Total/NA	Water	RSK-175	
480-223403-4	PZ-1	Total/NA	Water	RSK-175	
480-223403-4 - DL	PZ-1	Total/NA	Water	RSK-175	
480-223403-5	PZ-2	Total/NA	Water	RSK-175	
480-223403-5 - DL	PZ-2	Total/NA	Water	RSK-175	
480-223403-6	PZ-3	Total/NA	Water	RSK-175	
480-223403-6 - DL	PZ-3	Total/NA	Water	RSK-175	
MB 480-725447/3	Method Blank	Total/NA	Water	RSK-175	
LCS 480-725447/4	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 480-725447/5	Lab Control Sample Dup	Total/NA	Water	RSK-175	

Metals

Prep Batch: 725237

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-223403-1	PZ-4	Dissolved	Water	3005A	
480-223403-3	MW-7	Dissolved	Water	3005A	
480-223403-4	PZ-1	Dissolved	Water	3005A	
480-223403-5	PZ-2	Dissolved	Water	3005A	
480-223403-6	PZ-3	Dissolved	Water	3005A	
MB 480-725237/1-A	Method Blank	Total/NA	Water	3005A	
LCS 480-725237/2-A	Lab Control Sample	Total/NA	Water	3005A	
480-223403-1 MS	PZ-4	Dissolved	Water	3005A	
480-223403-1 MSD	PZ-4	Dissolved	Water	3005A	

Analysis Batch: 725450

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-223403-1	PZ-4	Dissolved	Water	6010C	725237
480-223403-3	MW-7	Dissolved	Water	6010C	725237
480-223403-4	PZ-1	Dissolved	Water	6010C	725237
480-223403-5	PZ-2	Dissolved	Water	6010C	725237

Eurofins Buffalo

QC Association Summary

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223403-1

Metals (Continued)

Analysis Batch: 725450 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-223403-6	PZ-3	Dissolved	Water	6010C	725237
MB 480-725237/1-A	Method Blank	Total/NA	Water	6010C	725237
LCS 480-725237/2-A	Lab Control Sample	Total/NA	Water	6010C	725237
480-223403-1 MS	PZ-4	Dissolved	Water	6010C	725237
480-223403-1 MSD	PZ-4	Dissolved	Water	6010C	725237

General Chemistry

Analysis Batch: 725374

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-223403-1	PZ-4	Total/NA	Water	D516-90, 02	
480-223403-3	MW-7	Total/NA	Water	D516-90, 02	
480-223403-4	PZ-1	Total/NA	Water	D516-90, 02	
480-223403-5	PZ-2	Total/NA	Water	D516-90, 02	
480-223403-6	PZ-3	Total/NA	Water	D516-90, 02	
MB 480-725374/44	Method Blank	Total/NA	Water	D516-90, 02	
MB 480-725374/51	Method Blank	Total/NA	Water	D516-90, 02	
MB 480-725374/59	Method Blank	Total/NA	Water	D516-90, 02	
MB 480-725374/67	Method Blank	Total/NA	Water	D516-90, 02	
MB 480-725374/75	Method Blank	Total/NA	Water	D516-90, 02	
LCS 480-725374/50	Lab Control Sample	Total/NA	Water	D516-90, 02	
LCS 480-725374/58	Lab Control Sample	Total/NA	Water	D516-90, 02	
LCS 480-725374/66	Lab Control Sample	Total/NA	Water	D516-90, 02	
LCS 480-725374/74	Lab Control Sample	Total/NA	Water	D516-90, 02	

Analysis Batch: 725465

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-223403-1	PZ-4	Total/NA	Water	9060A	
480-223403-3	MW-7	Total/NA	Water	9060A	
480-223403-4	PZ-1	Total/NA	Water	9060A	
480-223403-5	PZ-2	Total/NA	Water	9060A	
480-223403-6	PZ-3	Total/NA	Water	9060A	
MB 480-725465/28	Method Blank	Total/NA	Water	9060A	
MB 480-725465/4	Method Blank	Total/NA	Water	9060A	
LCS 480-725465/29	Lab Control Sample	Total/NA	Water	9060A	
LCS 480-725465/5	Lab Control Sample	Total/NA	Water	9060A	

Lab Chronicle

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223403-1

Client Sample ID: PZ-4

Lab Sample ID: 480-223403-1

Date Collected: 09/13/24 09:05

Matrix: Water

Date Received: 09/14/24 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260C		20	725446	ERS	EET BUF	09/18/24 13:44
Total/NA	Analysis	RSK-175		1	725447	MAN	EET BUF	09/18/24 09:46
Total/NA	Analysis	RSK-175	DL	11	725447	MAN	EET BUF	09/18/24 11:22
Dissolved	Prep	3005A			725237	EMO	EET BUF	09/17/24 08:36
Dissolved	Analysis	6010C		1	725450	BMB	EET BUF	09/17/24 20:29
Total/NA	Analysis	9060A		1	725465	AF	EET BUF	09/17/24 01:04
Total/NA	Analysis	D516-90, 02		1	725374	CG	EET BUF	09/17/24 09:26

Client Sample ID: MW-2

Lab Sample ID: 480-223403-2

Date Collected: 09/13/24 09:10

Matrix: Water

Date Received: 09/14/24 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260C		1	725312	ERS	EET BUF	09/17/24 14:21

Client Sample ID: MW-7

Lab Sample ID: 480-223403-3

Date Collected: 09/13/24 10:05

Matrix: Water

Date Received: 09/14/24 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260C		1	725312	ERS	EET BUF	09/17/24 14:43
Total/NA	Analysis	RSK-175		1	725447	MAN	EET BUF	09/18/24 10:05
Dissolved	Prep	3005A			725237	EMO	EET BUF	09/17/24 08:36
Dissolved	Analysis	6010C		1	725450	BMB	EET BUF	09/17/24 20:39
Total/NA	Analysis	9060A		1	725465	AF	EET BUF	09/17/24 01:32
Total/NA	Analysis	D516-90, 02		1	725374	CG	EET BUF	09/17/24 09:28

Client Sample ID: PZ-1

Lab Sample ID: 480-223403-4

Date Collected: 09/13/24 10:45

Matrix: Water

Date Received: 09/14/24 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260C		20	725446	ERS	EET BUF	09/18/24 14:07
Total/NA	Analysis	RSK-175		1	725447	MAN	EET BUF	09/18/24 10:23
Total/NA	Analysis	RSK-175	DL	110	725447	MAN	EET BUF	09/18/24 11:41
Dissolved	Prep	3005A			725237	EMO	EET BUF	09/17/24 08:36
Dissolved	Analysis	6010C		1	725450	BMB	EET BUF	09/17/24 20:41
Total/NA	Analysis	9060A		1	725465	AF	EET BUF	09/17/24 02:01
Total/NA	Analysis	D516-90, 02		1	725374	CG	EET BUF	09/17/24 09:28

Lab Chronicle

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223403-1

Client Sample ID: PZ-2

Date Collected: 09/13/24 11:30

Date Received: 09/14/24 10:30

Lab Sample ID: 480-223403-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260C		40	725446	ERS	EET BUF	09/18/24 14:35
Total/NA	Analysis	RSK-175		1	725447	MAN	EET BUF	09/18/24 10:42
Total/NA	Analysis	RSK-175	DL	22	725447	MAN	EET BUF	09/18/24 12:00
Dissolved	Prep	3005A			725237	EMO	EET BUF	09/17/24 08:36
Dissolved	Analysis	6010C		1	725450	BMB	EET BUF	09/17/24 20:43
Total/NA	Analysis	9060A		1	725465	AF	EET BUF	09/17/24 02:29
Total/NA	Analysis	D516-90, 02		1	725374	CG	EET BUF	09/17/24 09:28

Client Sample ID: PZ-3

Date Collected: 09/13/24 13:30

Date Received: 09/14/24 10:30

Lab Sample ID: 480-223403-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260C		10	725446	ERS	EET BUF	09/18/24 14:58
Total/NA	Analysis	RSK-175		1	725447	MAN	EET BUF	09/18/24 11:01
Total/NA	Analysis	RSK-175	DL	22	725447	MAN	EET BUF	09/18/24 12:19
Dissolved	Prep	3005A			725237	EMO	EET BUF	09/17/24 08:36
Dissolved	Analysis	6010C		1	725450	BMB	EET BUF	09/17/24 20:45
Total/NA	Analysis	9060A		1	725465	AF	EET BUF	09/17/24 06:47
Total/NA	Analysis	D516-90, 02		1	725374	CG	EET BUF	09/17/24 09:30

Client Sample ID: TRIP BLANK

Date Collected: 09/13/24 00:00

Date Received: 09/14/24 10:30

Lab Sample ID: 480-223403-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260C		1	725312	ERS	EET BUF	09/17/24 16:13

Laboratory References:

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

Accreditation/Certification Summary

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223403-1

Laboratory: Eurofins Buffalo

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

Authority	Program	Identification Number	Expiration Date
New York	NELAP	10026	03-31-25
Pennsylvania	NELAP	68-00281	08-31-25

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

Method Summary

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223403-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	EET BUF
RSK-175	Dissolved Gases (GC)	RSK	EET BUF
6010C	Metals (ICP)	SW846	EET BUF
9060A	Organic Carbon, Total (TOC)	SW846	EET BUF
D516-90, 02	Sulfate	ASTM	EET BUF
3005A	Preparation, Total Metals	SW846	EET BUF
5030C	Purge and Trap	SW846	EET BUF

Protocol References:

ASTM = ASTM International

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

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

Laboratory References:

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

Sample Summary

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223403-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-223403-1	PZ-4	Water	09/13/24 09:05	09/14/24 10:30
480-223403-2	MW-2	Water	09/13/24 09:10	09/14/24 10:30
480-223403-3	MW-7	Water	09/13/24 10:05	09/14/24 10:30
480-223403-4	PZ-1	Water	09/13/24 10:45	09/14/24 10:30
480-223403-5	PZ-2	Water	09/13/24 11:30	09/14/24 10:30
480-223403-6	PZ-3	Water	09/13/24 13:30	09/14/24 10:30
480-223403-7	TRIP BLANK	Water	09/13/24 00:00	09/14/24 10:30

Login Sample Receipt Checklist

Client: Arcadis U.S., Inc.

Job Number: 480-223403-1

Login Number: 223403

List Number: 1

Creator: Yeager, Brian A

List Source: Eurofins Buffalo

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

ERD Injection Monitoring Analytical Data

ANALYTICAL REPORT

PREPARED FOR

Attn: Ms. Urvi Tulsiani
Arcadis U.S., Inc.
126 North Jefferson Street
Suite 400
Milwaukee, Wisconsin 53202

Generated 9/30/2024 12:30:10 PM

JOB DESCRIPTION

BMS Krutulis GW Sampling Project

JOB NUMBER

480-223674-1

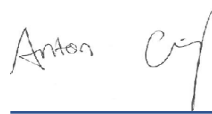
Eurofins Buffalo

Job Notes

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

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

Authorization



Generated
9/30/2024 12:30:10 PM

Authorized for release by
Anton Gruning, Project Management Assistant I
Anton.Gruning@et.eurofinsus.com
Designee for
John Schove, Project Manager II
John.Schove@et.eurofinsus.com
(716)504-9838

Table of Contents

Cover Page	1
Table of Contents	3
Definitions/Glossary	4
Case Narrative	5
Detection Summary	6
Client Sample Results	7
QC Sample Results	8
QC Association Summary	9
Lab Chronicle	10
Certification Summary	11
Method Summary	12
Sample Summary	13
Chain of Custody	14
Receipt Checklists	15



Definitions/Glossary

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223674-1

Qualifiers

General Chemistry

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
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.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Arcadis U.S., Inc.
Project: BMS Krutulis GW Sampling Project

Job ID: 480-223674-1

Job ID: 480-223674-1

Eurofins Buffalo

Job Narrative 480-223674-1

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

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

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

Receipt

The sample was received on 9/25/2024 9:00 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.8°C.

General Chemistry

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

Eurofins Buffalo

Detection Summary

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223674-1

Client Sample ID: Tank_092424

Lab Sample ID: 480-223674-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	1850	B	40.0	17.4	mg/L	40		9060A	Total/NA

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223674-1

Client Sample ID: Tank_092424
Date Collected: 09/24/24 13:45
Date Received: 09/25/24 09:00

Lab Sample ID: 480-223674-1
Matrix: Water

General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SW846 9060A)	1850	B	40.0	17.4	mg/L			09/27/24 08:07	40

QC Sample Results

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223674-1

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

Lab Sample ID: MB 480-726479/28
Matrix: Water
Analysis Batch: 726479

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	0.455	J	1.0	0.43	mg/L			09/26/24 22:04	1

Lab Sample ID: LCS 480-726479/29
Matrix: Water
Analysis Batch: 726479

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon	60.0	57.87		mg/L		96	90 - 110

QC Association Summary

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223674-1

General Chemistry

Analysis Batch: 726479

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-223674-1	Tank_092424	Total/NA	Water	9060A	
MB 480-726479/28	Method Blank	Total/NA	Water	9060A	
LCS 480-726479/29	Lab Control Sample	Total/NA	Water	9060A	

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

Lab Chronicle

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223674-1

Client Sample ID: Tank_092424
Date Collected: 09/24/24 13:45
Date Received: 09/25/24 09:00

Lab Sample ID: 480-223674-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060A		40	726479	AF	EET BUF	09/27/24 08:07

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

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

Accreditation/Certification Summary

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223674-1

Laboratory: Eurofins Buffalo

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

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

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

Method Summary

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223674-1

Method	Method Description	Protocol	Laboratory
9060A	Organic Carbon, Total (TOC)	SW846	EET BUF

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

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

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

Sample Summary

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223674-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-223674-1	Tank_092424	Water	09/24/24 13:45	09/25/24 09:00

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

Login Sample Receipt Checklist

Client: Arcadis U.S., Inc.

Job Number: 480-223674-1

Login Number: 223674

List Source: Eurofins Buffalo

List Number: 1

Creator: Stapleton, Kaitlyn

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	5.8 IR#SC
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	Arcadis
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	N/A	

ANALYTICAL REPORT

PREPARED FOR

Attn: Carla DaParma

Arcadis U.S., Inc.

Arcadis

2100 Georgetown Drive, Suite 402

Sewickley, Pennsylvania 15143

Generated 10/9/2024 1:19:10 PM

JOB DESCRIPTION

BMS Krutulis GW Sampling Project

JOB NUMBER

480-223991-1

Eurofins Buffalo

Job Notes

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

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

Authorization



Generated
10/9/2024 1:19:10 PM

Authorized for release by
John Schove, Project Manager II
John.Schove@et.eurofinsus.com
(716)504-9838

Table of Contents

Cover Page	1
Table of Contents	3
Definitions/Glossary	4
Case Narrative	5
Detection Summary	6
Client Sample Results	7
QC Sample Results	14
QC Association Summary	15
Lab Chronicle	16
Certification Summary	17
Method Summary	18
Sample Summary	19
Chain of Custody	20
Receipt Checklists	21



Definitions/Glossary

Client: Arcadis U.S., Inc.

Job ID: 480-223991-1

Project/Site: BMS Krutulis GW Sampling Project

Qualifiers

General Chemistry

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	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: Arcadis U.S., Inc.
Project: BMS Krutulis GW Sampling Project

Job ID: 480-223991-1

Job ID: 480-223991-1

Eurofins Buffalo

Job Narrative 480-223991-1

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

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

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

Receipt

The samples were received on 10/4/2024 11:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.5°C.

General Chemistry

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

Eurofins Buffalo

Detection Summary

Client: Arcadis U.S., Inc.

Job ID: 480-223991-1

Project/Site: BMS Krutulis GW Sampling Project

Client Sample ID: MW-7-100324

Lab Sample ID: 480-223991-1

No Detections.

Client Sample ID: PZ-4-100324

Lab Sample ID: 480-223991-2

No Detections.

Client Sample ID: PZ-3-100324

Lab Sample ID: 480-223991-3

No Detections.

Client Sample ID: PZ-2-100324

Lab Sample ID: 480-223991-4

No Detections.

Client Sample ID: PZ-1-100324

Lab Sample ID: 480-223991-5

No Detections.

Client Sample ID: MW-3S-100324

Lab Sample ID: 480-223991-6

No Detections.

Client Sample ID: MW-3D-100324

Lab Sample ID: 480-223991-7

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Buffalo

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223991-1

Client Sample ID: MW-7-100324

Lab Sample ID: 480-223991-1

Date Collected: 10/03/24 13:40

Matrix: Water

Date Received: 10/04/24 11:00

General Chemistry										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Total Organic Carbon (SW846 9060A)	1.0	U	1.0	0.43	mg/L			10/06/24 02:47	1	

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

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223991-1

Client Sample ID: PZ-4-100324

Lab Sample ID: 480-223991-2

Date Collected: 10/03/24 13:50

Matrix: Water

Date Received: 10/04/24 11:00

General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SW846 9060A)	1.0	U	1.0	0.43	mg/L			10/06/24 03:43	1

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

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223991-1

Client Sample ID: PZ-3-100324

Lab Sample ID: 480-223991-3

Date Collected: 10/03/24 13:55

Matrix: Water

Date Received: 10/04/24 11:00

General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SW846 9060A)	1.0	U	1.0	0.43	mg/L			10/06/24 04:38	1

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

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223991-1

Client Sample ID: PZ-2-100324
Date Collected: 10/03/24 14:00
Date Received: 10/04/24 11:00

Lab Sample ID: 480-223991-4
Matrix: Water

General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SW846 9060A)	1.0	U	1.0	0.43	mg/L			10/06/24 05:06	1

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

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223991-1

Client Sample ID: PZ-1-100324

Lab Sample ID: 480-223991-5

Date Collected: 10/03/24 14:05

Matrix: Water

Date Received: 10/04/24 11:00

General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SW846 9060A)	1.0	U	1.0	0.43	mg/L			10/06/24 05:33	1

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

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223991-1

Client Sample ID: MW-3S-100324
Date Collected: 10/03/24 14:15
Date Received: 10/04/24 11:00

Lab Sample ID: 480-223991-6
Matrix: Water

General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SW846 9060A)	1.0	U	1.0	0.43	mg/L			10/06/24 06:01	1

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

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223991-1

Client Sample ID: MW-3D-100324

Lab Sample ID: 480-223991-7

Date Collected: 10/03/24 14:20

Matrix: Water

Date Received: 10/04/24 11:00

General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SW846 9060A)	1.0	U	1.0	0.43	mg/L			10/08/24 00:03	1

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

QC Sample Results

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223991-1

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

Lab Sample ID: MB 480-727254/76

Matrix: Water

Analysis Batch: 727254

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	1.0	U	1.0	0.43	mg/L			10/06/24 01:52	1

Lab Sample ID: LCS 480-727254/77

Matrix: Water

Analysis Batch: 727254

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon	60.0	60.48		mg/L		101	90 - 110

Lab Sample ID: 480-223991-1 MS

Matrix: Water

Analysis Batch: 727254

Client Sample ID: MW-7-100324

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon	1.0	U	23.3	24.47		mg/L		105	54 - 131

Lab Sample ID: 480-223991-2 DU

Matrix: Water

Analysis Batch: 727254

Client Sample ID: PZ-4-100324

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Organic Carbon	1.0	U		1.0	U	mg/L		NC	20

Lab Sample ID: MB 480-727560/4

Matrix: Water

Analysis Batch: 727560

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	1.0	U	1.0	0.43	mg/L			10/07/24 16:13	1

Lab Sample ID: MB 480-727560/52

Matrix: Water

Analysis Batch: 727560

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	1.0	U	1.0	0.43	mg/L			10/08/24 14:21	1

Lab Sample ID: LCS 480-727560/5

Matrix: Water

Analysis Batch: 727560

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon	60.0	61.53		mg/L		103	90 - 110

Lab Sample ID: LCS 480-727560/53

Matrix: Water

Analysis Batch: 727560

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon	60.0	59.81		mg/L		100	90 - 110

Eurofins Buffalo

QC Association Summary

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223991-1

General Chemistry

Analysis Batch: 727254

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-223991-1	MW-7-100324	Total/NA	Water	9060A	
480-223991-2	PZ-4-100324	Total/NA	Water	9060A	
480-223991-3	PZ-3-100324	Total/NA	Water	9060A	
480-223991-4	PZ-2-100324	Total/NA	Water	9060A	
480-223991-5	PZ-1-100324	Total/NA	Water	9060A	
480-223991-6	MW-3S-100324	Total/NA	Water	9060A	
MB 480-727254/76	Method Blank	Total/NA	Water	9060A	
LCS 480-727254/77	Lab Control Sample	Total/NA	Water	9060A	
480-223991-1 MS	MW-7-100324	Total/NA	Water	9060A	
480-223991-2 DU	PZ-4-100324	Total/NA	Water	9060A	

Analysis Batch: 727560

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-223991-7	MW-3D-100324	Total/NA	Water	9060A	
MB 480-727560/4	Method Blank	Total/NA	Water	9060A	
MB 480-727560/52	Method Blank	Total/NA	Water	9060A	
LCS 480-727560/5	Lab Control Sample	Total/NA	Water	9060A	
LCS 480-727560/53	Lab Control Sample	Total/NA	Water	9060A	

Lab Chronicle

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223991-1

Client Sample ID: MW-7-100324

Lab Sample ID: 480-223991-1

Date Collected: 10/03/24 13:40

Matrix: Water

Date Received: 10/04/24 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060A		1	727254	JMM	EET BUF	10/06/24 02:47

Client Sample ID: PZ-4-100324

Lab Sample ID: 480-223991-2

Date Collected: 10/03/24 13:50

Matrix: Water

Date Received: 10/04/24 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060A		1	727254	JMM	EET BUF	10/06/24 03:43

Client Sample ID: PZ-3-100324

Lab Sample ID: 480-223991-3

Date Collected: 10/03/24 13:55

Matrix: Water

Date Received: 10/04/24 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060A		1	727254	JMM	EET BUF	10/06/24 04:38

Client Sample ID: PZ-2-100324

Lab Sample ID: 480-223991-4

Date Collected: 10/03/24 14:00

Matrix: Water

Date Received: 10/04/24 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060A		1	727254	JMM	EET BUF	10/06/24 05:06

Client Sample ID: PZ-1-100324

Lab Sample ID: 480-223991-5

Date Collected: 10/03/24 14:05

Matrix: Water

Date Received: 10/04/24 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060A		1	727254	JMM	EET BUF	10/06/24 05:33

Client Sample ID: MW-3S-100324

Lab Sample ID: 480-223991-6

Date Collected: 10/03/24 14:15

Matrix: Water

Date Received: 10/04/24 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060A		1	727254	JMM	EET BUF	10/06/24 06:01

Client Sample ID: MW-3D-100324

Lab Sample ID: 480-223991-7

Date Collected: 10/03/24 14:20

Matrix: Water

Date Received: 10/04/24 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060A		1	727560	AF	EET BUF	10/08/24 00:03

Laboratory References:

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

Eurofins Buffalo

Accreditation/Certification Summary

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223991-1

Laboratory: Eurofins Buffalo

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

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

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

Method Summary

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-223991-1

Method	Method Description	Protocol	Laboratory
9060A	Organic Carbon, Total (TOC)	SW846	EET BUF

Protocol References:

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

Laboratory References:

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



Sample Summary

Client: Arcadis U.S., Inc.

Job ID: 480-223991-1

Project/Site: BMS Krutulis GW Sampling Project

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-223991-1	MW-7-100324	Water	10/03/24 13:40	10/04/24 11:00
480-223991-2	PZ-4-100324	Water	10/03/24 13:50	10/04/24 11:00
480-223991-3	PZ-3-100324	Water	10/03/24 13:55	10/04/24 11:00
480-223991-4	PZ-2-100324	Water	10/03/24 14:00	10/04/24 11:00
480-223991-5	PZ-1-100324	Water	10/03/24 14:05	10/04/24 11:00
480-223991-6	MW-3S-100324	Water	10/03/24 14:15	10/04/24 11:00
480-223991-7	MW-3D-100324	Water	10/03/24 14:20	10/04/24 11:00

Login Sample Receipt Checklist

Client: Arcadis U.S., Inc.

Job Number: 480-223991-1

Login Number: 223991

List Source: Eurofins Buffalo

List Number: 1

Creator: Stapleton, Kaitlyn

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	2.5 IR#SC 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	Arcadis US
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	N/A	

ANALYTICAL REPORT

PREPARED FOR

Attn: Ms. Urvi Tulsiani
Arcadis US Inc.
126 North Jefferson Street
Suite 400
Milwaukee, Wisconsin 53202

Generated 10/25/2024 2:53:20 PM

JOB DESCRIPTION

BMS Krutulis GW Sampling Project

JOB NUMBER

480-224512-1

Eurofins Buffalo

Job Notes

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

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

Authorization



Generated
10/25/2024 2:53:20 PM

Authorized for release by
John Schove, Project Manager II
John.Schove@et.eurofinsus.com
(716)504-9838

Table of Contents

Cover Page	1
Table of Contents	3
Definitions/Glossary	4
Case Narrative	5
Detection Summary	6
Client Sample Results	7
QC Sample Results	14
QC Association Summary	15
Lab Chronicle	16
Certification Summary	17
Method Summary	18
Sample Summary	19
Chain of Custody	20
Receipt Checklists	21



Definitions/Glossary

Client: Arcadis US Inc.

Job ID: 480-224512-1

Project/Site: BMS Krutulis GW Sampling Project

Qualifiers

General Chemistry

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	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: Arcadis US Inc.
Project: BMS Krutulis GW Sampling Project

Job ID: 480-224512-1

Job ID: 480-224512-1

Eurofins Buffalo

Job Narrative 480-224512-1

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

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

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

Receipt

The samples were received on 10/18/2024 11:00 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 3.0°C.

General Chemistry

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

Eurofins Buffalo

Detection Summary

Client: Arcadis US Inc.

Job ID: 480-224512-1

Project/Site: BMS Krutulis GW Sampling Project

Client Sample ID: MW-7-101724

Lab Sample ID: 480-224512-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	1.2	B	1.0	0.43	mg/L	1		9060A	Total/NA

Client Sample ID: PZ-4-101724

Lab Sample ID: 480-224512-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	3.8	B	1.0	0.43	mg/L	1		9060A	Total/NA

Client Sample ID: PZ-3-101724

Lab Sample ID: 480-224512-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	1.1	B	1.0	0.43	mg/L	1		9060A	Total/NA

Client Sample ID: PZ-2-101724

Lab Sample ID: 480-224512-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	1.8	B	1.0	0.43	mg/L	1		9060A	Total/NA

Client Sample ID: PZ-1-101724

Lab Sample ID: 480-224512-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	0.78	J B	1.0	0.43	mg/L	1		9060A	Total/NA

Client Sample ID: MW-3S-101724

Lab Sample ID: 480-224512-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	0.57	J	1.0	0.43	mg/L	1		9060A	Total/NA

Client Sample ID: MW-3D-101724

Lab Sample ID: 480-224512-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	0.73	J	1.0	0.43	mg/L	1		9060A	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Buffalo

Client Sample Results

Client: Arcadis US Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-224512-1

Client Sample ID: MW-7-101724

Lab Sample ID: 480-224512-1

Date Collected: 10/17/24 12:00

Matrix: Water

Date Received: 10/18/24 11:00

General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SW846 9060A)	1.2	B	1.0	0.43	mg/L			10/25/24 01:52	1

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

Client Sample Results

Client: Arcadis US Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-224512-1

Client Sample ID: PZ-4-101724
Date Collected: 10/17/24 12:10
Date Received: 10/18/24 11:00

Lab Sample ID: 480-224512-2
Matrix: Water

General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SW846 9060A)	3.8	B	1.0	0.43	mg/L			10/25/24 02:21	1

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

Client Sample Results

Client: Arcadis US Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-224512-1

Client Sample ID: PZ-3-101724

Lab Sample ID: 480-224512-3

Date Collected: 10/17/24 12:20

Matrix: Water

Date Received: 10/18/24 11:00

General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SW846 9060A)	1.1	B	1.0	0.43	mg/L			10/25/24 02:50	1

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

Client Sample Results

Client: Arcadis US Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-224512-1

Client Sample ID: PZ-2-101724
Date Collected: 10/17/24 12:25
Date Received: 10/18/24 11:00

Lab Sample ID: 480-224512-4
Matrix: Water

General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SW846 9060A)	1.8	B	1.0	0.43	mg/L			10/25/24 03:19	1

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

Client Sample Results

Client: Arcadis US Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-224512-1

Client Sample ID: PZ-1-101724

Lab Sample ID: 480-224512-5

Date Collected: 10/17/24 12:35

Matrix: Water

Date Received: 10/18/24 11:00

General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SW846 9060A)	0.78	J B	1.0	0.43	mg/L			10/25/24 03:48	1

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

Client Sample Results

Client: Arcadis US Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-224512-1

Client Sample ID: MW-3S-101724

Lab Sample ID: 480-224512-6

Date Collected: 10/17/24 12:45

Matrix: Water

Date Received: 10/18/24 11:00

General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SW846 9060A)	0.57	J	1.0	0.43	mg/L			10/23/24 22:19	1

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

Client Sample Results

Client: Arcadis US Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-224512-1

Client Sample ID: MW-3D-101724

Lab Sample ID: 480-224512-7

Date Collected: 10/17/24 12:50

Matrix: Water

Date Received: 10/18/24 11:00

General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SW846 9060A)	0.73	J	1.0	0.43	mg/L			10/24/24 03:53	1

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

QC Sample Results

Client: Arcadis US Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-224512-1

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

Lab Sample ID: MB 480-729793/4

Matrix: Water

Analysis Batch: 729793

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	1.0	U	1.0	0.43	mg/L			10/23/24 18:11	1

Lab Sample ID: LCS 480-729793/5

Matrix: Water

Analysis Batch: 729793

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon	60.0	60.82		mg/L		101	90 - 110

Lab Sample ID: MB 480-729797/52

Matrix: Water

Analysis Batch: 729797

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	0.561	J	1.0	0.43	mg/L			10/24/24 17:45	1

Lab Sample ID: LCS 480-729797/53

Matrix: Water

Analysis Batch: 729797

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon	60.0	57.20		mg/L		95	90 - 110

QC Association Summary

Client: Arcadis US Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-224512-1

General Chemistry

Analysis Batch: 729793

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-224512-6	MW-3S-101724	Total/NA	Water	9060A	
480-224512-7	MW-3D-101724	Total/NA	Water	9060A	
MB 480-729793/4	Method Blank	Total/NA	Water	9060A	
LCS 480-729793/5	Lab Control Sample	Total/NA	Water	9060A	

Analysis Batch: 729797

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-224512-1	MW-7-101724	Total/NA	Water	9060A	
480-224512-2	PZ-4-101724	Total/NA	Water	9060A	
480-224512-3	PZ-3-101724	Total/NA	Water	9060A	
480-224512-4	PZ-2-101724	Total/NA	Water	9060A	
480-224512-5	PZ-1-101724	Total/NA	Water	9060A	
MB 480-729797/52	Method Blank	Total/NA	Water	9060A	
LCS 480-729797/53	Lab Control Sample	Total/NA	Water	9060A	

Lab Chronicle

Client: Arcadis US Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-224512-1

Client Sample ID: MW-7-101724

Lab Sample ID: 480-224512-1

Date Collected: 10/17/24 12:00

Matrix: Water

Date Received: 10/18/24 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060A		1	729797	AF	EET BUF	10/25/24 01:52

Client Sample ID: PZ-4-101724

Lab Sample ID: 480-224512-2

Date Collected: 10/17/24 12:10

Matrix: Water

Date Received: 10/18/24 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060A		1	729797	AF	EET BUF	10/25/24 02:21

Client Sample ID: PZ-3-101724

Lab Sample ID: 480-224512-3

Date Collected: 10/17/24 12:20

Matrix: Water

Date Received: 10/18/24 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060A		1	729797	AF	EET BUF	10/25/24 02:50

Client Sample ID: PZ-2-101724

Lab Sample ID: 480-224512-4

Date Collected: 10/17/24 12:25

Matrix: Water

Date Received: 10/18/24 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060A		1	729797	AF	EET BUF	10/25/24 03:19

Client Sample ID: PZ-1-101724

Lab Sample ID: 480-224512-5

Date Collected: 10/17/24 12:35

Matrix: Water

Date Received: 10/18/24 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060A		1	729797	AF	EET BUF	10/25/24 03:48

Client Sample ID: MW-3S-101724

Lab Sample ID: 480-224512-6

Date Collected: 10/17/24 12:45

Matrix: Water

Date Received: 10/18/24 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060A		1	729793	AF	EET BUF	10/23/24 22:19

Client Sample ID: MW-3D-101724

Lab Sample ID: 480-224512-7

Date Collected: 10/17/24 12:50

Matrix: Water

Date Received: 10/18/24 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060A		1	729793	AF	EET BUF	10/24/24 03:53

Laboratory References:

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

Eurofins Buffalo

Accreditation/Certification Summary

Client: Arcadis US Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-224512-1

Laboratory: Eurofins Buffalo

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

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

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

Method Summary

Client: Arcadis US Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-224512-1

Method	Method Description	Protocol	Laboratory
9060A	Organic Carbon, Total (TOC)	SW846	EET BUF

Protocol References:

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

Laboratory References:

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

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

Sample Summary

Client: Arcadis US Inc.

Job ID: 480-224512-1

Project/Site: BMS Krutulis GW Sampling Project

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-224512-1	MW-7-101724	Water	10/17/24 12:00	10/18/24 11:00
480-224512-2	PZ-4-101724	Water	10/17/24 12:10	10/18/24 11:00
480-224512-3	PZ-3-101724	Water	10/17/24 12:20	10/18/24 11:00
480-224512-4	PZ-2-101724	Water	10/17/24 12:25	10/18/24 11:00
480-224512-5	PZ-1-101724	Water	10/17/24 12:35	10/18/24 11:00
480-224512-6	MW-3S-101724	Water	10/17/24 12:45	10/18/24 11:00
480-224512-7	MW-3D-101724	Water	10/17/24 12:50	10/18/24 11:00

Chain of Custody Record

[illegible]

Login Sample Receipt Checklist

Client: Arcadis US Inc.

Job Number: 480-224512-1

Login Number: 224512

List Source: Eurofins Buffalo

List Number: 1

Creator: Wallace, Cameron

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

ANALYTICAL REPORT

PREPARED FOR

Attn: Ms. Urvi Tulsiani
Arcadis US Inc.
126 North Jefferson Street
Suite 400
Milwaukee, Wisconsin 53202

Generated 11/15/2024 11:56:03 AM

JOB DESCRIPTION

BMS Krutulis GW Sampling Project

JOB NUMBER

480-225040-1

Eurofins Buffalo

Job Notes

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

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

Authorization



Generated
11/15/2024 11:56:03 AM

Authorized for release by
John Schove, Project Manager II
John.Schove@et.eurofinsus.com
(716)504-9838

Table of Contents

Cover Page	1
Table of Contents	3
Definitions/Glossary	4
Case Narrative	5
Detection Summary	6
Client Sample Results	7
QC Sample Results	15
QC Association Summary	16
Lab Chronicle	17
Certification Summary	19
Method Summary	20
Sample Summary	21
Chain of Custody	22
Receipt Checklists	23



Definitions/Glossary

Client: Arcadis US Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-225040-1

Qualifiers

General Chemistry

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	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: Arcadis US Inc.
Project: BMS Krutulis GW Sampling Project

Job ID: 480-225040-1

Job ID: 480-225040-1

Eurofins Buffalo

Job Narrative 480-225040-1

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

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

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

Receipt

The samples were received on 11/1/2024 10:30 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 6.5°C.

General Chemistry

Method 9060A: The following samples were analyzed in quadruplicate: PZ-1-103124 (480-225040-5), Tank-103124 (480-225040-8) and (480-225040-B-8 MS ^100). The RPD between the four replicates was > 10%. Sample matrix interference is suspected. Therefore, the data has been reported.

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

Eurofins Buffalo

Detection Summary

Client: Arcadis US Inc.

Job ID: 480-225040-1

Project/Site: BMS Krutulis GW Sampling Project

Client Sample ID: MW-7-103124

Lab Sample ID: 480-225040-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	1.3		1.0	0.43	mg/L	1		9060A	Total/NA

Client Sample ID: PZ-4-103124

Lab Sample ID: 480-225040-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	3.2		1.0	0.43	mg/L	1		9060A	Total/NA

Client Sample ID: PZ-3-103124

Lab Sample ID: 480-225040-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	1.5		1.0	0.43	mg/L	1		9060A	Total/NA

Client Sample ID: PZ-2-103124

Lab Sample ID: 480-225040-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	2.6		1.0	0.43	mg/L	1		9060A	Total/NA

Client Sample ID: PZ-1-103124

Lab Sample ID: 480-225040-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	1160		100	43.4	mg/L	100		9060A	Total/NA

Client Sample ID: MW-3S-103124

Lab Sample ID: 480-225040-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	1.9		1.0	0.43	mg/L	1		9060A	Total/NA

Client Sample ID: MW-3D-103124

Lab Sample ID: 480-225040-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	1.5		1.0	0.43	mg/L	1		9060A	Total/NA

Client Sample ID: Tank-103124

Lab Sample ID: 480-225040-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	3710		100	43.4	mg/L	100		9060A	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Buffalo

Client Sample Results

Client: Arcadis US Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-225040-1

Client Sample ID: MW-7-103124
Date Collected: 10/31/24 12:00
Date Received: 11/01/24 10:30

Lab Sample ID: 480-225040-1
Matrix: Water

General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SW846 9060A)	1.3		1.0	0.43	mg/L			11/14/24 19:27	1

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

Client Sample Results

Client: Arcadis US Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-225040-1

Client Sample ID: PZ-4-103124

Lab Sample ID: 480-225040-2

Date Collected: 10/31/24 12:10

Matrix: Water

Date Received: 11/01/24 10:30

General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SW846 9060A)	3.2		1.0	0.43	mg/L			11/14/24 20:24	1

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

Client Sample Results

Client: Arcadis US Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-225040-1

Client Sample ID: PZ-3-103124

Lab Sample ID: 480-225040-3

Date Collected: 10/31/24 12:15

Matrix: Water

Date Received: 11/01/24 10:30

General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SW846 9060A)	1.5		1.0	0.43	mg/L			11/14/24 20:53	1

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

Client Sample Results

Client: Arcadis US Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-225040-1

Client Sample ID: PZ-2-103124
Date Collected: 10/31/24 12:25
Date Received: 11/01/24 10:30

Lab Sample ID: 480-225040-4
Matrix: Water

General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SW846 9060A)	2.6		1.0	0.43	mg/L			11/14/24 21:21	1

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

Client Sample Results

Client: Arcadis US Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-225040-1

Client Sample ID: PZ-1-103124
Date Collected: 10/31/24 12:35
Date Received: 11/01/24 10:30

Lab Sample ID: 480-225040-5
Matrix: Water

General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SW846 9060A)	1160		100	43.4	mg/L			11/14/24 21:52	100

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

Client Sample Results

Client: Arcadis US Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-225040-1

Client Sample ID: MW-3S-103124
Date Collected: 10/31/24 12:45
Date Received: 11/01/24 10:30

Lab Sample ID: 480-225040-6
Matrix: Water

General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SW846 9060A)	1.9		1.0	0.43	mg/L			11/14/24 22:22	1

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

Client Sample Results

Client: Arcadis US Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-225040-1

Client Sample ID: MW-3D-103124

Lab Sample ID: 480-225040-7

Date Collected: 10/31/24 12:55

Matrix: Water

Date Received: 11/01/24 10:30

General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SW846 9060A)	1.5		1.0	0.43	mg/L			11/14/24 22:50	1

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

Client Sample Results

Client: Arcadis US Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-225040-1

Client Sample ID: Tank-103124
Date Collected: 10/31/24 13:00
Date Received: 11/01/24 10:30

Lab Sample ID: 480-225040-8
Matrix: Water

General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SW846 9060A)	3710		100	43.4	mg/L			11/15/24 01:16	100

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

QC Sample Results

Client: Arcadis US Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-225040-1

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

Lab Sample ID: MB 480-732551/52

Matrix: Water

Analysis Batch: 732551

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	1.0	U	1.0	0.43	mg/L			11/14/24 12:46	1

Lab Sample ID: MB 480-732551/76

Matrix: Water

Analysis Batch: 732551

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	1.0	U	1.0	0.43	mg/L			11/15/24 00:16	1

Lab Sample ID: LCS 480-732551/53

Matrix: Water

Analysis Batch: 732551

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon	60.0	57.70		mg/L		96	90 - 110

Lab Sample ID: LCS 480-732551/77

Matrix: Water

Analysis Batch: 732551

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon	60.0	57.64		mg/L		96	90 - 110

Lab Sample ID: 480-225040-8 MS

Matrix: Water

Analysis Batch: 732551

Client Sample ID: Tank-103124

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon	3710		2330	5902		mg/L		94	54 - 131

Lab Sample ID: 480-225040-1 DU

Matrix: Water

Analysis Batch: 732551

Client Sample ID: MW-7-103124

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Organic Carbon	1.3		1.15		mg/L		15	20

QC Association Summary

Client: Arcadis US Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-225040-1

General Chemistry

Analysis Batch: 732551

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-225040-1	MW-7-103124	Total/NA	Water	9060A	
480-225040-2	PZ-4-103124	Total/NA	Water	9060A	
480-225040-3	PZ-3-103124	Total/NA	Water	9060A	
480-225040-4	PZ-2-103124	Total/NA	Water	9060A	
480-225040-5	PZ-1-103124	Total/NA	Water	9060A	
480-225040-6	MW-3S-103124	Total/NA	Water	9060A	
480-225040-7	MW-3D-103124	Total/NA	Water	9060A	
480-225040-8	Tank-103124	Total/NA	Water	9060A	
MB 480-732551/52	Method Blank	Total/NA	Water	9060A	
MB 480-732551/76	Method Blank	Total/NA	Water	9060A	
LCS 480-732551/53	Lab Control Sample	Total/NA	Water	9060A	
LCS 480-732551/77	Lab Control Sample	Total/NA	Water	9060A	
480-225040-8 MS	Tank-103124	Total/NA	Water	9060A	
480-225040-1 DU	MW-7-103124	Total/NA	Water	9060A	

Lab Chronicle

Client: Arcadis US Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-225040-1

Client Sample ID: MW-7-103124

Lab Sample ID: 480-225040-1

Date Collected: 10/31/24 12:00

Matrix: Water

Date Received: 11/01/24 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060A		1	732551	RJS	EET BUF	11/14/24 19:27

Client Sample ID: PZ-4-103124

Lab Sample ID: 480-225040-2

Date Collected: 10/31/24 12:10

Matrix: Water

Date Received: 11/01/24 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060A		1	732551	RJS	EET BUF	11/14/24 20:24

Client Sample ID: PZ-3-103124

Lab Sample ID: 480-225040-3

Date Collected: 10/31/24 12:15

Matrix: Water

Date Received: 11/01/24 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060A		1	732551	RJS	EET BUF	11/14/24 20:53

Client Sample ID: PZ-2-103124

Lab Sample ID: 480-225040-4

Date Collected: 10/31/24 12:25

Matrix: Water

Date Received: 11/01/24 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060A		1	732551	RJS	EET BUF	11/14/24 21:21

Client Sample ID: PZ-1-103124

Lab Sample ID: 480-225040-5

Date Collected: 10/31/24 12:35

Matrix: Water

Date Received: 11/01/24 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060A		100	732551	RJS	EET BUF	11/14/24 21:52

Client Sample ID: MW-3S-103124

Lab Sample ID: 480-225040-6

Date Collected: 10/31/24 12:45

Matrix: Water

Date Received: 11/01/24 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060A		1	732551	RJS	EET BUF	11/14/24 22:22

Client Sample ID: MW-3D-103124

Lab Sample ID: 480-225040-7

Date Collected: 10/31/24 12:55

Matrix: Water

Date Received: 11/01/24 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060A		1	732551	RJS	EET BUF	11/14/24 22:50

Eurofins Buffalo

Lab Chronicle

Client: Arcadis US Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-225040-1

Client Sample ID: Tank-103124
Date Collected: 10/31/24 13:00
Date Received: 11/01/24 10:30

Lab Sample ID: 480-225040-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060A		100	732551	RJS	EET BUF	11/15/24 01:16

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

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

Accreditation/Certification Summary

Client: Arcadis US Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-225040-1

Laboratory: Eurofins Buffalo

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

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

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

Method Summary

Client: Arcadis US Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-225040-1

Method	Method Description	Protocol	Laboratory
9060A	Organic Carbon, Total (TOC)	SW846	EET BUF

Protocol References:

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

Laboratory References:

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

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

Sample Summary

Client: Arcadis US Inc.

Job ID: 480-225040-1

Project/Site: BMS Krutulis GW Sampling Project

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-225040-1	MW-7-103124	Water	10/31/24 12:00	11/01/24 10:30
480-225040-2	PZ-4-103124	Water	10/31/24 12:10	11/01/24 10:30
480-225040-3	PZ-3-103124	Water	10/31/24 12:15	11/01/24 10:30
480-225040-4	PZ-2-103124	Water	10/31/24 12:25	11/01/24 10:30
480-225040-5	PZ-1-103124	Water	10/31/24 12:35	11/01/24 10:30
480-225040-6	MW-3S-103124	Water	10/31/24 12:45	11/01/24 10:30
480-225040-7	MW-3D-103124	Water	10/31/24 12:55	11/01/24 10:30
480-225040-8	Tank-103124	Water	10/31/24 13:00	11/01/24 10:30

[illegible]

Login Sample Receipt Checklist

Client: Arcadis US Inc.

Job Number: 480-225040-1

Login Number: 225040

List Source: Eurofins Buffalo

List Number: 1

Creator: Stapleton, Kaitlyn

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	6.5 IR#SC 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	Arcadis
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	N/A	

ANALYTICAL REPORT

PREPARED FOR

Attn: Ms. Urvi Tulsiani
Arcadis US Inc.
790 North Milwaukee Street, Suite 100A
Milwaukee, Wisconsin 53202

Generated 11/21/2024 1:46:53 PM

JOB DESCRIPTION

BMS Krutulis GW Sampling Project

JOB NUMBER

480-225491-1

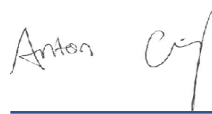
Eurofins Buffalo

Job Notes

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

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

Authorization



Generated
11/21/2024 1:46:53 PM

Authorized for release by
Anton Gruning, Project Management Assistant I
Anton.Gruning@et.eurofinsus.com
Designee for
John Schove, Project Manager II
John.Schove@et.eurofinsus.com
(716)504-9838

Table of Contents

Cover Page	1
Table of Contents	3
Definitions/Glossary	4
Case Narrative	5
Detection Summary	6
Client Sample Results	7
QC Sample Results	14
QC Association Summary	15
Lab Chronicle	16
Certification Summary	17
Method Summary	18
Sample Summary	19
Chain of Custody	20
Receipt Checklists	21



Definitions/Glossary

Client: Arcadis US Inc.
Project/Site: BMS Krutulius GW Sampling Project

Job ID: 480-225491-1

Qualifiers

General Chemistry

Qualifier	Qualifier Description
-----------	-----------------------

U	Indicates the analyte was analyzed for but not detected.
---	--

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
--------------	---

☼	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: Arcadis US Inc.
Project: BMS Krutulis GW Sampling Project

Job ID: 480-225491-1

Job ID: 480-225491-1

Eurofins Buffalo

Job Narrative 480-225491-1

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

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

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

Receipt

The samples were received on 11/15/2024 9:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.4°C.

General Chemistry

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

Eurofins Buffalo

Detection Summary

Client: Arcadis US Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-225491-1

Client Sample ID: MW-7-111424

Lab Sample ID: 480-225491-1

No Detections.

Client Sample ID: PZ-4-111424

Lab Sample ID: 480-225491-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	1.4		1.0	0.43	mg/L	1		9060A	Total/NA

Client Sample ID: PZ-3-111424

Lab Sample ID: 480-225491-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	1.3		1.0	0.43	mg/L	1		9060A	Total/NA

Client Sample ID: PZ-2-111424

Lab Sample ID: 480-225491-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	5.4		1.0	0.43	mg/L	1		9060A	Total/NA

Client Sample ID: PZ-1-111424

Lab Sample ID: 480-225491-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	45.6		1.0	0.43	mg/L	1		9060A	Total/NA

Client Sample ID: MW-3S-111424

Lab Sample ID: 480-225491-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	1.0		1.0	0.43	mg/L	1		9060A	Total/NA

Client Sample ID: MW-3D-111424

Lab Sample ID: 480-225491-7

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Buffalo

Client Sample Results

Client: Arcadis US Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-225491-1

Client Sample ID: MW-7-111424
Date Collected: 11/14/24 12:00
Date Received: 11/15/24 09:00

Lab Sample ID: 480-225491-1
Matrix: Water

General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SW846 9060A)	1.0	U	1.0	0.43	mg/L			11/20/24 11:10	1

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

Client Sample Results

Client: Arcadis US Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-225491-1

Client Sample ID: PZ-4-111424
Date Collected: 11/14/24 12:10
Date Received: 11/15/24 09:00

Lab Sample ID: 480-225491-2
Matrix: Water

General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SW846 9060A)	1.4		1.0	0.43	mg/L			11/20/24 11:38	1

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

Client Sample Results

Client: Arcadis US Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-225491-1

Client Sample ID: PZ-3-111424
Date Collected: 11/14/24 12:15
Date Received: 11/15/24 09:00

Lab Sample ID: 480-225491-3
Matrix: Water

General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SW846 9060A)	1.3		1.0	0.43	mg/L			11/20/24 12:07	1

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

Client Sample Results

Client: Arcadis US Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-225491-1

Client Sample ID: PZ-2-111424
Date Collected: 11/14/24 12:20
Date Received: 11/15/24 09:00

Lab Sample ID: 480-225491-4
Matrix: Water

General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SW846 9060A)	5.4		1.0	0.43	mg/L			11/20/24 12:36	1

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

Client Sample Results

Client: Arcadis US Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-225491-1

Client Sample ID: PZ-1-111424
Date Collected: 11/14/24 12:30
Date Received: 11/15/24 09:00

Lab Sample ID: 480-225491-5
Matrix: Water

General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SW846 9060A)	45.6		1.0	0.43	mg/L			11/20/24 13:04	1

Client Sample Results

Client: Arcadis US Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-225491-1

Client Sample ID: MW-3S-111424
Date Collected: 11/14/24 12:35
Date Received: 11/15/24 09:00

Lab Sample ID: 480-225491-6
Matrix: Water

General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SW846 9060A)	1.0		1.0	0.43	mg/L			11/20/24 13:34	1

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

Client Sample Results

Client: Arcadis US Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-225491-1

Client Sample ID: MW-3D-111424
Date Collected: 11/14/24 12:40
Date Received: 11/15/24 09:00

Lab Sample ID: 480-225491-7
Matrix: Water

General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SW846 9060A)	1.0	U	1.0	0.43	mg/L			11/20/24 17:47	1

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

QC Sample Results

Client: Arcadis US Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-225491-1

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

Lab Sample ID: MB 480-733202/28
Matrix: Water
Analysis Batch: 733202

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	1.0	U	1.0	0.43	mg/L			11/20/24 03:44	1

Lab Sample ID: MB 480-733202/52
Matrix: Water
Analysis Batch: 733202

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	1.0	U	1.0	0.43	mg/L			11/20/24 15:00	1

Lab Sample ID: LCS 480-733202/29
Matrix: Water
Analysis Batch: 733202

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon	60.0	57.27		mg/L		95	90 - 110

Lab Sample ID: LCS 480-733202/53
Matrix: Water
Analysis Batch: 733202

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon	60.0	57.56		mg/L		96	90 - 110

QC Association Summary

Client: Arcadis US Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-225491-1

General Chemistry

Analysis Batch: 733202

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-225491-1	MW-7-111424	Total/NA	Water	9060A	
480-225491-2	PZ-4-111424	Total/NA	Water	9060A	
480-225491-3	PZ-3-111424	Total/NA	Water	9060A	
480-225491-4	PZ-2-111424	Total/NA	Water	9060A	
480-225491-5	PZ-1-111424	Total/NA	Water	9060A	
480-225491-6	MW-3S-111424	Total/NA	Water	9060A	
480-225491-7	MW-3D-111424	Total/NA	Water	9060A	
MB 480-733202/28	Method Blank	Total/NA	Water	9060A	
MB 480-733202/52	Method Blank	Total/NA	Water	9060A	
LCS 480-733202/29	Lab Control Sample	Total/NA	Water	9060A	
LCS 480-733202/53	Lab Control Sample	Total/NA	Water	9060A	

Lab Chronicle

Client: Arcadis US Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-225491-1

Client Sample ID: MW-7-111424

Lab Sample ID: 480-225491-1

Date Collected: 11/14/24 12:00

Matrix: Water

Date Received: 11/15/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060A		1	733202	AF	EET BUF	11/20/24 11:10

Client Sample ID: PZ-4-111424

Lab Sample ID: 480-225491-2

Date Collected: 11/14/24 12:10

Matrix: Water

Date Received: 11/15/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060A		1	733202	AF	EET BUF	11/20/24 11:38

Client Sample ID: PZ-3-111424

Lab Sample ID: 480-225491-3

Date Collected: 11/14/24 12:15

Matrix: Water

Date Received: 11/15/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060A		1	733202	AF	EET BUF	11/20/24 12:07

Client Sample ID: PZ-2-111424

Lab Sample ID: 480-225491-4

Date Collected: 11/14/24 12:20

Matrix: Water

Date Received: 11/15/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060A		1	733202	AF	EET BUF	11/20/24 12:36

Client Sample ID: PZ-1-111424

Lab Sample ID: 480-225491-5

Date Collected: 11/14/24 12:30

Matrix: Water

Date Received: 11/15/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060A		1	733202	AF	EET BUF	11/20/24 13:04

Client Sample ID: MW-3S-111424

Lab Sample ID: 480-225491-6

Date Collected: 11/14/24 12:35

Matrix: Water

Date Received: 11/15/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060A		1	733202	AF	EET BUF	11/20/24 13:34

Client Sample ID: MW-3D-111424

Lab Sample ID: 480-225491-7

Date Collected: 11/14/24 12:40

Matrix: Water

Date Received: 11/15/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060A		1	733202	AF	EET BUF	11/20/24 17:47

Laboratory References:

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

Eurofins Buffalo

Accreditation/Certification Summary

Client: Arcadis US Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-225491-1

Laboratory: Eurofins Buffalo

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

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

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

Method Summary

Client: Arcadis US Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-225491-1

Method	Method Description	Protocol	Laboratory
9060A	Organic Carbon, Total (TOC)	SW846	EET BUF

Protocol References:

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

Laboratory References:

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

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

Sample Summary

Client: Arcadis US Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-225491-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-225491-1	MW-7-111424	Water	11/14/24 12:00	11/15/24 09:00
480-225491-2	PZ-4-111424	Water	11/14/24 12:10	11/15/24 09:00
480-225491-3	PZ-3-111424	Water	11/14/24 12:15	11/15/24 09:00
480-225491-4	PZ-2-111424	Water	11/14/24 12:20	11/15/24 09:00
480-225491-5	PZ-1-111424	Water	11/14/24 12:30	11/15/24 09:00
480-225491-6	MW-3S-111424	Water	11/14/24 12:35	11/15/24 09:00
480-225491-7	MW-3D-111424	Water	11/14/24 12:40	11/15/24 09:00



Chain of Custody Record



Environment Testing

Client Information		Lab PM		Carrier Information		Analysis Requested	
Client Contact: Ms. Urvi Tulsiani		Schove, John R		Carrier: Syracuse		Preservation Codes: S - H2SO4	
Company: Arcadis U.S., Inc.		E-Mail: John.Schove@et.eurofins.com		State of Origin: #225		Job #:	
Address: 126 North Jefferson Street Suite 400		Phone: 315-992-0568		PWSID:		Page 1 of 1	
City: Milwaukee		Due Date Requested:		TAT Requested (days): 10 Day Standard		Other:	
State, Zip: WI, 53202		Compliance Project: ☐ Yes ☒ No		PO #: 30238141.01		Total Number of Containers:	
Phone: 30238141.01		WO #: 30238141-082724		Project #: 48027987		Special Instructions/Note:	
Email: urvi.tulsiani@arcadis.com		SSOW#:		Project Name: BMS Krutulis GW Sampling Project			
Site:							
Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=soil, A=air)	Field Filtered Sample (Yes or No)	9060A - Organic Carbon, Total (TOC)	Perform MS/MSD (Yes or No)
MW-7-111424	11/14/24	1200	G	Water	X	X	X
P2-4-111424	11/14/24	1210	G	Water	X	X	X
P2-3-111424	11/14/24	1215	G	W	X	X	X
P2-2-111424	11/14/24	1220	G	W	X	X	X
P2-1-111424	11/14/24	1230	G	W	X	X	X
MW-35-111424	11/14/24	1235	G	W	X	X	X
MW-3D-111424	11/14/24	1240	G	W	X	X	X
Possible Hazard Identification ☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological Deliverable Requested: I, II, III, IV, Other (specify) Empty Kit Relinquished by: Relinquished by: Dr. Mando Relinquished by: R. Krutulis Relinquished by: R. Krutulis Custody Seal Intact: ☐ Yes ☒ No Custody Seal No.:							

Sample Disposal (A fee may be assessed if san)

☐ Return To Client ☐ Disposal By Lab

Special Instructions/QC Requirements:

Received by: **Dr. Mando**

Received by: **gym**

Received by:

Company: **ARCADIS**

Company: **gym**

Company:

Date/Time: **11-14-24 1430**

Date/Time: **11-14-24, 1900**

Date/Time:

Method of Shipment:

480-225491 Chain of Custody

Barcode

480-225491 Chain of Custody

Ver: 05/06/2024

Page 20 of 21

11/21/2024

Login Sample Receipt Checklist

Client: Arcadis US Inc.

Job Number: 480-225491-1

Login Number: 225491

List Number: 1

Creator: Yeager, Brian A

List Source: Eurofins Buffalo

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.4 ICE IR# SC
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	ANA
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	N/A	

ANALYTICAL REPORT

PREPARED FOR

Attn: Carla DaParma

Arcadis U.S., Inc.

Arcadis

2100 Georgetown Drive, Suite 402

Sewickley, Pennsylvania 15143

Generated 12/16/2024 1:18:57 PM

JOB DESCRIPTION

BMS Krutulis GW Sampling Project

JOB NUMBER

480-226161-1

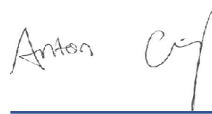
Eurofins Buffalo

Job Notes

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

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

Authorization



Generated
12/16/2024 1:18:57 PM

Authorized for release by
Anton Gruning, Project Management Assistant I
Anton.Gruning@et.eurofinsus.com
Designee for
John Schove, Project Manager II
John.Schove@et.eurofinsus.com
(716)504-9838

Table of Contents

Cover Page	1
Table of Contents	3
Definitions/Glossary	4
Case Narrative	5
Detection Summary	6
Client Sample Results	7
QC Sample Results	14
QC Association Summary	15
Lab Chronicle	16
Certification Summary	17
Method Summary	18
Sample Summary	19
Chain of Custody	20
Receipt Checklists	21



Definitions/Glossary

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-226161-1

Qualifiers

General Chemistry

Qualifier	Qualifier Description
-----------	-----------------------

U	Indicates the analyte was analyzed for but not detected.
---	--

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
--------------	---

☼	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: Arcadis U.S., Inc.
Project: BMS Krutulis GW Sampling Project

Job ID: 480-226161-1

Job ID: 480-226161-1

Eurofins Buffalo

Job Narrative 480-226161-1

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

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

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

Receipt

The samples were received on 12/10/2024 10:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.7°C.

Receipt Exceptions

Lab received samples late, samples were shipped to the wrong lab in error and were shipped back to Buffalo.

General Chemistry

Method 9060A: %RSD > 10%, reanalysis confirms results: PZ-4-120624 (480-226161-2) and PZ-3-120624 (480-226161-3).

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

Eurofins Buffalo

Detection Summary

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-226161-1

Client Sample ID: MW-7-120624

Lab Sample ID: 480-226161-1

No Detections.

Client Sample ID: PZ-4-120624

Lab Sample ID: 480-226161-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	88.3		5.0	2.2	mg/L	5		9060A	Total/NA

Client Sample ID: PZ-3-120624

Lab Sample ID: 480-226161-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	6.6		1.0	0.43	mg/L	1		9060A	Total/NA

Client Sample ID: PZ-2-120624

Lab Sample ID: 480-226161-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	7.3		1.0	0.43	mg/L	1		9060A	Total/NA

Client Sample ID: PZ-1-120624

Lab Sample ID: 480-226161-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	18.8		1.0	0.43	mg/L	1		9060A	Total/NA

Client Sample ID: MW3S-120624

Lab Sample ID: 480-226161-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	81.6		1.0	0.43	mg/L	1		9060A	Total/NA

Client Sample ID: MW3D-120624

Lab Sample ID: 480-226161-7

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Buffalo

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-226161-1

Client Sample ID: MW-7-120624
Date Collected: 12/06/24 10:00
Date Received: 12/10/24 10:00

Lab Sample ID: 480-226161-1
Matrix: Water

General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SW846 9060A)	1.0	U	1.0	0.43	mg/L			12/12/24 08:48	1

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

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-226161-1

Client Sample ID: PZ-4-120624
Date Collected: 12/06/24 10:05
Date Received: 12/10/24 10:00

Lab Sample ID: 480-226161-2
Matrix: Water

General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SW846 9060A)	88.3		5.0	2.2	mg/L			12/13/24 15:25	5

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

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-226161-1

Client Sample ID: PZ-3-120624

Lab Sample ID: 480-226161-3

Date Collected: 12/06/24 10:10

Matrix: Water

Date Received: 12/10/24 10:00

General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SW846 9060A)	6.6		1.0	0.43	mg/L			12/13/24 15:55	1

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

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-226161-1

Client Sample ID: PZ-2-120624

Lab Sample ID: 480-226161-4

Date Collected: 12/06/24 10:15

Matrix: Water

Date Received: 12/10/24 10:00

General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SW846 9060A)	7.3		1.0	0.43	mg/L			12/12/24 10:16	1

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

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-226161-1

Client Sample ID: PZ-1-120624

Lab Sample ID: 480-226161-5

Date Collected: 12/06/24 10:20

Matrix: Water

Date Received: 12/10/24 10:00

General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SW846 9060A)	18.8		1.0	0.43	mg/L			12/12/24 10:44	1

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

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-226161-1

Client Sample ID: MW3S-120624
Date Collected: 12/06/24 10:25
Date Received: 12/10/24 10:00

Lab Sample ID: 480-226161-6
Matrix: Water

General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SW846 9060A)	81.6		1.0	0.43	mg/L			12/13/24 03:09	1

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

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-226161-1

Client Sample ID: MW3D-120624
Date Collected: 12/06/24 10:30
Date Received: 12/10/24 10:00

Lab Sample ID: 480-226161-7
Matrix: Water

General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SW846 9060A)	1.0	U	1.0	0.43	mg/L			12/13/24 03:37	1

QC Sample Results

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulius GW Sampling Project

Job ID: 480-226161-1

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

Lab Sample ID: MB 480-735204/28

Matrix: Water

Analysis Batch: 735204

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	1.0	U	1.0	0.43	mg/L			12/12/24 00:49	1

Lab Sample ID: MB 480-735204/76

Matrix: Water

Analysis Batch: 735204

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	1.0	U	1.0	0.43	mg/L			12/12/24 23:24	1

Lab Sample ID: LCS 480-735204/29

Matrix: Water

Analysis Batch: 735204

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon	60.0	58.97		mg/L		98	90 - 110

Lab Sample ID: LCS 480-735204/77

Matrix: Water

Analysis Batch: 735204

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon	60.0	60.88		mg/L		101	90 - 110

Lab Sample ID: MB 480-735359/4

Matrix: Water

Analysis Batch: 735359

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	1.0	U	1.0	0.43	mg/L			12/13/24 12:09	1

Lab Sample ID: LCS 480-735359/5

Matrix: Water

Analysis Batch: 735359

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon	60.0	61.08		mg/L		102	90 - 110

QC Association Summary

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-226161-1

General Chemistry

Analysis Batch: 735204

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-226161-1	MW-7-120624	Total/NA	Water	9060A	
480-226161-4	PZ-2-120624	Total/NA	Water	9060A	
480-226161-5	PZ-1-120624	Total/NA	Water	9060A	
480-226161-6	MW3S-120624	Total/NA	Water	9060A	
480-226161-7	MW3D-120624	Total/NA	Water	9060A	
MB 480-735204/28	Method Blank	Total/NA	Water	9060A	
MB 480-735204/76	Method Blank	Total/NA	Water	9060A	
LCS 480-735204/29	Lab Control Sample	Total/NA	Water	9060A	
LCS 480-735204/77	Lab Control Sample	Total/NA	Water	9060A	

Analysis Batch: 735359

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-226161-2	PZ-4-120624	Total/NA	Water	9060A	
480-226161-3	PZ-3-120624	Total/NA	Water	9060A	
MB 480-735359/4	Method Blank	Total/NA	Water	9060A	
LCS 480-735359/5	Lab Control Sample	Total/NA	Water	9060A	

Lab Chronicle

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-226161-1

Client Sample ID: MW-7-120624

Lab Sample ID: 480-226161-1

Date Collected: 12/06/24 10:00

Matrix: Water

Date Received: 12/10/24 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060A		1	735204	JMM	EET BUF	12/12/24 08:48

Client Sample ID: PZ-4-120624

Lab Sample ID: 480-226161-2

Date Collected: 12/06/24 10:05

Matrix: Water

Date Received: 12/10/24 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060A		5	735359	AF	EET BUF	12/13/24 15:25

Client Sample ID: PZ-3-120624

Lab Sample ID: 480-226161-3

Date Collected: 12/06/24 10:10

Matrix: Water

Date Received: 12/10/24 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060A		1	735359	AF	EET BUF	12/13/24 15:55

Client Sample ID: PZ-2-120624

Lab Sample ID: 480-226161-4

Date Collected: 12/06/24 10:15

Matrix: Water

Date Received: 12/10/24 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060A		1	735204	JMM	EET BUF	12/12/24 10:16

Client Sample ID: PZ-1-120624

Lab Sample ID: 480-226161-5

Date Collected: 12/06/24 10:20

Matrix: Water

Date Received: 12/10/24 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060A		1	735204	JMM	EET BUF	12/12/24 10:44

Client Sample ID: MW3S-120624

Lab Sample ID: 480-226161-6

Date Collected: 12/06/24 10:25

Matrix: Water

Date Received: 12/10/24 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060A		1	735204	JMM	EET BUF	12/13/24 03:09

Client Sample ID: MW3D-120624

Lab Sample ID: 480-226161-7

Date Collected: 12/06/24 10:30

Matrix: Water

Date Received: 12/10/24 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9060A		1	735204	JMM	EET BUF	12/13/24 03:37

Laboratory References:

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

Eurofins Buffalo

Accreditation/Certification Summary

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-226161-1

Laboratory: Eurofins Buffalo

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

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

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

Method Summary

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-226161-1

Method	Method Description	Protocol	Laboratory
9060A	Organic Carbon, Total (TOC)	SW846	EET BUF

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

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

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

Sample Summary

Client: Arcadis U.S., Inc.
Project/Site: BMS Krutulis GW Sampling Project

Job ID: 480-226161-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-226161-1	MW-7-120624	Water	12/06/24 10:00	12/10/24 10:00
480-226161-2	PZ-4-120624	Water	12/06/24 10:05	12/10/24 10:00
480-226161-3	PZ-3-120624	Water	12/06/24 10:10	12/10/24 10:00
480-226161-4	PZ-2-120624	Water	12/06/24 10:15	12/10/24 10:00
480-226161-5	PZ-1-120624	Water	12/06/24 10:20	12/10/24 10:00
480-226161-6	MW3S-120624	Water	12/06/24 10:25	12/10/24 10:00
480-226161-7	MW3D-120624	Water	12/06/24 10:30	12/10/24 10:00



Login Sample Receipt Checklist

Client: Arcadis U.S., Inc.

Job Number: 480-226161-1

Login Number: 226161

List Number: 1

Creator: Yeager, Brian A

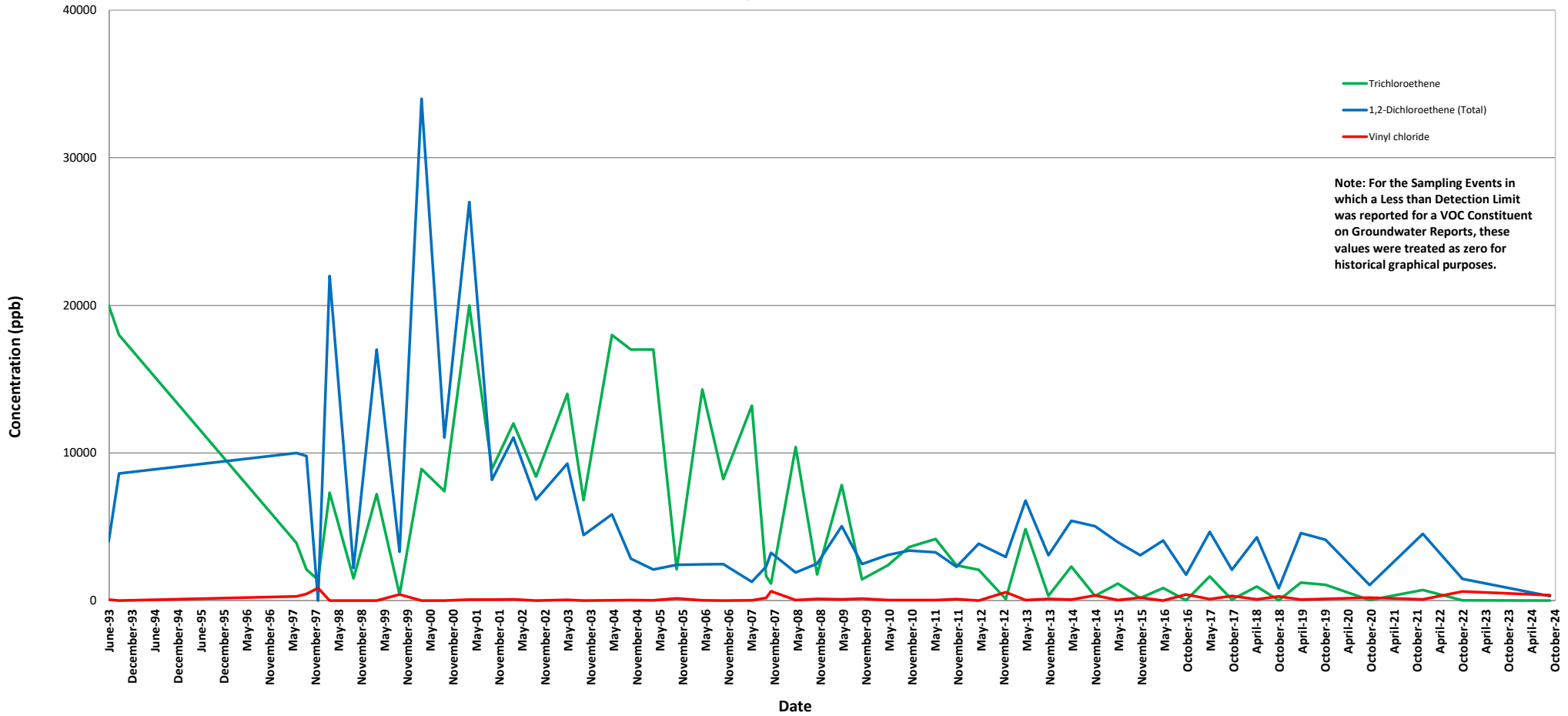
List Source: Eurofins Buffalo

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.7 ICE IR# SC
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	SHIPPING DELAY
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	ANA
Samples received within 48 hours of sampling.	False	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	N/A	

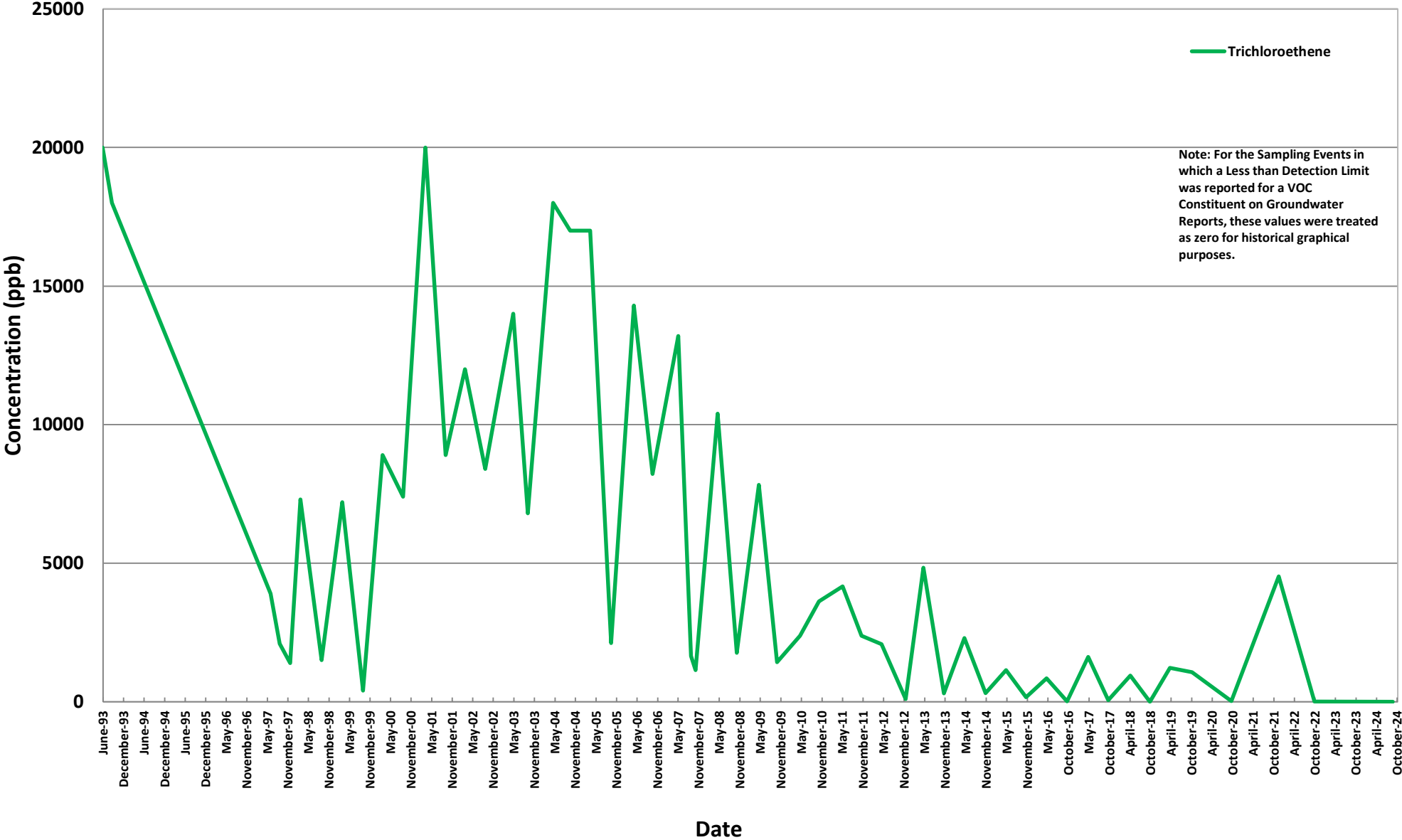
Attachment 3

CVOC Trend Plots

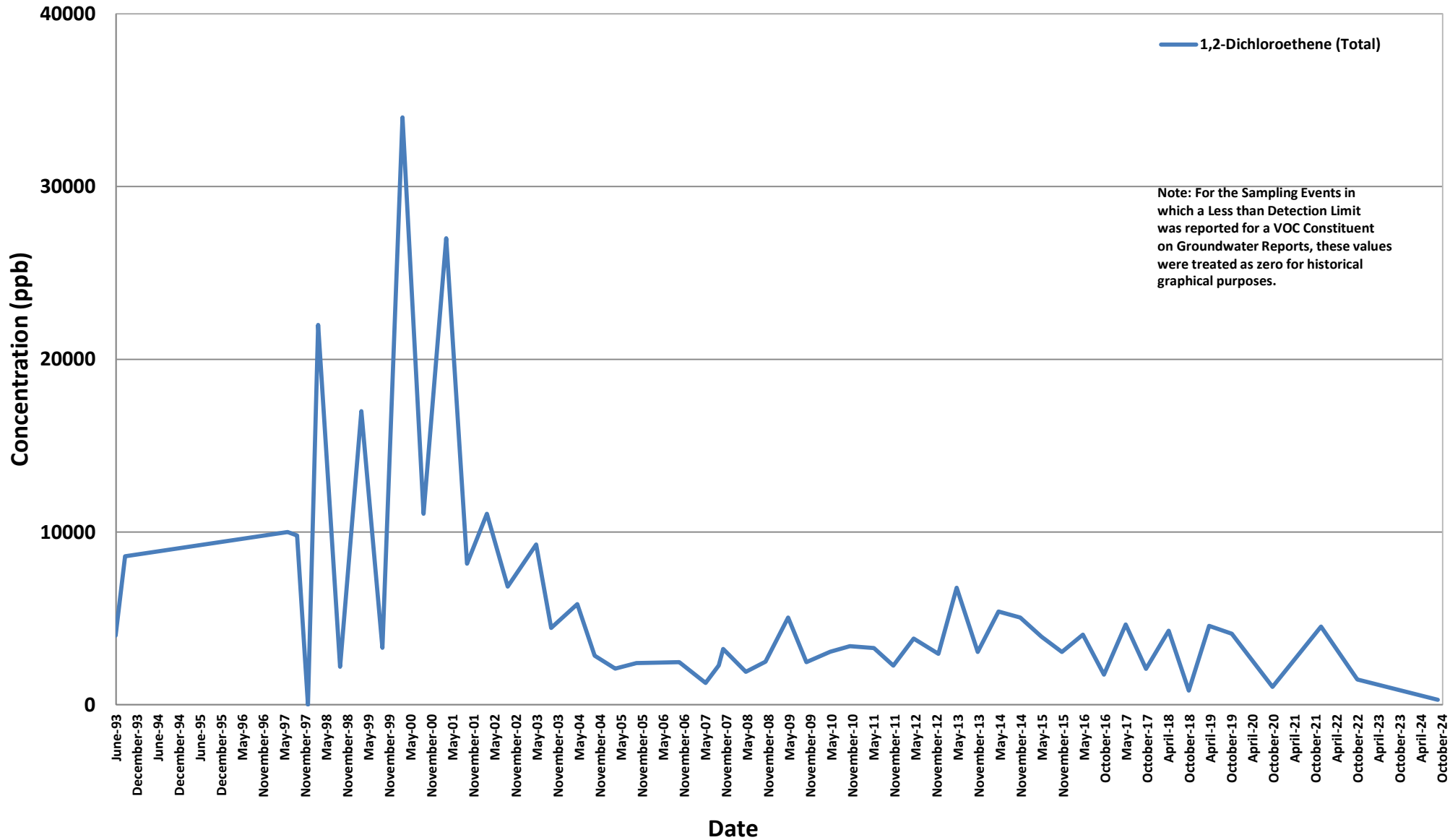
Krutulis Property Site
Monitoring Well - MW-35
VOC Historical Data
September 2024



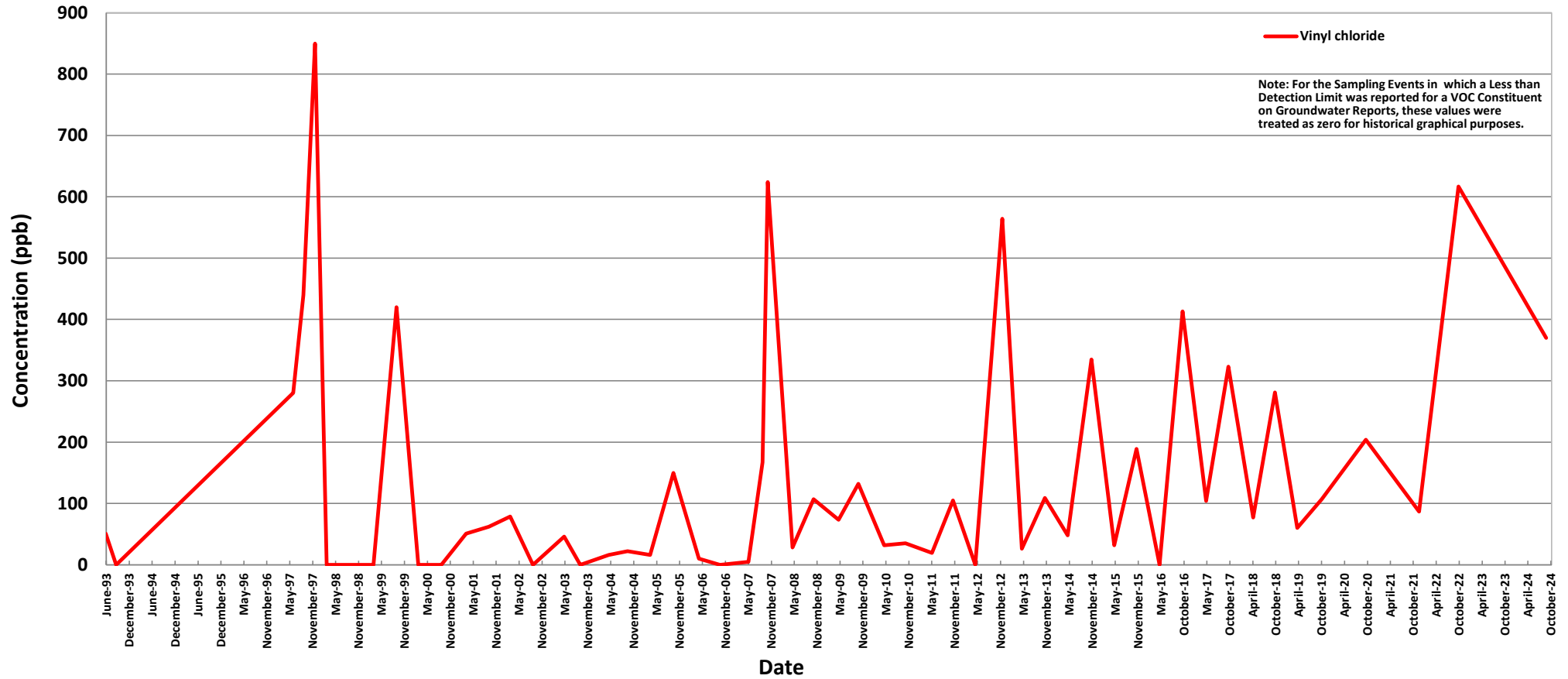
**Krutulis Property Site
Monitoring Well - MW-3S
Trichloroethene Historical Data
September 2024**



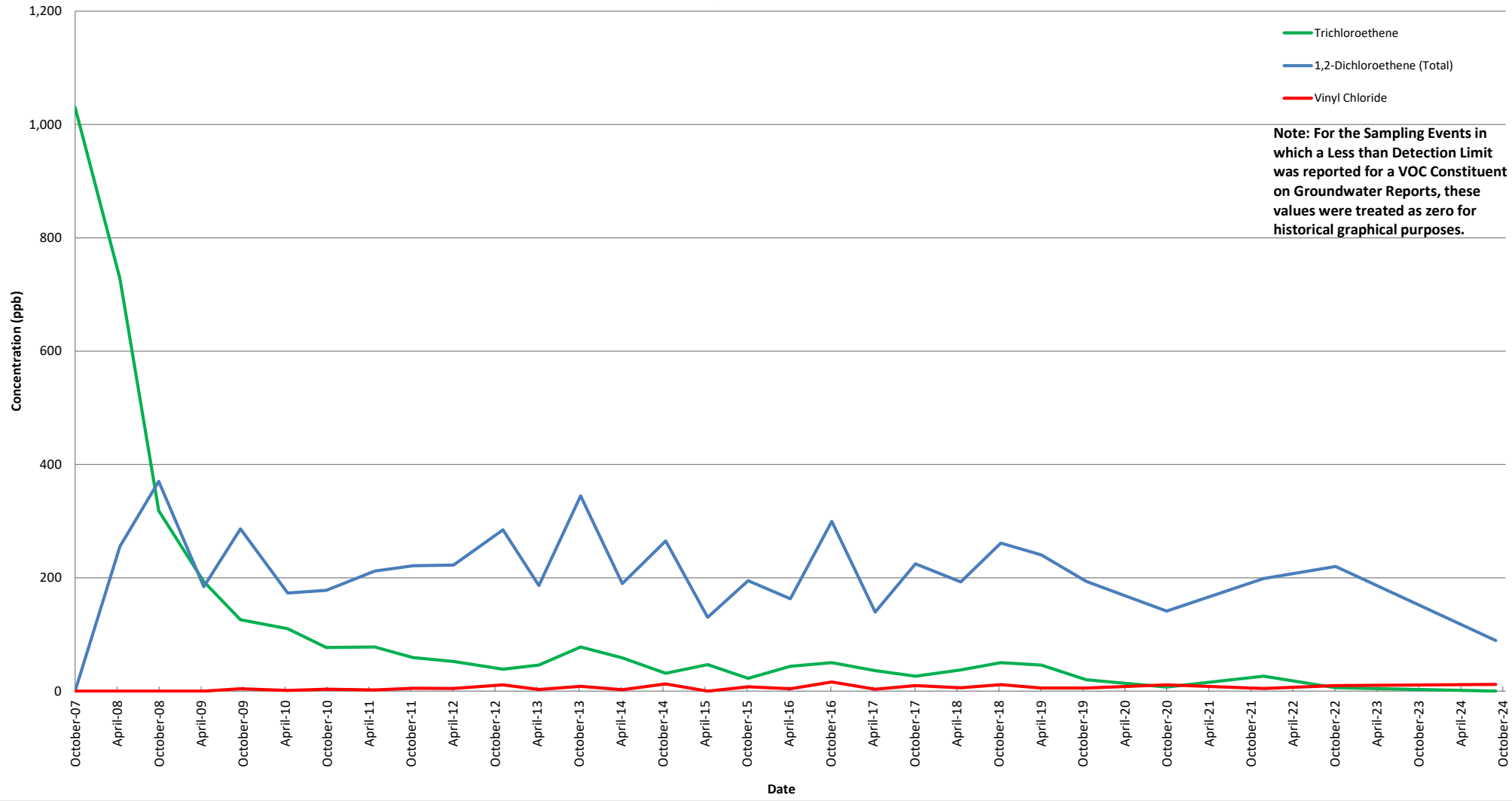
Krutulis Property Site
Monitoring Well - MW-3S
1,2-Dichloroethene (Total) Historical Data
September 2024



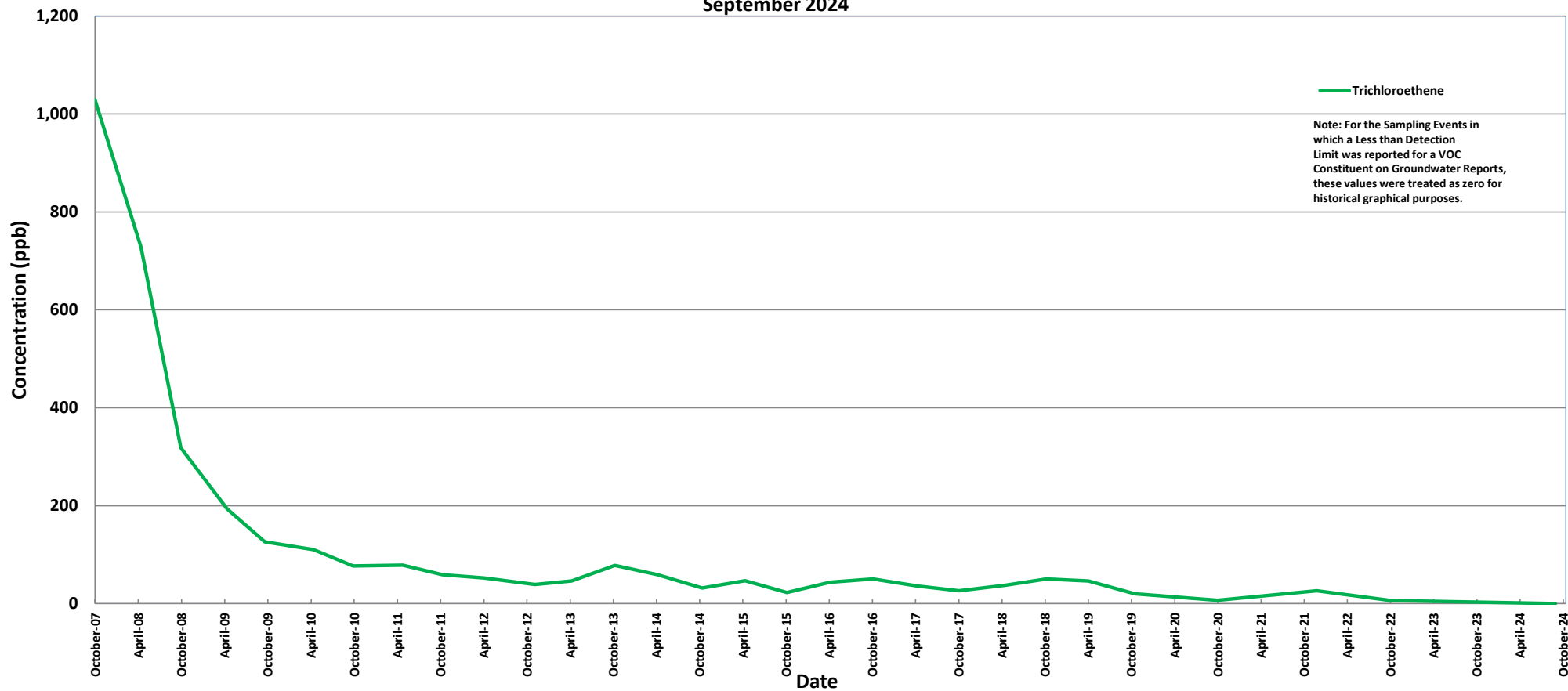
Krutulis Property Site
Monitoring Well - MW-3S
Vinyl Chloride Historical Data
September 2024



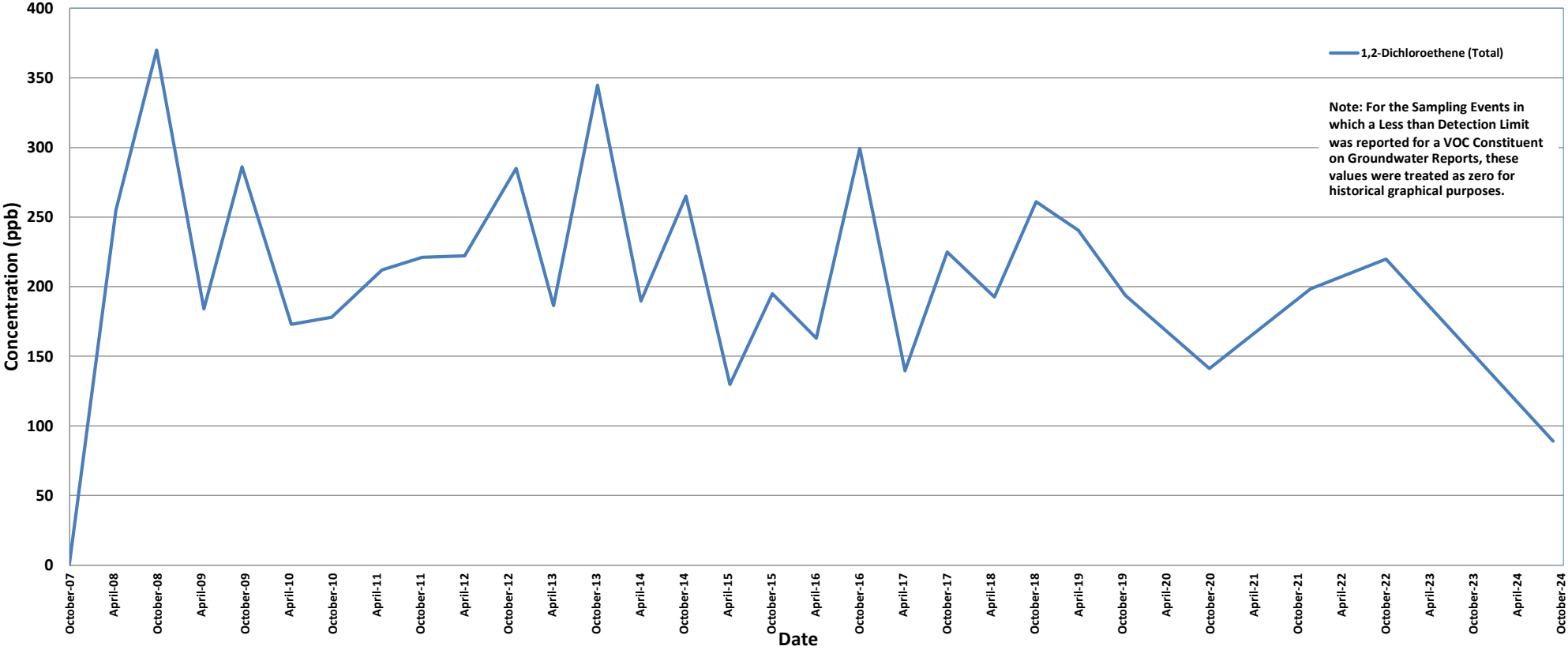
Krutulis Property Site
Monitoring Well - MW-3D
VOC Historical Results
September 2024



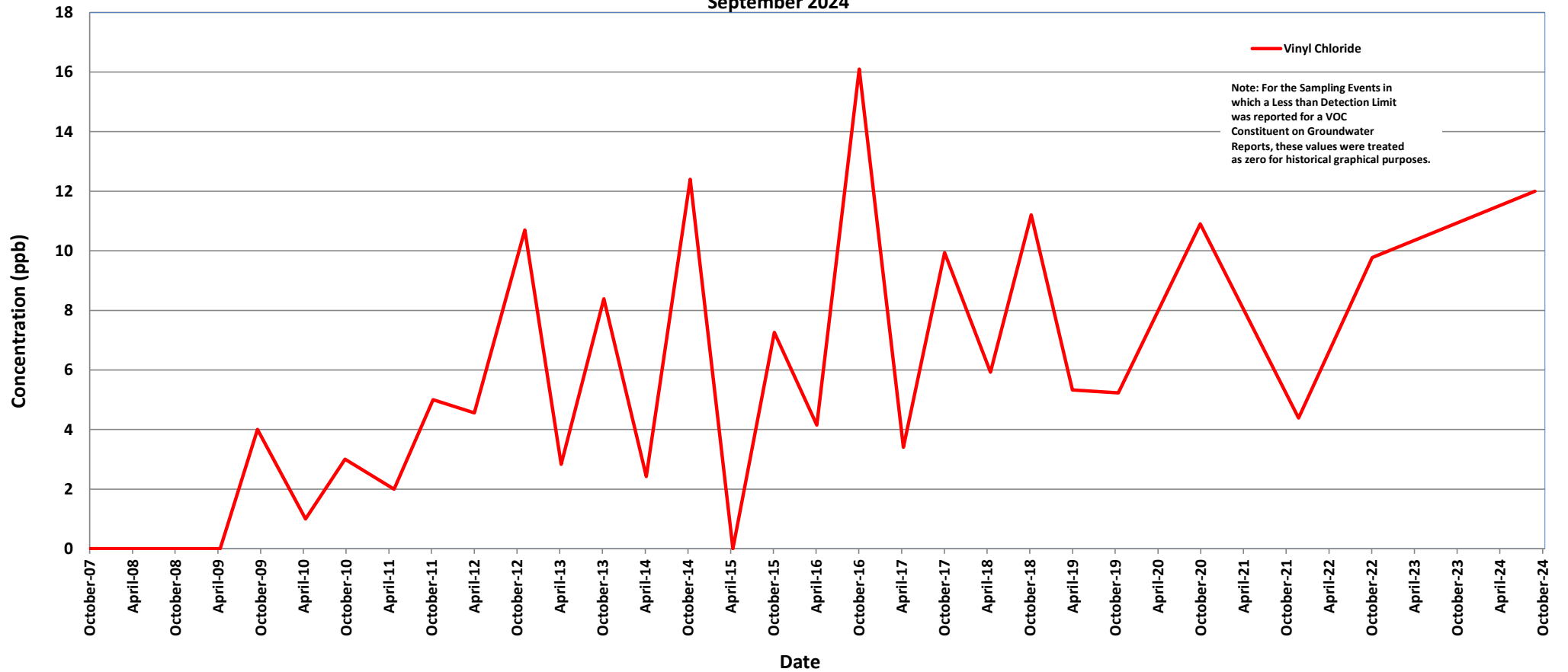
Krutulis Property Site
Monitoring Well - MW-3D
Trichloroethene Historical Results
September 2024



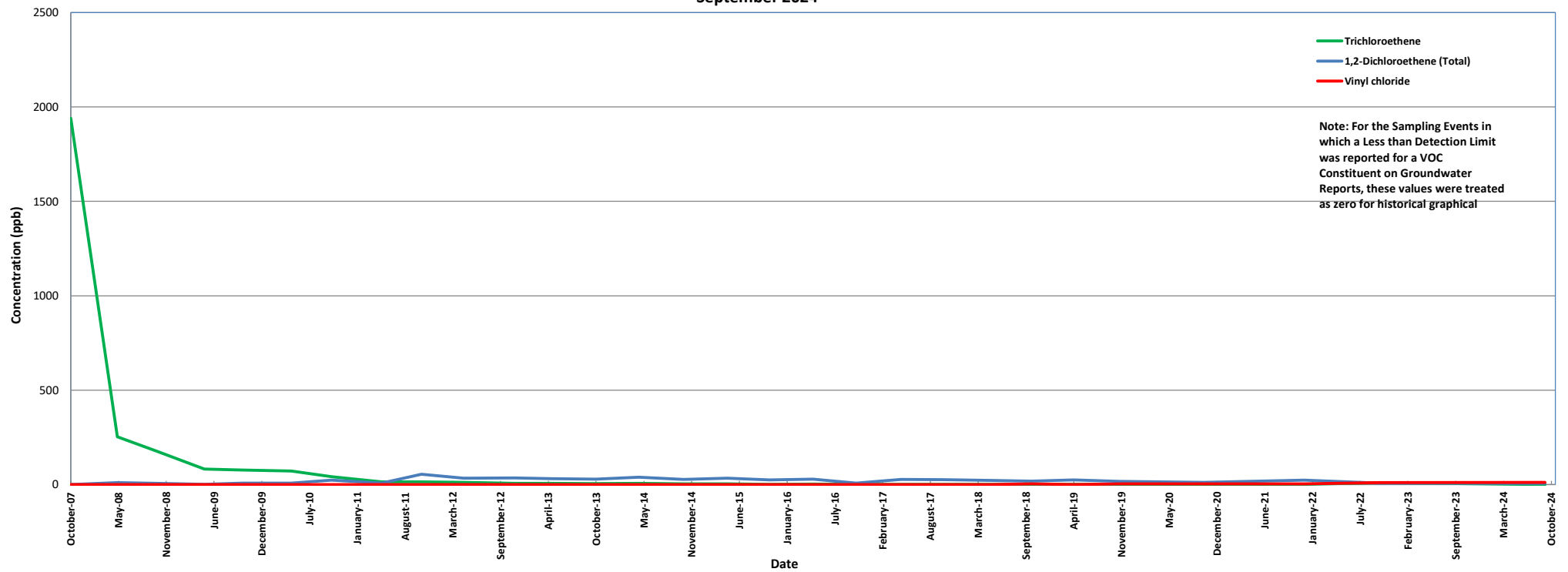
Krutulis Property Site
Monitoring Well - MW-3D
1,2-Dichloroethene (Total) Historical Results
September 2024



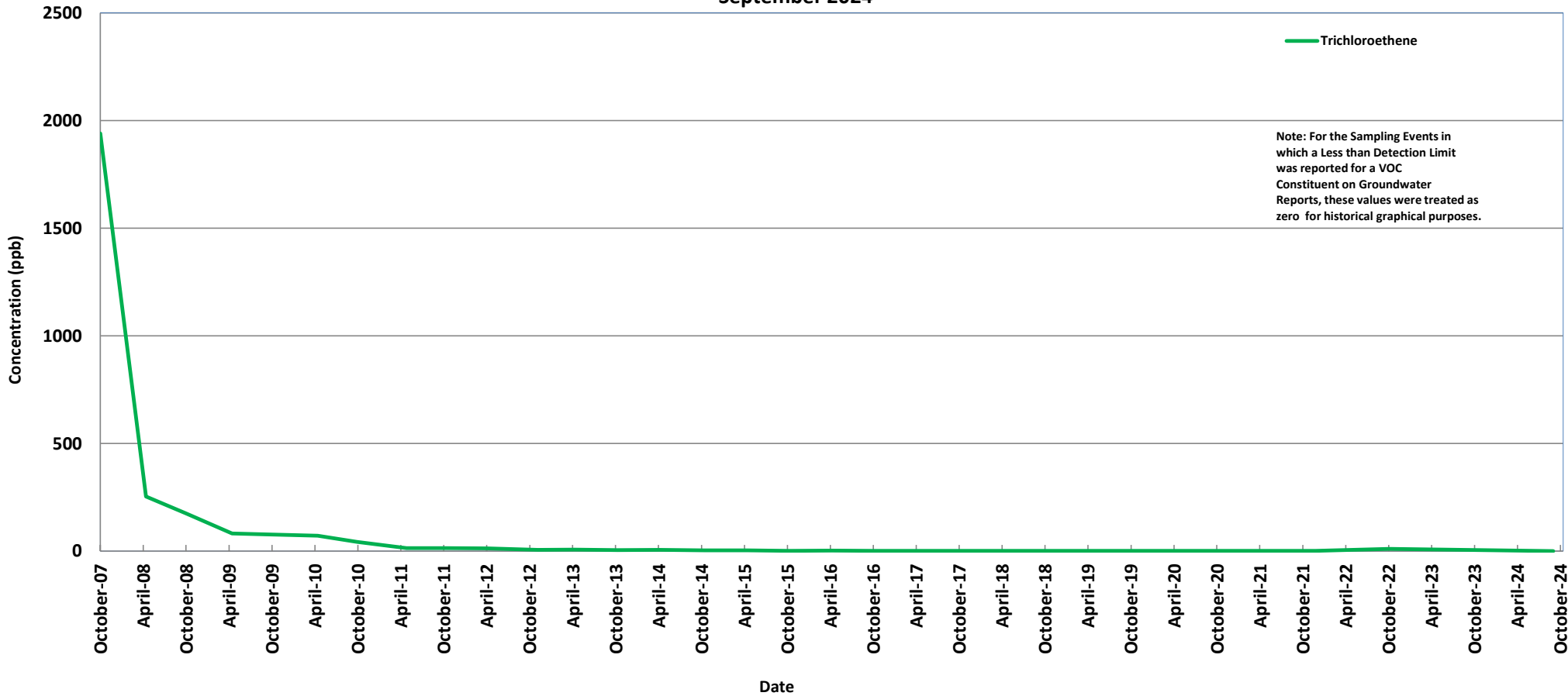
Krutulis Property Site
Monitoring Well - MW-3D
Vinyl Chloride Historical Results
September 2024



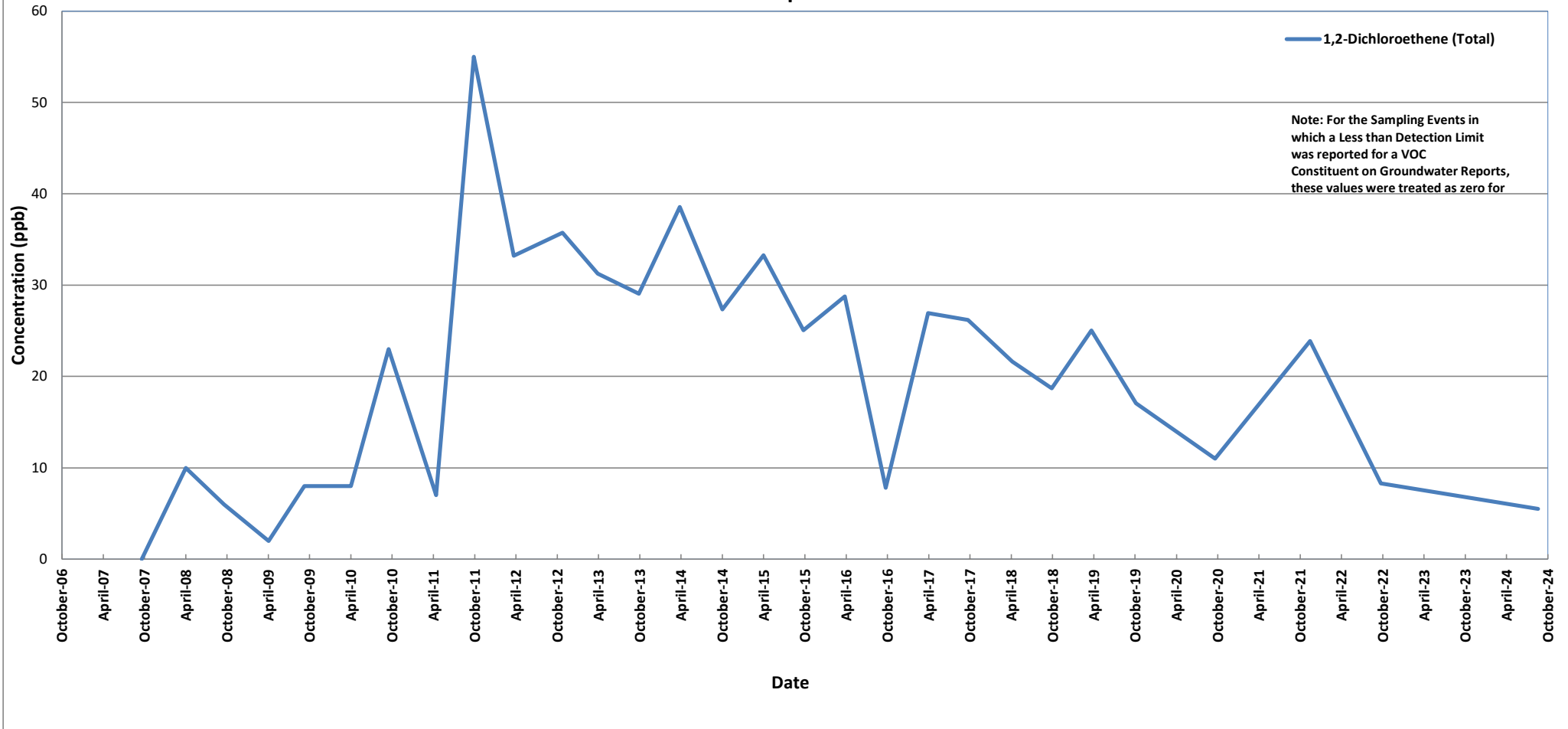
Krutulis Property Site
Monitoring Well - MW-6D
VOC Historical Results
September 2024



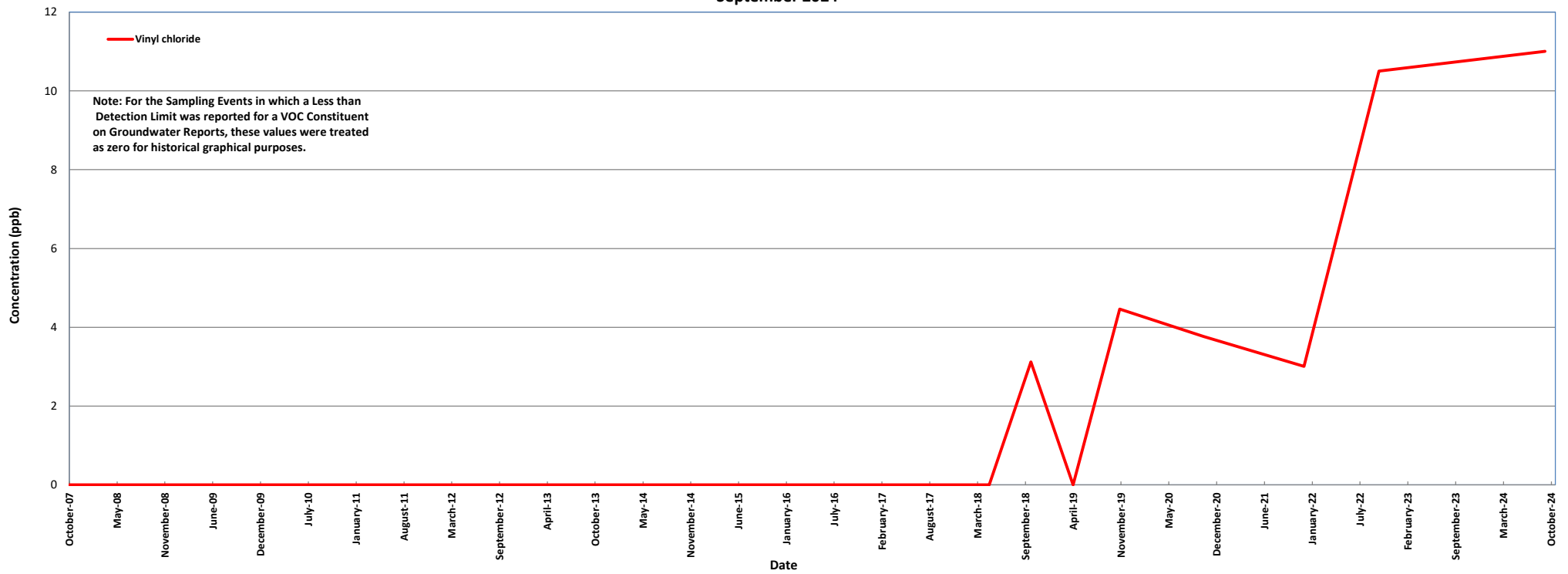
Krutulis Property Site
Monitoring Well - MW-6D
Trichloroethene Historical Results
September 2024



**Krutulis Property Site
Monitoring Well - MW-6D
1,2-Dichloroethene (Total) Historical Results
September 2024**



Krutulis Property Site
Monitoring Well - MW-6D
Vinyl Chloride Historical Results
September 2024



Attachment 4

Boring and Well Construction Logs

Boring Logs

Sample/Core Log

Boring/Well SB-115 Project/No. 3023841

Page 1 of 1

Site Location Kinkula NY Drilling Started 9/10/24 Drilling Completed 9/10/24

Total Depth Drilled 29 Feet Hole Diameter 2" inches Type of Sample/ Coring Device MC-5

Length and Diameter of Coring Device 4' x 2" Sampling Interval _____

Land-Surface Elev. _____ feet ☐ Surveyed ☐ Estimated Datum _____

Drilling Fluid Used _____ Drilling Method Sonic

Drilling Contractor Cascade Arcadis Driller D. Miranda Helper D. Miranda

Prepared By DRM Hammer Weight _____ Hammer Drop _____ inches

Sample/Core Depth (feet bgs) Core Recovery (tenths) PID Reading (ppm) Sample/Core Description

0	4	2.8	0.0	0.0-1.4-10YR 4/3 Brown m SAND, some to little silt, little Organics (roots), moist, med. firm NP.
				1.4-4.0-10YR 4/6 Dark Yellowish Brown m SAND, little to trace silt, moist, med. firm NP.
4	8	2.6	0.0	4.0-5.5-SAA wet @ 4.2
				5.5-8.0-10YR 4/3 Brown f. SAND, some silt, wet, med. firm NP.
8	12	2.8	0.0	8.0-12.0-10YR 4/3 Brown m SAND, little to trace silt, wet, firm NP.
				* silt zone @ 11.5
12	16	2.0	0.0	12.0-16.0-SAA
16	20	3.2	0.0	16.0-19.0-SAA
				19.0-20.0-10YR 4/3 Brown p. SAND, some silt, wet, soft, NP.
20	24	3.2	0.0	20.0-24.0-10YR 4/3 Brown f. SAND, little silt, wet, med. firm NP.
				* SILT zone @ 23.1
24	28	3.1	0.0	24.0-27.5-10YR 3/1 Very Dark Gray m SAND, little silt, wet med. firm NP.
				27.5-29.0-7.5YR 4/2 Brown f. SAND and SILT
				silt wet NP
28	32	3.0	0.0	28.0-31.3-10YR 3/2 V. Dark Grayish Brown f. SAND, little silt, wet med. firm NP.
				31.3-32.0-7.5YR Brown f. SAND, some silt, wet, firm NP.
32	35	2.2	0.0	32.0-35.0-SAA

Sample/Core Log

Boring/Well SB-116 Project/No. 30238141 Page 1 of 1

Site Location Kirkville NY Drilling Started 9/12/24 Drilling Completed 9/12/24

Total Depth Drilled 35 Feet Hole Diameter 2" inches Type of Sample/ Coring Device MC-5

Length and Diameter of Coring Device 4' x 2" Sampling Interval _____

Land-Surface Elev. _____ feet ☐ Surveyed ☐ Estimated Datum _____

Drilling Fluid Used Water Drilling Method Sonic

Drilling Contractor Cascade Arcadis Driller D. Richmond Helper D. Meunier

Prepared By DIRM Hammer Weight _____ Hammer Drop _____ inches

Sample/Core Depth (feet bgs)

From	To	Core Recovery (tenths)	PID Reading (ppm)	Sample/Core Description
0	4	2.8	0.0	0.0-0.9 - 10YR 4/3 Bran mt SAND some Silt, little Organics (roots/rootlets) moist med. firm NP.
				0.9-4.0 - 10YR 3/6 Dark yellowish Bran mt SAND, some to little silt moist to wet @ 3.3' med. firm, NP.
4	8	3.5	0.0	4.0-6.5 - SAA wet
				6.5-8.0 - 10YR 4/3 Brown mt SAND, trace silt, wet, firm NP.
8	12	3.4	0.0	8.0-11.1 - SAA
				11.1-12.0 - 7.5YR 4/2 Brown f. SAND, little silt, firm to stiff, wet, NP.
12	16	3.3	0.0	12.0-16.0 - SAA
16	20	3.4	0.0	16.0-19.5 - SAA
				19.5-20.0 - 7.5YR 4/2 v. Dark grayish Brown f. SAND, some to little silt, firm wet, NP.
20	24	2.9	0.0	20-24.0 - SAA
24	28	3.4	0.0	24.0-25.1 - SAA
				25.1-26.4 - 7.5YR 4/1 Dark Gray f. SAND and SILT, wet, soft, NP.
				26.4-28.0 - 7.5YR 4/1 Dark Gray f. SAND and little SILT, wet, firm NP.
28	32	3.4	0.0	28.0-30.5 - 7.5YR 4/2 Bran f. SAND, little to trace silt, wet firm NP.
				30.5-32.0 - 7.5YR 4/3 Brown f. SAND, some silt, wet med. firm, NP.
32	35	1.6	0.0	32.0-35 - SAA



Site/Project _____

Sample/Core Log

Boring/Well PZ-1 Project/No. 30238141 Page 1 of 1
Site Location BNS Krutulis Drilling Started 9/9/24 Drilling Completed 9/9/24
Total Depth Drilled 26' Feet Hole Diameter 2" inches Type of Sample/ Coring Device MC-S
Length and Diameter of Coring Device 4'x2" Sampling Interval —
Land-Surface Elev. — feet ☐ Surveyed ☐ Estimated Datum —
Drilling Fluid Used Water Drilling Method Sonic
Drilling Contractor Arcadis Driller D. Meandro Helper —
Prepared By DRM Hammer Weight — Hammer Drop — inches

Sample/Core Depth
(feet bgs)Core
Recovery
(tenths)PID
Reading
(ppm)

Sample/Core Description

From	To			
0	4	3.3	0.0	0.0-0.7- 10YR 4/3 Brown m ^t SAND, some Silt, little Organics (roots), moist, med. firm NP.
				0.7-4.0- 10YR 5/6 Yellowish Brown fine SAND, little Silt, moist, med. firm NP.
4	8	3.1	0.0	4.0-5.6- SAA? wet @ 4.1'
				5.6-8.0- 10YR 5/2 Grayish Brown f. SAND, some Silt, wet med. firm NP.
8	12	3.4	0.0	8.0-10.6- 10YR 5/2 Grayish Brown f. SAND, little to trace Silt, wet, firm NP.
				10.6-12.0- 10YR 4/3 Brown fine SAND, some Silt, wet, med. firm NP.
				* Silt seam from 11.0-11.2
12	16	3.6		12.0-16.0- 10YR 4/3 Brown f. SAND, little Silt, wet, med. firm to firm NP.
			0.1 @ 13.0	
			0.2 @ 14.0	
16	20	3.2	2.4 @ 16.5	16.0-18.7- SAA 10YR 4/2
			16.4 @ 17.5	18.7-20.0- 10YR 4/2 Dark Grayish Brown f. SAND some Silt, wet, soft NP.
			7.1 @ 17.5	
			2.1 @ 20.0	10.4 @ 18.7-19.9-20.0- 10YR 4/2 D. Grayish Brown f. SAND, little Silt, wet med. firm NP.
			11.1 @ 18.5	
20	24	3.5	5.4 @ 20.0	20-24.0- SAA
			8.1 @ 21	
			8.4 @ 22	
			4.1 @ 23	
			1.8 @ 24	
24	26	1.7	3.1 @ 24	24.0-26.0- SAA
			2.7 @ 25	
			1.9 @ 26	

Sample/Core Log

Boring/Well P2-2

Project No. 30238141

Page 1 of 2

Site Location BMS Krotzels

Drilling Started 9-10-24

Drilling Completed 9-10-24

Total Depth Drilled 26' Feet

Hole Diameter 2" inches

Type of Sample/ Coring Device MC-5

Length and Diameter of Coring Device 4' x 2"

Sampling Interval -

Land-Surface Elev. - feet

☐ Surveyed

☐ Estimated

Datum -

Drilling Fluid Used Water

Drilling Method Sonic

Drilling Contractor ARCADIS

Driller D. Richmond

Helper D. Mendoza

Prepared By DRM

Hammer Weight -

Hammer Drop - inches

Sample/Core Depth (feet bgs)

Core Recovery (tenths)

PID Reading (ppm)

Sample/Core Description

From	To	Core Recovery (tenths)	PID Reading (ppm)	Sample/Core Description
0	4	3.4	0.0	0.0-0.7- 10YR 4/3 Brown m ^t SAND, some SILT, little Organics (roots), med. firm, moist NP.
				0.7-4.0- 10YR 4/6 Dark Yellowish Brown m ^t SAND, little to trace SILT, moist becoming wet @ 3.8', med. firm, NP.
4	8	3.5	0.0	4.0-8.0- SAA, wet * SILT seam @ 7.6'
8	12	3.4		8.0-12.0- 10YR 4/2 Dark Grayish Brown m ^t SAND, little m. sand, trace SILT, firm, moist to wet NP. * SILT seam @ 11.8'
12	16	3.2	0.1e12 0.3e13 0.5e14 0.8e15 0.7e16	12.0-16.0 - 10YR 4/1 Dark Gray f. SAND, little to trace SILT, firm, moist, NP.
16	20	3.2	1.7e16 3.8e17 8.4e18 10.7e19 7.4e20	16.0-19.3- SAA 19.3-20.0- 10YR 4/1 Dark Gray f. SAND and SILT, med. firm, wet, NP.
20	24	3.4	3.9e20 5.4e21 10.1e22 7.9e23 1.9e24	20.0-22.9- 10YR 4/1 Dark Gray f. SAND, some SILT, wet med. firm, NP. 22.9-24.0- 10YR 4/1 f. SAND, little SILT, firm, moist, NP.

[illegible]

Sample/Core Log

Boring/Well PZ-3 Project/No. 30238(4) Page 1 of 1

Site Location BMS Kintulus Drilling Started 9-6-24 Drilling Completed 9-9-24

Total Depth Drilled 26 Feet Hole Diameter 2" inches Type of Sample/ Coring Device MC-5

Length and Diameter of Coring Device 4' x 2" Sampling Interval —

Land-Surface Elev. — feet ☐ Surveyed ☐ Estimated Datum —

Drilling Fluid Used Water Drilling Method Sonic MC-5

Drilling Contractor Arccas Driller D. Meando Helper D. Richmond

Prepared By DRM Hammer Weight — Hammer Drop — inches

Sample/Core Depth (feet bgs) From To Core Recovery (tenths) PID Reading (ppm) Sample/Core Description

0	4	2.4	0.0	0.0-1.4	10YR 3/3 Dark Brown m ^t SAND, little silt and organics (roots/rootlets), moist, med. firm. NP.
				1.4-4.0	10YR 4/6 Dark Yellowish Brown m ^t SAND, little silt, moist to wet @ 3.8', med. firm. NP.
4	8	3.1	0.0	4.0-7.6	SAA
				7.6-8.0	10YR 4/6 Dark Yellowish Brown fine SAND, little to trace silt, wet, firm NP.
8	12	2.8	0.1e10.5 0.2e11.0	8.0-12.0	10YR 4/3 Brown to 4/2 Dark Grayish Brown f. SAND, little silt → becoming trace with depth, moist, firm NP.
12	16	2.9	0.0	12.0-16.0	10YR 4/2 Dark Grayish Brown f. SAND, little to trace silt, wet, firm NP.
					* silt from 13.9-14.0'
16	20	3.1	0.0	16.0-19.6	SAA
				19.6-20.0	10YR 3/2 Very Dark Grayish Brown f. SAND, some silt, firm, wet NP.
20	24	3.1	0.0	20.0-23.4	SAA
				23.4-24.0	10YR 3/2 V. Dark Grayish Brown f. SAND, little silt, wet, firm NP.
24	26	1.8	0.0	24.0-26.0	SAA

Sample/Core Log

Boring/Well P24 Project/No. 30234141 Page 1 of 1
 Site Location BMS Kintulus Drilling Started 9/6/24 Drilling Completed 9/6/24
 Total Depth Drilled 26' Feet Hole Diameter 2 inches Type of Sample/ Coring Device MC-S
 Length and Diameter of Coring Device 4' x 2" Sampling Interval —
 Land-Surface Elev. _____ feet ☐ Surveyed ☐ Estimated Datum —
 Drilling Fluid Used Water Drilling Method Sonic
 Drilling Contractor Arcadis Driller D. Mando Helper —
 Prepared By DRM Hammer Weight — Hammer Drop — inches

Sample/Core Depth (feet bgs)		Core Recovery (tenths)	PID Reading (ppm)	Sample/Core Description
0	4	2.7	0.0	0.0-1.0- 10YR 3/3 Dark Brown mf SAND, little Silt and Organics (roots), moist, soft NP.
				1.0-4.0- 10YR 4/6 Dark Yellowish Brown fine SAND, trace Silt, moist to wet @ 3.1' med. firm NP.
4	8	3.6	0.0	4.0-6.5- 10YR 3/4 Dark Yellowish Brown mf SAND, little Silt wet med. firm NP.
				6.5-8.0- 10YR 4/3 Brown fine SAND, trace Silt, moist, firm, NP.
8	12	3.3	0.0	8.0-10.9- S&A, wet
				10.9-12.0- 10YR 4/2 Dark Grayish Brown fine SAND, some Silt, moist, firm, NP.
12	16	3.2		12.0-16.0- S&A
			0.1 @ 15'	
16	20	3.3	0.0	12.0-15.6- 10YR 4/2 Dark Grayish Brown on fine SAND, little Silt, wet, firm NP.
				12.0-15.6-16.0- 10YR 4/2 Dark Grayish Brown f. SAND and SILT, wet, soft, NP.
				* Pure Silt seam @ 15.8'
20	24	3.7	0.0	20.0-21.7- S&A
				21.7-24.0- 10YR 4/2 Dark Grayish Brown f. SAND, some to little Silt, wet, firm, NP.
24	26	NA	NA	NO RECOVERY

Sample/Core Log

Boring/Well MW-7 Project/No. 30238141 Page 1 of 1

Site Location BMS Knotulus Drilling Started 9/5/24 Drilling Completed 9/5/24

Total Depth Drilled 24' Feet Hole Diameter 2" inches Type of Sample/ Coring Device MC-5

Length and Diameter of Coring Device 4' x 2" Sampling Interval —

Land-Surface Elev. — feet ☐ Surveyed ☐ Estimated Datum —

Drilling Fluid Used None Drilling Method Sonic

Drilling Contractor ARCADIS Driller D. Richmond Helper D. Meando

Prepared By DRM Hammer Weight — Hammer Drop — inches

Sample/Core Depth (feet bgs)

Core Recovery (tenths)

PID Reading (ppm)

Sample/Core Description

From	To	Core Recovery (tenths)	PID Reading (ppm)	Sample/Core Description
0	4	4.0 3.6	0.0	0.0-0.4 - 10YR 3/3 Dark Brown fine SAND, little Organics (roots/rootlets), little Silt, moist, med. firm NP.
				0.4-1.4 - 10YR 3/3 Dark Brown fine SAND, little Silt moist, med. firm NP.
				1.4-4.0 - 10YR 5/6 Yellowish Brown fine to med. SAND, little to trace Silt, med. firm, moist to wet @ 2.0' NP.
4	8	3.4	0.0	4.0-8.0 - 10YR 3/3 Dark Brown fine to med SAND trace Silt, wet, med. firm, NP.
8	12	3.6	0.0	8.0-11.3 - SAA
				11.3-12.0 - 10YR 4/2 Dark Grayish Brown fine SAND, wet, firm, NP.
12	16	3.5	0.0	12.0-12.7 - SAA
				12.7-16.0 - 10YR 4/2 Dark Grayish Brown fine SAND little to trace Silt, wet to moist @ 13' still NP.
16	20	3.0		16.0-20.0 - SAA wet
				0.1@18.9'
				0.1@19-20
20	24	1.1		NO Recovery

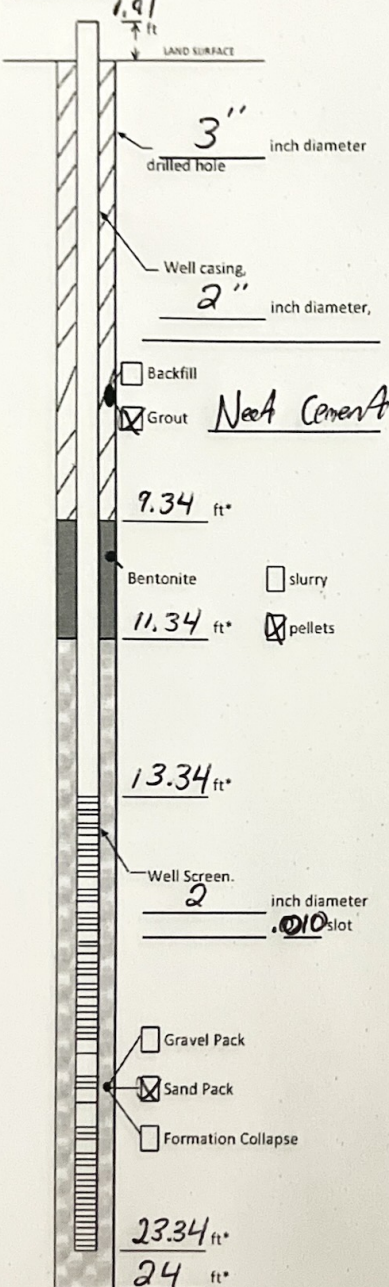
Well Construction Logs



ARCADIS

Well Construction Log

(Unconsolidated)



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

* Depth Below Land Surface

Project BMS Krutulis Injections Well MW-7

Town/City Kickville

County Orangetown State NY

Permit No. _____

Land-Surface Elevation and Datum:

_____ feet ☐ Surveyed

_____ ☐ Estimated

Installation Date(s) 9-5-24

Drilling Method 3" Casing

Drilling Contractor Arcadis

Drilling Fluid Water

Development Technique(s) and Date(s)

Surge/Purge

Fluid Loss During Drilling _____ gallons

Water Removed During Development _____ gallons

Static Depth to Water _____ feet below M.P.

Pumping Depth to Water _____ feet below M.P.

Pumping Duration _____ hours

Yield _____ gpm Date _____

Specific Capacity _____ gpm/ft

Well Purpose Monitoring

Remarks _____

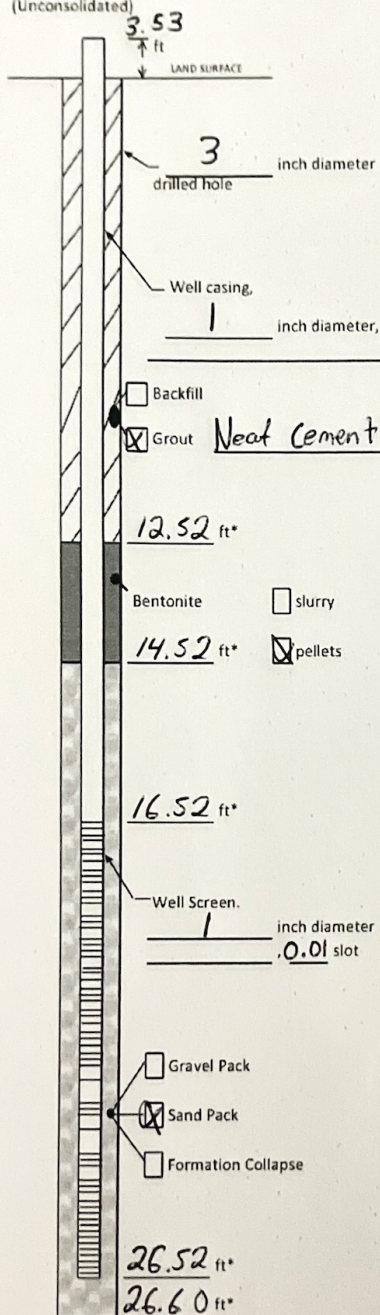
Prepared by DRM



ARCADIS

Well Construction Log

(Unconsolidated)



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

* Depth Below Land Surface

Project

BMS Krutulis Ejection Well PZ-1

Town/City

Kirkville

County

Onondaga

State

NY

Permit No.

Land-Surface Elevation and Datum:

feet

☐ Surveyed☐ Estimated

Installation Date(s)

9-9-24

Drilling Method

3" Casing

Drilling Contractor

Arcadis

Drilling Fluid

Water

Development Technique(s) and Date(s)

Surge/Purge

Fluid Loss During Drilling

gallons

Water Removed During Development

gallons

Static Depth to Water

feet below M.P.

Pumping Depth to Water

feet below M.P.

Pumping Duration

hours

Yield

gpm

Date

Specific Capacity

gpm/ft

Well Purpose

Monitoring

Remarks

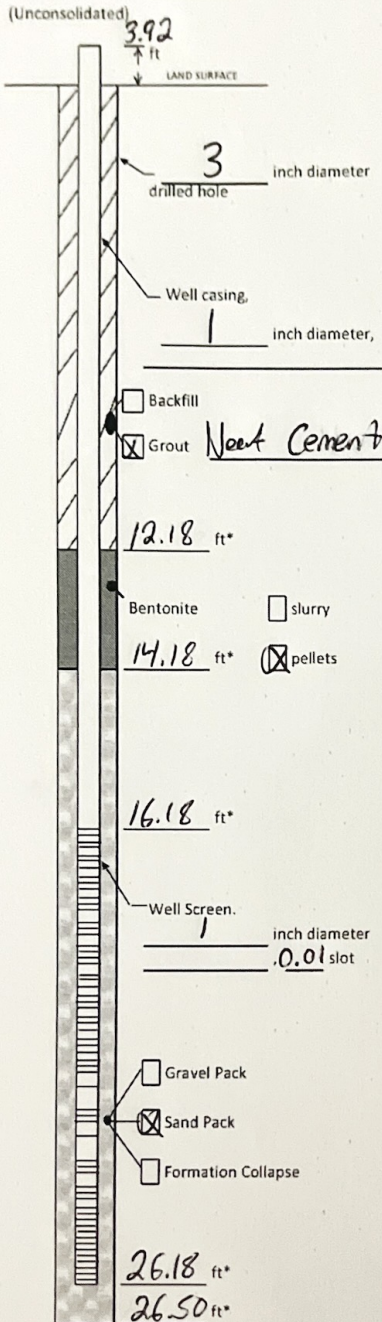
Prepared by

DRM



ARCADIS

Well Construction Log



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

* Depth Below Land Surface

Project BMS Krutulis Injection Well PZ-2
Town/City Kirkville
County Onondaga State NY
Permit No. _____

Land-Surface Elevation and Datum:

_____ feet ☐ Surveyed
_____ ☐ Estimated

Installation Date(s) 9-10-24
Drilling Method 3" Casing
Drilling Contractor Arcadis
Drilling Fluid Water

Development Technique(s) and Date(s)

Surge / Purge

Fluid Loss During Drilling _____ gallons

Water Removed During Development _____ gallons

Static Depth to Water _____ feet below M.P.

Pumping Depth to Water _____ feet below M.P.

Pumping Duration _____ hours

Yield _____ gpm Date _____

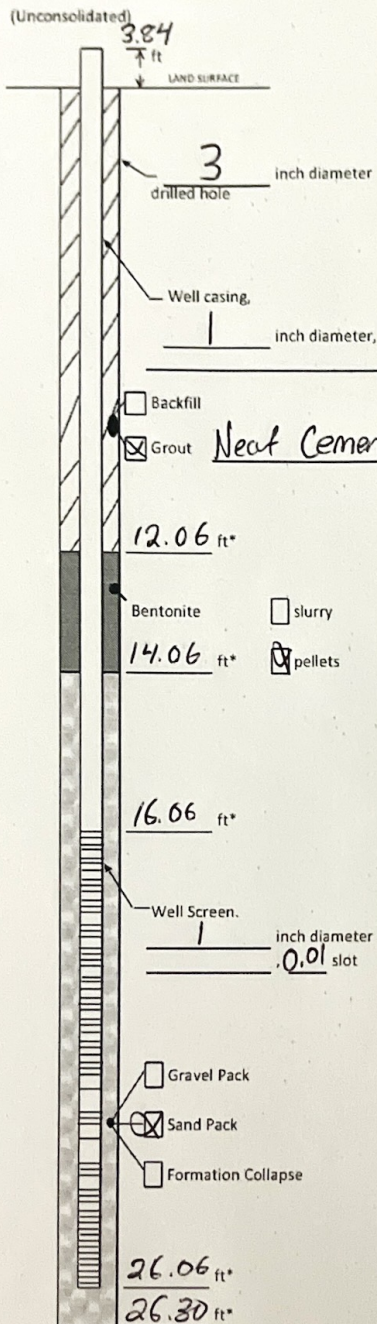
Specific Capacity _____ gpm/ft

Well Purpose _____

Remarks _____

Prepared by DRM

ARCADIS
Well Construction Log



Project BMS Krutulis Injection Well PZ-3
Town/City Kirkville
County Onondaga State NY
Permit No. _____

Land-Surface Elevation and Datum:

_____ feet ☐ Surveyed
☐ Estimated

Installation Date(s) 9-9-24
Drilling Method 3" Casing
Drilling Contractor Arcadis
Drilling Fluid Water

Development Technique(s) and Date(s)

Surge / Purge

Fluid Loss During Drilling _____ gallons

Water Removed During Development _____ gallons

Static Depth to Water _____ feet below M.P.

Pumping Depth to Water _____ feet below M.P.

Pumping Duration _____ hours

Yield _____ gpm Date _____

Specific Capacity _____ gpm/ft

Well Purpose _____

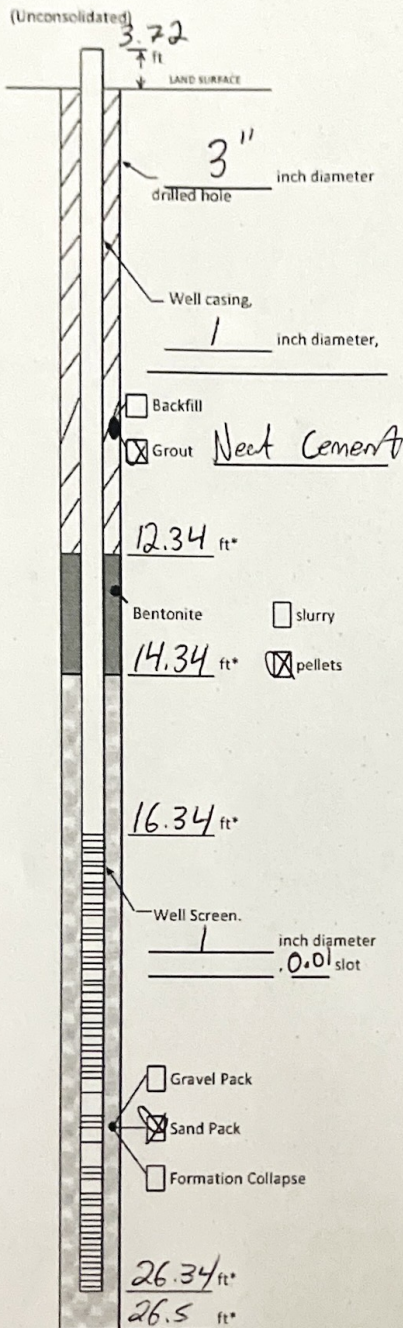
Remarks _____

Prepared by DRM

Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

* Depth Below Land Surface

ARCADIS
Well Construction Log



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

* Depth Below Land Surface

Project BMS Krutulis Injection Well P2-4
Town/City Kirkville
County Onondaga State NY
Permit No. _____
Land-Surface Elevation and Datum: _____

_____ feet ☐ Surveyed
☐ Estimated

Installation Date(s) 9-6-24
Drilling Method 3" Casing
Drilling Contractor Arcaadis
Drilling Fluid Water

Development Technique(s) and Date(s)
Surge / Purge

Fluid Loss During Drilling _____ gallons
Water Removed During Development _____ gallons
Static Depth to Water _____ feet below M.P.
Pumping Depth to Water _____ feet below M.P.
Pumping Duration _____ hours
Yield _____ gpm Date _____
Specific Capacity _____ gpm/ft
Well Purpose _____

Remarks _____

Prepared by DRM

Attachment 5

ERD Well Monitoring Field Logs

Well ID	MW-35								Notes
	Start Date & Time	Depth to water (ft)	Temperature (°C)	pH	Conductivity (uS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTUs)	
Baseline	9/12/2024 14:15	1.1	20.38	7.84	0.222	0.25	-98.8	5.46	
Baseline	9/12/2024 14:20	1.11	21.72	7.8	0.221	0.06	-115.7	4.96	
Baseline	9/12/2024 14:25	1.18	22.89	7.79	0.22	0.01	-123.4	4.6	
Baseline	9/12/2024 14:30	1.13	23.2	7.77	0.221	0.02	-137.4	5.02	
Baseline	9/12/2024 14:35	1.11	23.17	7.77	0.22	0.02	-159.9	4.87	
Baseline	9/12/2024 14:40	1.1	23.11	7.77	0.219	0.02	-164.7	4.61	
Baseline	9/12/2024 14:45	1.09	23.13	7.78	0.219	0.02	-171.4	4.98	
Baseline	9/12/2024 14:50	1.09	23.09	7.77	0.219	0.02	-173.9	5.01	
9/19/2024 AM	9/19/2024 10:51	1.09	13.61	7.08	0.296	9.63	-203	83.6	
PM	9/19/2024 17:00	1.12	14.27	7.19	0.289	9.18	-195	8.8	
9/20/2024 AM	9/20/2024 12:00	1.15	12.10	7.38	0.298	9.22	-169	5.7	
PM	9/20/2024 16:52	1.10	14.72	7.26	0.288	8.86	-158	63.4	
9/23/2024 AM	9/23/2024 8:27	1.12	13.58	7.34	0.298	9.09	-175	5.6	
PM	9/23/2024 17:08	1.10	13.27	7.33	0.304	9.27	-151	8.3	
9/24/2024 AM	9/24/2024 7:59	1.16	11.76	7.44	0.298	9.54	-176	44.1	
PM	9/24/2024	1.14	13.10	7.43	0.296	9.23	-177	51.3	
9/25/2024 AM	9/25/2024 8:57	1.15	12.04	7.44	0.294	8.88	-200	6.7	
PM	9/25/2024 16:24	1.08	12.17	7.50	0.298	8.71	-184	8.1	
9/26/2024 AM	9/26/2024 9:11	1.12	12.88	7.41	0.293	9.25	-181	5.9	
PM	9/26/2024 17:14	0.38	16.97	7.51	0.296	8.70	-120	8	
9/27/2024 AM	9/27/2024 8:30	0.55	14.13	7.47	0.295	7.40	-147	10.1	
PM	9/27/2024 15:00	0.55	18.20	7.24	0.292	7.83	-134	10	
9/30/2024 AM	9/30/2023 8:26	0.72	13.80	7.46	0.293	9.32	-174	6.1	
PM	9/30/2023 16:49	0.51	15.01	7.36	0.296	9.33	-161	23.6	
10/1/2024 AM	10/1/2024 8:39	0.66	12.47	7.62	0.296	9.02	-186	8.7	
PM	10/1/2024 16:40	0.60	13.29	7.50	0.300	9.15	-170	10.4	
10/2/2024 AM	10/2/2024 8:26	0.76	12.31	7.34	0.291	8.97	-158	11.1	
PM	10/2/2024 16:53	0.58	12.88	7.54	0.297	9.02	-145	19.3	
10/3/2024 AM	10/3/2024 8:22	0.76	11.08	7.57	0.299	8.93	-158	22.6	
PM	10/3/2024 16:42	0.68	11.98	7.52	0.298	9.01	-136	17.1	
10/4/2024 AM	10/4/2024 7:52	0.72	11.29	7.64	0.297	9.34	-165	24.5	
PM	10/4/2024 15:04	0.69	11.47	7.60	0.294	9.20	-134	17.4	
10/7/2024 AM	10/7/2024 8:59	0.94	11.90	7.58	0.298	9.62	-126	19.7	
PM	10/7/2024 16:25	0.21	12.42	7.51	0.298	8.95	-129	37.6	
10/8/2024 AM	10/8/2024 8:29	0.27	11.71	7.56	0.300	9.02	-114	26.4	
PM	10/8/2024 16:05	0.23	11.74	7.57	0.300	9.57	-125	48.4	
10/9/2024 AM	10/9/2024 8:12	0.30	11.61	7.60	0.301	9.27	-101	39.4	
PM	10/9/2024 16:24	0.23	11.29	7.61	0.299	9.34	-112	37.1	
10/10/2024 AM	10/10/2024 8:17	0.28	11.49	7.63	0.304	9.09	-127	28.8	
PM	10/10/2023 16:26	0.26	11.32	7.60	0.301	9.20	-103	32.1	
10/11/2024 AM	10/11/2024 8:30	0.47	10.97	7.65	0.302	9.43	-114	39.7	
PM	10/11/2024 14:28	0.54	11.51	7.63	0.305	9.11	-125	29.4	
10/14/2024 AM	10/14/2024 8:28	0.31	10.23	7.11	0.315	8.69	-132	12.2	
PM	10/14/2024 15:04	0.26	10.21	6.99	0.314	8.65	-161	38.5	
10/15/2024 AM	10/15/2024 8:20	0.30	10.22	6.91	0.204	8.66	-156	25.9	
PM	10/15/2024 16:25	0.09	10.49	7.19	0.320	8.61	-166	28.8	
10/16/2024 AM	10/16/2024 8:36	0.05	10.31	7.01	0.323	9.14	-189	19.4	
PM	10/16/2024 16:27	0.00	10.57	6.98	0.336	10.20	-188	8.6	
10/17/2024 AM	10/17/2024 8:39	0.00	11.01	7.38	0.335	10.77	-181	2.7	
PM	10/17/2024 16:25	0.10	11.54	7.33	0.336	10.68	-183	3.4	
10/21/2024 AM	10/21/2024 8:34	0.27	11.16	7.13	0.336	12.05	-167	1.3	
PM	10/21/2024 15:25	0.23	12.91	7.10	0.338	10.97	-141	22.3	
10/22/2024 AM	10/22/2024 8:25	0.31	11.17	7.15	0.334	11.04	-153	17.4	
10/23/2024 AM	10/23/2024 8:34	0.38	12.80	7.21	0.336	11.21	-206	12.2	
10/24/2024 AM	10/24/2024 8:37	0.21	11.05	7.29	0.341	10.91	-164	7.3	
PM	10/24/2024 16:25	0.17	11.23	7.37	0.355	10.63	-144	1.7	
10/25/2024 AM	10/25/2024 8:34	0.28	9.94	7.20	0.349	10.54	-137	6.2	
PM	10/29/2024 14:27	0.24	10.73	7.41	0.366	11.77	-157	4.1	
10/28/2024 AM	10/28/2024 8:33	0.42	9.24	7.11	0.369	11.90	-172	3.1	
PM	10/28/2024 15:43	0.27	11.61	7.21	0.371	11.49	-170	25.4	
10/29/2024 AM	10/29/2024 8:24	0.29	9.61	7.14	0.374	11.28	-162	4.30	
PM	10/29/2024 15:55	0.32	10.84	7.20	0.375	11.51	-173	17.30	
10/30/2024 AM	10/30/2024 8:24	0.35	10.34	7.21	0.371	11.61	-152	14.10	
PM	10/30/2024 15:55	0.27	12.57	7.25	0.373	11.48	-164	9.80	

Well ID	MW-35								Notes
	Start Date & Time	Depth to water (ft)	Temperature (°C)	pH	Conductivity (uS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTUs)	
10/31/2024 AM	10/31/2024 9:30	0.30	14.17	7.38	0.341	10.21	-91	1.4	
PM	10/31/2024 15:54	0.25	13.71	7.81	0.293	10.88	-105	3.70	
11/1/2024 AM	11/1/2024 8:40	0.33	12.47	7.83	0.299	10.47	-101	3.4	
PM	11/1/2024 14:25	0.24	13.33	7.87	0.301	9.80	-114	2.90	
11/4/2024 AM	11/4/2024 8:39	0.37	10.80	7.88	0.308	10.29	-71	6.2	
PM	11/4/2024 16:25:00	0.31	12.65	7.93	0.311	11.18	-97	3.90	
11/5/2024 AM	11/05/2024 8:38	0.34	13.62	7.80	0.302	10.81	-98	4.1	
PM	11/5/2024 14:55	0.29	14.51	7.65	0.299	11.78	-74	44.6	
11/6/2024 AM	11/6/2024 8:30	0.32	14.72	7.37	0.304	11.07	-63	2.7	
PM	11/6/2024 15:45	0.27	14.63	7.81	0.304	11.31	-76	4.1	
11/7/2024 AM	11/7/2024 8:43	0.31	12.99	7.76	0.307	9.89	-98	2.7	
PM	11/7/2024 16:00	0.26	13.37	7.74	0.315	10.04	-96	3.7	
11/8/2024 AM	11/8/2024 8:04	0.33	12.24	7.76	0.327	10.83	-97	26.4	
PM	11/8/2024 14:25	0.30	12.80	7.95	0.326	10.88	-95	17.1	
11/11/2024 AM	11/11/2024 9:05	0.34	12.40	7.66	0.314	10.72	-92	12.1	
PM	11/11/2024 15:55	0.30	12.66	7.96	0.326	10.63	-111	4.1	
11/12/2024 AM	11/12/2024 8:39	0.34	10.46	7.73	0.327	11.00	-82	14.7	
PM	11/12/2024 15:55	0.29	11.60	7.89	0.330	10.92	-79	1.4	
11/13/2024 AM	11/13/2024 8:20	0.33	11.04	7.64	0.331	10.27	-62	2.8	
PM	11/13/2024 15:55	0.29	11.42	7.75	0.333	9.66	-55	6.1	
11/14/2024 AM	11/14/2024 8:25	0.35	11.11	7.63	0.316	10.51	-91	46.8	
PM	11/14/2024 15:55	0.30	11.51	7.68	0.320	10.91	-84	31.4	
11/15/2024 AM	11/15/2024 8:10	0.33	11.38	7.64	0.319	11.08	-78	24.1	
PM	11/15/2024 14:25	0.31	11.59	7.65	0.324	10.84	-87	33.8	
11/18/2024 AM	11/18/2024 8:40	0.37	11.69	7.68	0.325	10.17	-91	19.7	
PM	11/18/2024 15:55	0.33	12.42	7.71	0.323	10.64	-88	17.4	
11/19/2024 AM	11/19/2024 8:30	0.38	12.01	7.70	0.324	9.78	-100	12.4	
PM	11/19/2023 15:55	0.34	12.53	7.73	0.325	10.34	-94	15.8	
11/20/2024 AM	11/20/2024 8:25	0.37	12.01	7.70	0.328	11.28	-89	12.4	
PM	11/20/2024 15:55	0.32	12.66	7.67	0.327	11.87	-93	7.4	
11/21/2024 AM	11/21/2024 8:10	0.34	11.97	7.74	0.330	11.17	-101	17.2	
PM	11/21/2024 15:55	0.29	12.24	7.76	0.329	12.02	-98	16.1	
11/22/2024 AM	11/22/2024 8:30	0.10	11.61	7.71	0.326	12.00	-94	12.4	
PM	11/22/2024 14:53	0.00	12.02	7.75	0.327	12.17	-103	16.8	
11/25/2024 AM	11/25/2024 8:33	0.04	11.31	7.79	0.333	12.04	-106	20.4	
PM	11/25/2024 15:55	0.00	11.64	7.86	0.339	12.40	-103	15.5	
11/26/2024 AM	11/26/2024 8:40	0.00	11.27	7.84	0.337	12.02	-117	17.4	
PM	11/26/2024 15:55	0.00	11.31	7.89	0.340	12.31	-128	22.3	
11/27/2024 AM	11/27/2024 8:25	0.00	10.31	7.85	0.351	12.20	-124	24.5	
PM	11/27/2024 12:25	0.00	11.02	7.83	0.372	11.78	-119	31.8	
12/2/2024 AM	12/2/2024 8:55	0.00	8.83	7.79	0.361	12.14	-129	21.4	
PM	12/2/2024 15:25	0.00	9.29	7.82	0.374	12.39	-134	17.3	
12/3/2024 AM	12/3/2024 8:45	0.00	8.89	7.80	0.370	12.01	-140	14.1	
PM	12/3/2024 15:25	0.00	9.04	7.79	0.376	11.84	-143	16.8	
12/4/2024 AM	12/4/2024 8:40	0.00	8.99	7.81	0.380	11.97	-146	12.8	
PM	12/4/2024 15:25	0.00	9.27	7.80	0.382	12.21	-149	13.9	
12/5/2024 AM	12/5/2024 8:35	0.00	9.04	7.83	0.383	12.41	-152	17.2	

Well ID	MW-3D								Notes
	Start Date & Time	Depth to water (ft)	Temperature (°C)	pH	Conductivity (uS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTUs)	
Baseline	9/12/2024 16:10	5.8	16.67	8.13	0.192	0.17	-73.9	29.5	
Baseline	9/12/2023 16:15	5.95	16.63	8.02	0.19	0.07	-93.7	4.96	
Baseline	9/12/2022 16:20	6.02	16.6	7.99	0.192	0.05	-96.4	3.42	
Baseline	9/12/2021 16:25	6.08	15.99	8	0.2	0.04	-95.5	4.27	
Baseline	9/12/2020 16:30	6.08	15.95	8.01	0.201	0.04	-95.1	2.8	
Baseline	9/12/2019 16:35	6.08	15.91	8.01	0.202	0.04	-95	2.31	
Baseline	9/12/2018 16:40	6.08	15.9	8.01	0.202	0.04	-94.7	2.74	
9/19/2024 AM	9/19/2024 10:55	5.20	12.54	7.18	0.277	10.14	-177	3.9	
PM	9/19/2024 17:04	5.11	13.77	7.34	0.273	9.82	-152	26.5	
9/20/2024 AM	9/20/2024 8:20	5.27	11.51	7.48	0.282	9.64	-164	5.2	
PM	9/20/2024 16:49	4.93	14.05	7.37	0.275	9.64	-150	4.8	
9/23/2024 AM	9/23/2024 8:32	5.36	13.11	7.39	0.276	9.14	-168	3.4	
PM	9/23/2024 17:10	4.99	13.21	7.42	0.288	9.80	-172	5.1	
9/24/2024 AM	9/24/2024 8:04	5.31	11.75	7.49	0.280	9.45	-175	5.6	
PM	9/24/2024 0:00	4.62	12.14	7.49	0.283	9.65	-175	5.1	
9/25/2024 AM	9/25/2024 8:57	5.16	11.85	7.51	0.288	9.49	-164	4.9	
PM	9/25/2024 16:27	4.34	12.02	7.48	0.290	9.04	-171	7.3	
9/26/2024 AM	9/26/2024 9:15	4.85	12.48	7.46	0.282	9.54	-152	4.7	
PM	9/26/2024 17:18	3.86	16.77	7.56	0.270	8.83	-80	6.7	
9/27/2024 AM	9/27/2024 8:30	4.68	14.97	7.45	0.272	8.35	-140	7.5	
PM	9/27/2024 15:00	4.64	17.56	7.29	0.267	8.14	-108	7.3	
9/30/2024 AM	9/30/2023 8:30	4.69	13.41	7.50	0.281	9.34	-157	5.5	
PM	9/30/2024 16:53	4.64	14.42	7.56	0.289	9.21	-141	9.7	
10/1/2024 AM	10/1/2024 8:43	4.76	12.06	7.58	0.289	9.40	-151	14.4	
PM	10/1/2024 16:44	4.74	13.97	7.38	0.283	9.61	-146	17.7	
10/2/2024 AM	10/2/2024 8:30	4.83	12.49	7.47	0.288	9.39	-138	16.1	
PM	10/2/2023 16:57	4.42	12.26	7.56	0.286	8.96	-166	6.2	
10/3/2024 AM	10/3/2024 8:28	4.89	11.16	7.57	0.296	9.15	-176	9.8	
PM	10/3/2024 16:47	4.64	12.04	7.54	0.293	9.02	-154	11.1	
10/4/2024 AM	10/4/2024 7:52	4.85	11.15	7.62	0.290	9.34	-176	10	
PM	10/4/2024 14:59	4.71	13.19	7.60	2.920	8.99	-162	14.3	
10/7/2024 AM	10/7/2024 9:05	5.03	11.83	7.52	0.288	9.59	-128	7.8	
PM	10/7/2024 16:30	4.73	12.15	7.56	0.288	9.07	-139	12	
10/8/2024 AM	10/8/2024 8:33	5.00	11.89	7.50	0.290	9.14	-117	14.5	
PM	10/8/2024 16:10	4.78	12.20	7.58	0.290	9.30	-159	9.9	
10/9/2024 AM	10/9/2024 8:18	5.01	11.71	7.56	0.292	9.37	-136	12.4	
PM	10/9/2024 16:29	4.83	11.91	7.60	0.291	9.14	-142	13.8	
10/10/2024 AM	10/10/2024 8:25	5.00	11.94	7.62	0.294	9.42	-151	16.9	
PM	10/10/2024 16:31	4.84	11.80	7.59	0.292	9.24	-127	17.1	
10/11/2024 AM	10/11/2024 8:35	4.81	11.14	7.63	0.295	9.51	-112	23.5	
PM	10/11/2024 14:31	4.66	12.21	7.61	0.297	9.43	-124	27.4	
10/14/2024 AM	10/14/2024 8:34	4.56	10.73	7.14	0.299	8.74	-150	4.6	
PM	10/14/2024 15:10	4.49	10.43	7.01	0.301	8.42	-174	26.4	
10/15/2024 AM	10/15/2024 8:35	4.45	10.20	6.89	0.300	8.55	-150	27.3	
PM	10/15/2024 16:30	4.16	11.01	7.19	0.298	8.43	-172	7	
10/16/2024 AM	10/16/2024 8:40	4.31	10.51	7.00	0.302	9.71	-152	9.1	
PM	10/16/2024 16:33	4.10	10.44	7.04	0.304	10.07	-175	6.6	
10/17/2024 AM	10/17/2024 8:44	4.07	10.92	7.40	0.303	10.81	-170	7.4	
PM	10/17/2024 16:30	4.22	10.87	7.38	0.302	11.07	-130	9.7	
10/21/2024 AM	10/21/2024 8:39	4.32	10.93	7.26	0.310	12.15	-174	3.7	
PM	10/21/2024 15:29	4.28	12.71	7.26	0.309	10.27	-151	7.3	
10/22/2024 AM	10/22/2024 8:30	4.45	11.62	7.16	0.309	10.44	-131	8.1	
10/23/2024 AM	10/23/2024 8:40	4.44	11.96	7.03	0.317	11.01	-159	8.5	
10/24/2024 AM	10/24/2024 8:42	4.42	11.02	7.10	0.321	11.21	-131	10.2	
PM	10/24/2024 16:30	4.31	10.96	7.18	0.331	10.88	-167	2.1	
10/25/2024 AM	10/24/2024 8:39	4.33	10.03	7.20	0.333	11.15	-143	9.4	
PM	10/25/2024 14:33	4.22	11.14	7.31	0.335	11.87	-175	3.7	
10/28/2024 AM	10/28/2024 8:38	4.55	9.39	7.21	0.342	11.83	-180	2.1	
PM	10/28/2024 15:58	4.28	11.60	7.37	0.387	11.33	-180	2.1	
10/29/2024 AM	10/29/2024 8:29	4.36	9.79	7.25	0.351	10.97	-151	3.40	
PM	10/29/2024 15:59	4.20	10.41	7.34	0.360	11.41	-168	7.10	
10/30/2024 AM	10/30/2024 8:28	4.26	11.24	7.31	0.364	11.68	-147	11.10	
PM	10/30/2024 16:00	4.19	12.49	7.40	0.366	11.21	-151	8.10	
10/31/2024 AM	10/31/2024 9:35	4.41	13.97	7.52	0.331	10.40	-77	31.2	

Well ID	MW-3D								
	Start Date & Time	Depth to water (ft)	Temperature (°C)	pH	Conductivity (uS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTUs)	Notes
PM	10/31/2024 15:59	4.28	15.64	7.89	0.256	10.97	-41	26.00	
11/1/2024 AM	11/1/2024 8:40	0.33	12.47	7.83	0.299	10.47	-101	3.4	
PM	11/1/2024 14:25	0.24	13.33	7.87	0.301	9.80	-114	2.90	
11/4/2024 AM	11/4/2024 8:43	4.46	11.32	7.92	0.279	11.71	-85	26.6	
PM	11/4/2024 16:30	4.23	12.61	8.00	0.273	11.19	-100	19.4	
11/5/2024 AM	11/5/2024 8:43	4.53	13.07	7.70	0.262	10.92	-78	10.9	
PM	11/5/2024 16:00	4.22	14.97	7.61	0.265	12.10	-89	4.1	
11/6/2024 AM	11/6/2024 8:44	4.56	14.17	7.47	0.267	11.51	-66	7.2	
PM	11/6/2024 16:00	4.12	14.19	7.93	0.263	11.39	-82	1.7	
11/7/2024 AM	11/7/2024 8:48	4.41	12.84	7.74	0.271	9.98	-77	0.8	
PM	11/7/2024 15:55	4.15	13.35	7.79	0.271	10.00	-94	1.4	
11/8/2024 AM	11/8/2024 8:15	4.07	12.64	7.96	0.284	10.95	-95	2.8	
PM	11/8/2024 14:30	4.34	12.98	7.97	0.284	10.7	-87	4.7	
11/11/2024 AM	11/11/2024 9:10	4.51	12.71	7.91	0.290	10.61	-92	3.1	
PM	11/11/2024 16:00	4.14	12.51	7.96	0.281	10.57	-83	2.1	
11/12/2024 AM	11/12/2024 8:43	4.48	10.80	7.71	0.286	10.43	-80	1.7	
PM	11/12/2024 16:00	4.20	12.08	7.92	0.286	10.63	-85	39.8	
11/13/2024 AM	11/13/2024 8:25	4.39	11.21	7.61	0.279	10.51	-90	14.4	
PM	11/13/2024 16:00	4.11	11.43	7.33	0.281	9.86	-73	11.1	
11/14/2024 AM	11/14/2024 8:30	4.14	11.06	7.79	0.278	11.47	-96	21	
PM	11/14/2024 16:00	4.02	11.91	7.61	0.284	11.05	-81	28.1	
11/15/2024 AM	11/15/2024 8:14	4.19	11.09	7.64	0.286	11.51	-90	14.1	
PM	11/15/2024 14:30	3.99	12.16	7.80	0.290	11.26	-78	21.4	
11/18/2024 AM	11/18/2024 8:45	4.85	11.37	7.72	0.294	10.74	-85	13.4	
PM	11/18/2024 16:00	4.23	12.28	7.83	0.295	11.51	-92	19.8	
11/19/2024 AM	11/19/2024 8:35	4.33	11.20	7.54	0.290	12.08	-103	42.9	
PM	11/19/2024 16:00	4.19	12.41	7.63	0.297	11.31	-97	31.4	
11/20/2024 AM	11/20/2024 8:25	0.37	12.01	7.70	0.328	11.28	-89	12.4	
PM	11/20/2024 15:55	0.32	12.66	7.67	0.327	11.87	-93	7.4	
11/21/2024 AM	11/21/2024 8:10	0.34	11.97	7.74	0.330	11.71	-101	17.2	
PM	11/21/2024 15:55	0.29	12.24	7.76	0.329	12.02	-98	16.1	
11/22/2024 AM	11/22/2024 8:30	0.10	11.61	7.71	0.326	12.00	-94	12.4	
PM	11/22/2024 14:55	0.00	12.02	7.75	0.327	12.17	-103	16.8	
11/25/2024 AM	11/25/2024 8:40	3.56	12.02	7.73	0.295	11.27	-101	11.8	
PM	11/25/2024 16:00	3.12	12.51	7.74	0.298	11.94	-110	9.1	
11/26/2024 AM	11/26/2024 8:45	3.29	11.34	7.72	0.299	12.11	-115	15.3	
PM	11/26/2024 16:00	3.44	11.29	7.75	0.297	12.39	-122	11.1	
11/27/2024 AM	11/27/2024 8:30	3.49	10.31	7.84	0.293	12.21	-102	21.4	
PM	11/27/2024 12:30	3.55	10.79	7.97	0.287	12.03	-83	31.2	
12/2/2024 AM	12/2/2024 10:00	4.00	9.10	7.88	0.293	11.91	-97	19.4	
PM	12/2/2024 15:30	3.80	9.36	7.91	0.297	12.45	-101	27.3	
12/3/2024 AM	12/3/2024 8:30	4.00	9.24	7.84	0.300	12.17	-111	30.4	
PM	12/3/2024 15:30	3.99	9.57	7.89	0.298	12.38	-115	26.1	
12/4/2024 AM	12/4/2024 8:45	3.78	9.31	7.90	0.300	12.41	-119	34.1	
PM	12/4/2024 15:30	3.69	9.54	7.91	0.296	12.49	-123	23.8	
12/5/2024 AM	12/5/2024 8:40	3.80	9.37	7.93	0.299	12.26	-128	17.4	

Well ID	MW-7								Notes
	Start Date & Time	Depth to water (ft)	Temperature (°C)	pH	Conductivity (uS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTUs)	
Baseline	9/13/2024 9:20	4.16	13.71	8.05	0.26	2.11	-60.1	117	
Baseline	9/13/2024 9:25	4.21	13.42	8.02	0.261	0.86	-82.6	105	
Baseline	9/13/2024 9:30	4.25	13.32	8.04	0.26	0.59	-99.1	84.7	
Baseline	9/13/2024 9:35	4.27	13.24	8.05	0.26	0.52	-99.7	63.4	
Baseline	9/13/2024 9:40	4.28	13.73	8.06	0.252	0.52	-78.6	52.1	
Baseline	9/13/2024 9:45	4.28	14.07	8.07	0.25	0.56	-89.8	46.4	
Baseline	9/13/2024 9:50	4.28	14.12	8.07	0.251	0.5	-92.4	40.2	
Baseline	9/13/2024 9:55	4.28	13.99	8.07	0.253	0.46	-94.4	38.7	
Baseline	9/13/2024 10:00	4.28	14.06	8.07	0.254	0.46	-95.8	37.2	
9/19/2024 AM	9/19/2024 10:25	4.72	15.01	6.50	0.428	10.31	-60	30.7	
PM	9/19/2024 10:42	4.79	16.74	7.21	0.263	9.84	-103	38.4	
9/20/2024 AM	9/20/2024 7:55	4.79	12.32	7.53	0.276	10.54	-91	64.5	
PM	9/20/2024 16:32	4.71	15.27	7.43	0.268	9.47	-86	108	
9/23/2024 AM	9/23/2024 8:00	4.87	14.05	7.61	0.283	10.14	-58	22.8	
PM	9/23/2024 16:49	4.77	13.94	7.58	0.287	9.87	-71	17.3	
9/24/2024 AM	9/24/2024 7:42	4.80	12.30	7.62	0.287	9.94	-48	43.5	
PM	9/24/2024 0:00	4.54	14.30	7.53	0.277	9.96	-36	41.4	
9/25/2024 AM	9/25/2024 8:30	4.64	12.55	7.68	0.281	10.15	-6	53.1	
PM	9/25/2024 16:05	4.48	12.72	7.64	0.247	9.47	-29	41	
9/26/2024 AM	9/26/2024 8:50	4.19	13.69	7.69	0.279	9.74	-48	36.9	
PM	9/26/2024 16:53	4.39	16.52	7.36	0.256	9.75	87	20.9	
9/27/2024 AM	9/27/2024 8:30	4.48	14.63	7.71	0.262	9.07	120	15.1	
PM	9/27/2024 15:00	4.49	16.79	7.50	0.262	8.57	107	15.2	
9/30/2024 AM	9/30/2024 8:10	4.11	13.98	7.93	0.278	9.48	-40	11.3	
PM	9/30/2024 16:30	4.17	16.59	7.73	0.269	9.89	-25	54	
10/1/2024 AM	10/1/2024 8:16	4.23	13.05	7.91	0.287	9.41	-45	34.3	
PM	10/1/2024 16:30	4.18	15.01	7.63	0.278	8.00	-45	59	
10/2/2024 AM	10/2/2024 8:01	4.32	13.09	7.88	0.283	9.74	-17	37.3	
PM	10/2/2024 16:32	4.24	13.27	7.75	0.284	9.61	-54	42.9	
10/3/2024 AM	10/3/2024 7:58	4.34	10.39	7.87	0.294	9.56	-21	53.8	
PM	10/3/2024 16:21	4.36	13.41	7.80	0.291	9.49	-38	36.1	
10/4/2024 AM	10/4/2024 7:31	4.43	10.90	7.88	0.294	9.91	-11	42.4	
PM	10/4/2024 11:32	4.35	13.79	7.87	0.265	9.97	-18	51.3	
10/7/2024 AM	10/7/2024 8:36	4.58	12.40	7.76	0.288	11.10	39	52.8	
PM	10/7/2024 8:03	4.36	13.92	7.74	0.279	9.09	26	52.8	
10/8/2024 AM	10/8/2024 8:06	4.53	10.30	7.92	0.294	10.70	81	58.5	
PM	10/8/2024 15:42	4.35	12.41	7.98	0.290	10.17	-32	74.1	
10/9/2024 AM	10/9/2024 7:40	4.54	13.79	7.81	0.283	9.13	27	71.3	
PM	10/9/2024 16:01	4.00	11.42	7.97	0.297	10.31	100	35.2	
10/10/2024 AM	10/10/2024 7:54	4.52	12.04	7.84	0.287	9.24	84	42.3	
PM	10/10/2024 16:02	4.37	11.84	7.91	0.290	9.71	91	47.4	
10/11/2024 AM	10/11/2024 8:07	4.36	18.21	7.84	0.298	10.18	125	35.2	
PM	10/11/2024 14:03	4.24	15.35	8.77	0.279	9.48	-32	92	
10/14/2024 AM	10/14/2024 8:06	4.11	9.24	6.63	0.409	8.96	126	23.4	
PM	10/14/2024 14:42	3.89	9.15	7.04	0.299	8.66	9	63.1	
10/15/2024 AM	10/15/2024 8:09	3.85	8.59	6.49	0.444	9.76	145	44.1	
PM	10/15/2024 16:02	3.64	11.73	7.35	0.295	9.24	-66	39.5	
10/16/2024 AM	10/16/2024 8:16	3.62	11.54	6.62	0.361	9.51	-32	22.7	
PM	10/16/2024 16:02	3.57	11.67	7.19	0.401	10.71	118	15.9	
10/17/2024 AM	10/17/2024 8:16	3.74	10.25	7.21	0.319	10.52	67	58	
PM	10/17/2024 16:01	3.70	12.35	7.40	0.300	10.27	18	85.6	
10/21/2024 AM	10/21/2024 9:12	3.88	10.69	6.68	0.305	11.78	67	111	
PM	10/21/2024 15:02	3.83	12.27	7.15	0.297	10.27	-34	97.4	
10/22/2024 AM	10/22/2024 8:01	3.92	10.74	6.71	0.338	11.11	124	17	
10/23/2024 AM	10/23/2024 8:11	3.94	12.76	6.64	0.346	11.52	126	6.5	
10/24/2024 AM	10/24/2024 8:12	3.99	11.14	6.84	0.327	11.27	81	9.8	
PM	10/24/2024 16:01	3.90	10.82	7.43	0.322	11.41	67	4.1	
10/25/2024 AM	10/25/2024 8:11	4.03	7.89	6.91	0.437	10.87	104	54.9	
PM	10/25/2024 14:02	3.90	2.50	7.17	0.330	10.92	127	67.5	
10/28/2024 AM	10/28/2024 8:11	4.14	8.65	6.94	0.371	10.97	79	32.8	
PM	10/28/2024 15:31	3.98	12.04	7.37	0.323	10.04	4	47.5	
10/29/2024 AM	10/29/2024 8:02	3.97	9.68	6.96	0.364	10.71	45	36.1	
PM	10/29/2024 15:31	3.94	11.54	7.12	0.351	11.04	64	37.18	
10/30/2024 AM	10/30/2024 8:01	4.01	12.56	6.99	0.370	12.89	96	19.8	

Well ID	MW-7								Notes
	Start Date & Time	Depth to water (ft)	Temperature (°C)	pH	Conductivity (uS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTUs)	
PM	10/30/2024 15:31	3.91	13.87	7.28	6.315	12.97	60	46.5	
10/31/2024 AM	10/31/2024 9:06	4.08	14.24	7.74	0.314	10.41	165	29.9	
PM	10/31/2024 15:31	3.95	15.23	7.80	0.250	11.33	113	112	
11/1/2024 AM	11/1/2024 8:17	4.02	15.53	6.77	0.304	9.65	191	117	
PM	11/1/2024 14:01	3.97	13.76	7.78	0.252	10.81	118	113	
11/4/2024 AM	11/4/2024 8:16	4.16	9.90	6.79	0.356	11.24	224	23.8	
PM	11/4/2024 16:01	3.99	12.51	8.08	0.269	11.97	178	68.2	
11/5/2024 AM	11/5/2024 8:16	4.12	13.21	6.74	0.320	11.00	196	65.3	
PM	11/5/2024 14:31	3.92	14.19	8.04	0.252	11.79	115	82.4	
11/6/2024 AM	11/6/2024 8:16	4.14	16.22	6.80	0.243	10.85	243	17.3	
PM	11/6/2024 15:31	3.92	15.99	8.11	0.252	11.52	165	62.9	
11/7/2024 AM	11/7/2024 8:52	4.18	12.99	7.98	0.257	12.67	-82	36.5	
PM	11/7/2024 15:37	3.94	15.41	8.04	0.265	11.61	143	17.4	
11/8/2024 AM	11/8/2024 7:46	4.08	11.12	7.08	0.347	11.29	192	41.9	
PM	11/8/2024 14:01	3.98	13.63	7.99	0.263	13.07	175	66.2	
11/11/2024 AM	11/11/2024 8:41	4.10	12.27	7.64	0.318	10.94	227	19.3	
PM	11/11/2024 15:31	3.87	13.43	8.00	0.265	11.93	166	23	
11/12/2024 AM	11/12/2024 8:16	4.09	9.94	7.09	0.364	10.86	212	39	
PM	11/12/2024 15:31	3.83	11.93	7.84	0.272	12.64	153	56.8	
11/13/2024 AM	11/13/2024 7:56	4.11	8.84	7.02	0.406	13.72	204	57.9	
PM	11/13/2024 15:31	3.85	11.90	7.79	0.305	9.84	218	118	
11/14/2024 AM	11/14/2024 8:01	4.09	8.55	6.70	0.355	12.28	230	85.8	
PM	11/14/2024 15:31	3.86	12.04	7.74	0.341	11.97	234	79.4	
11/15/2024 AM	11/15/2024 7:45	4.04	10.74	7.03	0.351	11.01	179	68.4	
PM	11/15/2024 14:01	3.91	11.29	7.68	0.356	11.24	238	73.5	
11/18/2024 AM	11/18/2024 8:16	4.17	12.27	7.17	0.354	10.97	204	69.8	
PM	11/18/2024 15:31	4.01	13.01	7.49	0.357	11.09	237	80.4	
11/19/2024 AM	11/18/2024 8:05	4.07	10.38	7.21	0.282	12.44	166	58.1	
PM	11/18/2024 15:31	3.91	12.77	7.42	0.274	12.14	175	92.2	
11/20/2024 AM	11/20/2024 8:01	4.02	11.71	7.38	0.270	12.41	189	45.5	
PM	11/20/2024 15:31	3.94	13.58	7.54	0.262	12.07	146	97	
11/21/2024 AM	11/21/2024 7:46	4.01	12.14	7.51	0.273	11.97	155	88.4	
PM	11/21/2024 15:31	3.56	12.49	7.57	0.275	12.16	160	91.6	
11/22/2024 AM	11/22/2024 8:03	2.52	11.97	7.54	0.279	11.24	164	97.4	
PM	11/22/2024 14:30	2.42	12.61	7.60	0.281	11.97	159	93.5	
11/25/2024 AM	11/25/2024 8:10	3.44	12.02	7.69	0.271	12.14	154	64.8	
PM	11/25/2024 15:31	3.26	12.44	7.78	0.259	12.59	149	47.8	
11/26/2024 AM	11/26/2024 8:15	3.09	11.97	7.72	0.263	12.74	170	37.4	
PM	11/26/2024 15:31	3.15	11.13	7.86	0.265	14.49	202	27.4	
11/27/2024 AM	11/27/2024 8:01	3.30	9.71	7.88	0.268	13.97	208	31.4	
PM	11/27/2024 12:01	3.38	10.04	7.83	0.267	14.66	210	38.4	
12/2/2024 AM	12/2/2024 9:37	3.67	8.74	7.89	0.269	12.21	214	42.3	
PM	12/2/2024 15:01	3.57	9.23	7.90	0.265	12.38	219	39.7	
12/3/2024 AM	12/3/2024 8:20	3.62	9.01	7.91	0.270	11.97	197	54.3	
PM	12/3/2024 15:01	3.62	9.30	7.92	0.274	12.28	214	41.4	
12/4/2024 AM	12/4/2024 8:16	3.60	9.14	7.87	0.276	11.84	187	36.9	
PM	12/4/2024 15:01	3.56	9.40	7.90	0.278	12.12	206	44.8	
12/5/2024 AM	12/5/2024 8:11	3.59	9.27	7.91	0.280	12.01	194	21.5	

Well ID	PZ-1								
	Start Date & Time	Depth to water (ft)	Temperature (°C)	pH	Conductivity (uS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTUs)	Notes
Baseline	9/13/2024 9:55	7.63	14.55	8.06	0.278	0.16	-22.9	27.6	
Baseline	9/13/2024 10:00	7.62	13.42	8.07	0.272	0.1	-57.1	84.1	
Baseline	9/13/2024 10:05	7.61	13.04	8.03	0.267	0.07	-75.5	143	
Baseline	9/13/2024 10:10	7.61	13.18	8.03	0.264	0.06	-87.6	104	
Baseline	9/13/2024 10:15	7.61	13.1	8.06	0.264	0.06	-98.2	69.9	
Baseline	9/13/2024 10:20	7.61	13.22	8.07	0.262	0.05	-105.7	45.6	
Baseline	9/13/2024 10:25	7.61	13.3	8.07	0.261	0.04	-110.8	32.8	
Baseline	9/13/2024 10:30	7.6	13.29	8.07	0.261	0.04	-113.1	28.8	
Baseline	9/13/2024 10:35	7.6	13.31	8.07	0.261	0.04	-115.8	26.3	
									Pressure in well, WL immediately rose from ~13 to 6.96 ft bgs
9/19/2024 AM	9/19/2024 10:47	6.86	12.72	7.12	0.315	9.95	-100	164.9	
PM	9/19/2024 16:57:00	6.79	14.86	7.30	0.316	9.52	-102	152.1	
9/20/2024 AM	9/20/2024 8:13	6.93	11.47	7.48	0.372	9.86	-146	137	
PM	9/20/2024 16:45	6.72	13.82	7.37	0.315	10.11	-135	101	
9/23/2024 AM	9/23/2024 8:26	6.98	12.01	7.47	0.318	9.87	-138	3	
PM	9/23/2024 17:05	6.74	12.21	7.48	0.299	9.54	-147	7.2	
9/24/2024 AM	9/24/2024 7:54	6.94	11.40	7.54	0.323	9.81	-142	13.6	
PM	9/24/2024	6.51	12.54	7.52	0.316	9.64	-145	43.3	
9/25/2024 AM	9/25/2024 8:48	6.83	11.38	7.56	0.322	9.66	-141	33.1	
PM	9/25/2024 16:26	6.45	12.04	7.61	0.324	8.98	-147	24.2	
9/26/2024 AM	9/26/2024 8:54	6.48	13.07	7.58	0.315	9.62	-137	17.7	
PM	9/26/2024 16:58	6.10	14.37	7.59	0.317	8.31	-89	74.9	
9/27/2024 AM	9/27/2024 8:30	6.28	12.55	7.60	0.320	9.35	-127	65	
PM	9/27/2024 15:00	6.22	17.43	7.50	0.300	9.50	-87	160	
9/30/2024 AM	9/30/2024 8:22	6.38	12.75	7.52	0.317	9.51	-143	21.9	
PM	9/30/2024 16:45	6.19	13.84	7.52	0.313	9.74	-101	62.8	
10/1/2024 AM	10/1/2024 8:34	6.47	11.60	7.45	0.322	9.72	-115	54.1	
PM	10/1/2024 16:37	6.23	14.23	7.47	0.316	9.87	-81	61.3	
10/2/2024 AM	10/2/2024 8:20	6.58	12.10	7.59	0.321	9.37	-121	71.4	
PM	10/2/2024 16:49	6.34	12.08	7.60	0.328	9.47	-74	63.7	
10/3/2024 AM	10/3/2024 8:18	6.53	10.53	7.64	0.329	9.30	-141	59.4	
PM	10/3/2024 16:37	6.18	12.79	7.63	0.324	9.38	-127	52.1	
10/4/2024 AM	10/4/2024 7:47	6.39	10.75	7.70	0.330	9.69	-108	71.4	
PM	10/4/2024 15:00	6.34	14.04	7.49	0.316	10.02	-75	115.4	slight white color
10/7/2024 AM	10/7/2024 8:54	6.75	11.40	7.65	0.322	9.97	-77	124.8	
PM	10/7/2024 16:21	6.46	11.63	7.54	0.326	9.27	-85	57.1	
10/8/2024 AM	10/8/2024 8:24	6.79	9.97	7.67	0.331	9.90	-110	355	
PM	10/8/2024 16:00	6.52	11.53	7.62	0.327	9.79	-96	315	
10/9/2024 AM	10/9/2024 8:08	6.81	10.00	7.66	0.332	9.61	-118	289	
PM	10/9/2024 16:20	6.51	10.14	7.66	0.328	9.65	-115	126	
10/10/2024 AM	10/10/2024 8:15	6.79	10.71	7.62	0.330	9.71	-104	204	
PM	10/10/2024 16:21	6.54	10.38	7.64	0.324	9.60	-96	181	
10/11/2024 AM	10/11/2024 8:25	6.54	9.98	7.69	0.325	9.63	-108	101	
PM	10/11/2024 14:22	6.36	10.97	7.71	0.323	9.27	-100	143	
10/14/2024 AM	10/14/2024 8:23	6.29	9.59	7.07	0.334	9.07	-113	46.2	
PM	10/14/2024 14:59	6.19	9.35	7.03	0.335	8.92	-147	276	
10/15/2024 AM	10/15/2024 8:26	6.17	9.25	6.85	0.333	8.98	-126	141	
PM	10/15/2024 16:20	5.82	10.29	7.24	0.327	8.97	-150	136	
10/16/2024 AM	10/16/2024 8:32	5.94	10.31	7.04	0.324	9.34	-134	81.9	
PM	10/16/2024 16:21	5.73	10.19	6.86	0.336	10.22	-140	70.9	
10/17/2024 AM	10/17/2024 8:34	5.76	9.94	7.24	0.344	11.10	-100	90.1	
PM	10/17/2024 16:20	5.79	12.80	7.50	0.328	11.15	-93	229	
10/21/2024 AM	10/21/2024 8:30	5.92	10.33	7.07	0.339	12.41	-124	54.8	
PM	10/21/2024 15:21	5.90	12.04	7.17	0.331	11.02	-97	77.1	
10/22/2024 AM	10/22/2024 8:20	6.08	10.24	6.96	0.340	11.22	-107	38.9	
10/23/2024 AM	10/23/2024 8:29	6.07	11.48	6.94	0.345	11.61	-79	16.2	
10/24/2024 AM	10/24/2024 8:33	6.17	9.86	6.90	0.365	11.55	51	11	
PM	10/24/2024 16:20	6.06	10.52	7.11	0.361	11.20	-89	80.2	
10/25/2024 AM	10/25/2024 8:20	6.21	7.78	7.01	0.373	11.99	35	157	
PM	10/25/2024 14:22	5.66	10.14	7.28	0.368	12.28	-31	150	
10/28/2024 AM	10/28/2024 8:28	6.24	9.48	6.91	0.373	11.53	-94	79.7	
PM	10/28/2024 15:49	5.89	10.64	7.31	0.467	12.04	-110	>1000	very white injectate-like
10/29/2024 AM	10/29/2024 8:19	5.71	9.84	6.93	0.414	11.21	-48	>1000	very white injectate-like
PM	10/29/2024 15:50	5.90	10.61	7.08	0.392	11.04	-81	>1000	very white injectate-like
10/30/2024 AM	10/30/2024 8:19	5.93	11.47	6.85	0.702	14.26	-31	>1000	very white injectate-like
PM	10/30/2024 15:50	5.91	12.50	7.14	0.681	13.97	-52	>1000	very white injectate-like
10/31/2024 AM	10/31/2024 9:35	5.15	13.76	7.42	0.542	11.21	31	>1000	very white injectate-like
PM	10/31/2024 15:50	5.99	15.81	7.63	0.547	11.04	12	>1000	very white injectate-like
11/1/2024 AM	11/1/2024 8:35	6.11	13.55	7.37	0.552	10.12	20	>1000	very white injectate-like
PM	11/1/2024 14:20	5.93	12.68	7.77	0.550	10.08	-75	>1000	very white injectate-like
11/4/2024 AM	11/4/2024 8:34	6.04	11.00	7.73	0.585	11.35	-40	>1000	very white injectate-like
PM	11/4/2024 16:20	5.93	12.21	7.99	0.556	11.34	-40	>1000	very white injectate-like
11/5/2024 AM	11/5/2024 8:34	6.14	13.14	7.92	0.529	10.99	-79	>1000	very white injectate-like
PM	11/5/2024 14:50	5.92	15.02	7.47	0.502	10.64	-51	>1000	very white injectate-like

Well ID	PZ-1								
	Start Date & Time	Depth to water (ft)	Temperature (°C)	pH	Conductivity (uS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTUs)	Notes
11/6/2024 AM	11/6/2024 8:35	6.16	13.21	7.68	0.506	11.04	-68	>1000	very white injectate-like
PM	11/6/2024 15:50	5.93	13.68	7.83	0.502	11.66	-63	>1000	very white injectate-like
11/7/2024 AM	11/7/2024 8:38	6.07	12.97	7.64	0.510	11.41	-71	>1000	very white injectate-like
PM	11/7/2024 15:50	5.91	12.60	7.78	0.470	10.62	-53	>1000	very white injectate-like
11/8/2024 AM	11/8/2024 8:09	6.01	11.67	7.69	0.458	10.96	-95	>1000	white
PM	11/8/2024 14:20	5.99	12.36	7.98	0.449	11.29	-73	>1000	white
11/11/2024 AM	11/11/2024 9:00	6.06	12.11	7.62	0.371	10.87	-84	233	cloudy
PM	11/11/2024 15:50	5.89	12.29	7.91	0.363	10.98	-99	239	cloudy
11/12/2024 AM	11/12/2024 8:35	6.09	10.59	7.50	0.362	10.79	-96	250	cloudy
PM	11/12/2024 15:50	5.87	11.58	7.87	0.356	11.05	-87	315	cloudy
11/13/2024 AM	11/13/2024 8:15	6.07	10.70	7.49	0.349	10.41	-39	284	cloudy
PM	11/13/2024 15:50	5.90	11.17	7.64	0.338	9.77	11	202	cloudy
11/14/2024 AM	11/14/2024 8:20	5.90	10.53	7.65	0.327	11.66	-108	213	cloudy
PM	11/14/2024 15:50	5.78	11.94	7.70	0.324	11.17	-48	194	cloudy
11/15/2024 AM	11/15/2024 8:05	6.00	10.68	7.68	0.328	12.01	-62	204	cloudy
PM	11/15/2024 14:20	5.80	11.84	7.74	0.325	10.97	-83	187	cloudy
11/18/2024 AM	11/18/2024 8:33	6.11	11.24	7.73	0.329	10.34	-71	201	cloudy
PM	11/18/2024 15:50	5.93	12.38	7.76	0.330	11.08	-79	164	cloudy
11/19/2024 AM	11/19/2024 8:25	6.01	10.64	7.64	0.327	12.31	-124	186	cloudy
PM	11/19/2024 15:50	5.91	12.64	7.66	0.324	11.61	-97	127	cloudy
11/20/2024 AM	11/20/2024 15:50	5.99	11.64	7.64	0.319	12.20	-126	136	
PM	11/20/2024 8:05	5.91	12.38	7.75	0.315	12.69	-111	202	
11/21/2024 AM	11/21/2024 8:05	5.01	12.01	7.70	0.310	11.97	-124	109	
PM	11/21/2024 15:50	5.60	12.47	7.78	0.308	12.21	-127	97.6	
11/22/2024 AM	11/22/2024 8:25	5.11	12.06	7.69	0.310	11.51	-130	107.8	
PM	11/22/2024 14:50	4.99	12.39	7.80	0.307	12.04	-129	101.4	
11/25/2024 AM	11/25/2024 8:30	5.18	11.47	7.64	0.302	11.97	-120	90.4	
PM	11/25/2024 15:50	4.98	11.96	7.55	0.296	12.48	-112	70.8	
11/26/2024 AM	11/26/2024 8:35	4.98	11.34	7.63	0.311	12.27	-134	79.8	
PM	11/26/2024 15:50	5.07	11.23	7.71	0.334	12.63	-157	115	
11/27/2024 AM	11/27/2024 8:20	5.01	10.29	7.73	0.338	12.24	-134	134	
PM	11/27/2024 12:20	5.06	10.76	7.70	0.339	11.88	-121	161	
12/2/2024 AM	12/2/2024 9:50	5.34	9.14	7.74	0.334	12.21	-124	152	
PM	12/2/2024 15:20	5.26	9.34	7.73	0.338	12.39	-118	173	
12/3/2024 AM	12/3/2024 8:40	5.36	9.20	7.68	0.340	11.71	-112	128	
PM	12/3/2024 15:20	5.30	9.38	7.72	0.342	12.04	-123	139	
12/4/2024 AM	12/4/2024 8:35	5.25	9.14	7.75	0.338	11.94	-126	142	
PM	12/4/2024 15:20	5.18	9.52	7.77	0.336	12.17	-134	125	
12/5/2024 AM	12/5/2024 8:30	5.26	9.27	7.80	0.333	12.29	-140	121	

Well ID	PZ-2								Notes
	Start Date & Time	Depth to water (ft)	Temperature (°C)	pH	Conductivity (uS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTUs)	
Baseline	9/13/2024 10:50	7.67	14.22	7.93	0.335	1.27	-140.2	14.3	
Baseline	9/13/2024 10:55	7.69	14.03	7.9	0.333	0.86	-147.8	18.8	
Baseline	9/13/2024 11:00	7.7	13.82	7.9	0.322	0.74	-149.3	13.8	
Baseline	9/13/2024 11:05	7.71	13.57	7.91	0.33	0.49	-153.2	9.47	
Baseline	9/13/2024 11:10	7.71	13.39	7.91	0.33	0.47	-137.4	6.98	
Baseline	9/13/2024 11:15	7.71	13.23	7.91	0.329	0.44	-121.3	4.37	
Baseline	9/13/2024 11:20	7.71	13.14	7.92	0.329	0.43	-117.3	4.25	
Baseline	9/13/2024 11:25	7.71	13.01	7.92	0.329	0.41	-113.9	4.09	
Baseline									
9/19/2024 AM	9/19/2024 10:41	5.70	13.84	7.02	0.302	9.76	-120	14.8	
PM	9/19/2024 16:53:00	5.68	14.88	7.25	0.299	9.62	-133	17.8	
9/20/2024 AM	9/20/2024 8:10	5.76	12.19	7.46	0.307	9.58	-119	9.5	
PM	9/20/2024 16:40	5.54	14.26	7.38	0.299	10.01	-136	13.3	
9/23/2024 AM	9/23/2024 8:16	5.89	12.74	7.48	0.302	9.77	-106	11.8	
PM	9/23/2024 17:00	5.55	13.12	7.53	0.300	9.81	-114	19.1	
9/24/2024 AM	9/24/2024 7:50	5.84	11.38	7.56	0.305	9.95	-136	9.5	
PM	9/24/2024 0:00	5.25	13.04	7.49	0.299	9.63	-105	11.4	
9/25/2024 AM	9/25/2024 8:44	5.69	12.09	7.55	0.302	9.74	-108	13.6	
PM	9/25/2024 16:17	5.19	12.41	7.59	0.297	9.31	-109	10.6	
9/26/2024 AM	9/26/2024 8:58	5.35	12.40	7.51	0.300	9.84	-133	16.7	
PM	9/26/2024 17:02	4.79	15.30	7.45	0.297	8.30	42	33.8	
9/27/2024 AM	9/27/2024 8:30	5.12	14.03	7.53	0.302	8.95	27	13.4	
PM	9/27/2024 15:00	5.10	17.18	7.38	0.291	8.81	-45	20.7	
9/30/2024 AM	9/30/2024 8:18	5.16	12.82	7.48	0.301	9.68	-150	9.6	
PM	9/30/2024 16:41	5.13	14.84	7.51	0.288	9.88	-119	63.1	
10/1/2024 AM	10/1/2024 8:30	5.28	11.43	7.61	0.306	9.88	-88	60.4	
PM	10/1/2024 16:32	5.10	14.82	7.51	0.297	9.73	-115	58.3	
10/2/2024 AM	10/2/2024 8:15	5.35	12.30	7.57	0.306	9.54	-110	61.4	
PM	10/2/2024 16:45	5.24	12.01	7.59	0.306	9.69	-63	47.5	
10/3/2024 AM	10/3/2024 8:14	5.36	10.77	7.59	0.310	9.25	-106	51.4	
PM	10/3/2024 16:33	5.13	12.52	7.61	0.308	9.39	-84	42.3	
10/4/2024 AM	10/4/2024 7:43	5.33	11.11	7.65	0.318	9.60	-97	52.4	
PM	10/4/2024 14:45	5.16	15.44	7.48	0.281	9.91	-72	57.1	
10/7/2024 AM	10/7/2024 8:50	5.35	11.17	7.60	0.308	10.14	-59	101.4	
PM	10/7/2024 16:17	5.19	11.31	7.59	0.307	9.63	-102	167	
10/8/2024 AM	10/8/2024 8:20	5.53	10.44	7.63	0.310	9.81	-101	174	
PM	10/8/2024 15:55	5.30	11.79	7.56	0.301	9.46	-93	111	
10/9/2024 AM	10/9/2024 8:03	5.55	10.78	7.60	0.308	9.54	-89	123	
PM	10/9/2024 16:15	5.24	10.43	7.69	0.311	9.78	-76	88.5	
10/10/2024 AM	10/10/2024 8:09	5.53	11.01	7.59	0.306	9.24	-51	79.3	
PM	10/10/2024 16:16	5.32	11.21	7.62	0.308	9.31	-62	90.1	
10/11/2024 AM	10/11/2024 8:21	5.34	9.71	7.63	0.313	9.54	-84	105	
PM	10/11/2024 14:17	5.15	11.49	7.65	0.312	9.47	-71	84.3	
10/14/2024 AM	10/14/2024 8:18	5.02	9.69	7.04	0.321	9.04	-138	77.1	
PM	10/14/2024 14:35	4.93	9.59	6.98	0.320	8.81	-153	103	
10/15/2024 AM	10/15/2024 8:22	4.89	9.31	6.76	0.318	9.02	-138	76.5	
PM	10/15/2024 16:15	4.62	10.59	7.17	0.314	9.10	-139	47.7	
10/16/2024 AM	10/16/2024 8:28	4.71	10.04	6.84	0.315	9.74	-142	35.1	
PM	10/16/2024 16:16	4.50	10.30	6.80	0.320	10.30	-153	37.4	
10/17/2024 AM	10/17/2024 8:29	4.49	9.95	7.26	0.329	10.52	-162	57.5	
PM	10/17/2024 16:15	4.50	12.42	7.55	0.319	10.34	-7.9	32.6	
10/21/2024 AM	10/21/2024 9:25	4.72	10.22	6.91	0.328	12.46	-150	15.2	
PM	10/21/2024 15:17	4.63	12.61	7.04	0.320	10.34	-131	21.4	
10/22/2024 AM	10/22/2024 8:15	4.75	10.67	6.89	0.316	11.01	-121	31.2	
10/23/2024 AM	10/23/2024 0:00	4.78	11.10	6.93	0.318	10.71	-136	26.5	
10/24/2024 AM	10/24/2024 8:27	5.02	10.17	6.78	0.348	11.21	20	49.3	
PM	10/24/2024 16:15	4.73	11.27	7.09	0.350	11.26	-81	77.5	
10/25/2024 AM	10/25/2024 8:24	5.06	9.03	6.74	0.360	11.40	-144	112	
PM	10/25/2024 14:16	4.66	10.43	7.13	0.355	12.41	-110	34.2	
10/28/2024 AM	10/28/2024 8:24	5.12	9.51	6.83	0.364	11.67	-136	58.1	
PM	10/28/2024 15:45	4.71	11.12	7.19	0.351	11.98	-158	6.8	
10/29/2024 AM	10/29/2024 8:14	4.54	10.02	6.90	0.370	11.84	-131	11.00	
PM	10/29/2024 15:45	4.64	10.98	7.14	0.362	11.29	-142	8.10	
10/30/2024 AM	10/30/2024 8:14	4.70	11.61	7.03	0.359	12.27	-120	10.70	

Well ID	PZ-2								Notes
	Start Date & Time	Depth to water (ft)	Temperature (°C)	pH	Conductivity (uS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTUs)	
PM	10/30/2024 15:45	4.66	13.19	7.18	0.363	11.58	-131	14.90	
10/31/2024 AM	10/31/2024 9:20	4.99	14.21	7.36	0.271	10.95	-44	18.6	
PM	10/31/2024 15:45	4.71	15.41	7.97	0.273	11.27	-56	51.60	
11/1/2024 AM	11/1/2024 8:30	4.95	13.33	7.39	0.280	10.44	-40	44.4	
PM	11/1/2024 14:15	4.76	12.73	7.93	0.281	10.39	-64	47.40	
11/4/2024 AM	11/4/2024 8:29	5.04	11.45	7.55	0.291	10.56	-20	26.8	
PM	11/4/2024 16:15	4.70	12.64	7.99	0.291	11.27	-89	23.40	
11/5/2024 AM	11/5/2024 8:29	5.01	12.75	7.44	0.284	11.19	-59	15.7	
PM	11/5/2024 14:45	4.64	14.51	7.68	0.276	12.27	-58	3.9	
11/6/2024 AM	11/6/2024 8:30	5.03	13.96	7.36	0.291	11.57	-30	2.4	
PM	11/6/2024 15:45	4.46	13.99	7.79	0.281	11.94	-52	4.1	
11/7/2024 AM	11/7/2024 8:34	4.97	12.86	7.55	0.286	10.15	-66	2.1	
PM	11/7/2024 15:45	4.59	13.51	7.81	0.282	10.28	-66	1.3	
11/8/2024 AM	11/8/2024 7:59	4.63	12.12	7.54	0.301	10.76	-73	9.2	
PM	11/8/2024 14:15	4.75	12.80	7.91	0.297	11.18	-90	7.1	
11/11/2024 AM	11/11/2024 8:55	4.99	12.61	7.51	0.301	10.66	-72	5.4	
PM	11/11/2024 15:45	4.42	12.54	7.86	0.294	10.97	-58	73.7	
11/12/2024 AM	11/12/2024 8:29	5.01	10.49	7.40	0.303	10.72	-21	-81	
PM	11/12/2024 15:45	4.48	12.03	7.78	0.298	10.98	-37	90.8	
11/13/2024 AM	11/13/2024 8:10	5.00	11.17	7.38	0.297	11.17	-52	70.7	
PM	11/13/2024 15:45	4.39	11.62	7.64	0.289	9.8	-46	68.9	
11/14/2024 AM	11/14/2024 8:15	4.64	11.18	7.47	0.300	10.27	-18	61.6	
PM	11/14/2024 15:45	4.44	12.00	7.58	0.311	10.48	-24	53.1	
11/15/2024 AM	11/15/2024 8:00	4.62	10.97	7.50	0.314	10.52	-31	60.4	
PM	11/15/2024 14:15	4.39	12.14	7.61	0.310	10.28	-34	53.8	
11/18/2024 AM	11/18/2024 8:30	5.05	12.01	7.62	0.311	10.41	-30	71.4	
PM	11/18/2024 15:45	4.66	12.64	7.64	0.308	10.79	-36	59.8	
11/19/2024 AM	11/19/2024 8:20	4.76	11.04	7.54	0.305	11.40	-90	67.4	
PM	11/19/2024 15:45	4.68	12.22	7.43	0.299	11.97	-31	61.3	
11/20/2024 AM	11/20/2024 8:15	4.88	11.85	7.37	0.301	12.74	-7	78.6	
PM	11/20/2024 15:45	4.67	12.43	7.58	0.295	12.21	-11	57.8	
11/21/2024 AM	11/21/2024 8:00	4.86	12.04	7.60	0.303	11.71	-19	64.2	
PM	11/21/2024 15:45	4.25	12.62	7.64	0.301	12.04	-24	59.1	
11/22/2024 AM	11/22/2024 8:20	3.43	11.71	7.66	0.300	10.97	-27	48.1	
PM	11/22/2024 14:45	3.74	12.49	7.68	0.304	11.84	-30	57.3	
11/25/2024 AM	11/25/2024 8:25	3.93	11.71	7.65	0.301	12.20	-94	71.4	
PM	11/25/2024 15:45	3.61	11.93	7.60	0.297	12.46	-111	80.7	
11/26/2024 AM	11/26/2024 8:30	3.68	11.62	7.65	0.300	11.91	-98	56.1	
PM	11/26/2024 15:45	3.73	11.41	7.77	0.299	12.47	-85	116	
11/27/2024 AM	11/27/2024 8:15	3.75	10.24	7.74	0.301	12.04	-102	92.3	
PM	11/27/2024 12:15	3.82	10.91	7.72	0.300	11.37	-116	75.4	
12/2/2024 AM	12/2/2024 9:45	4.36	8.99	7.73	0.297	11.92	-108	65.1	
PM	12/2/2024 15:15	4.12	9.39	7.75	0.300	12.27	-117	79.3	
12/3/2024 AM	12/3/2024 8:30	4.37	8.92	7.76	0.308	11.79	-114	59.4	
PM	12/3/2024 15:10	4.24	9.38	7.74	0.302	11.99	-123	62.7	
12/4/2024 AM	12/4/2024 8:30	4.05	9.20	7.77	0.300	12.41	-128	41.6	
PM	12/4/2024 15:15	3.99	9.48	7.79	0.298	12.30	-132	52.7	
12/5/2024 AM	12/5/2024 8:26	4.08	9.11	7.82	0.300	12.51	-138	57.5	

Well ID	PZ-3								Notes
	Start Date & Time	Depth to water (ft)	Temperature (°C)	pH	Conductivity (uS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTUs)	
Baseline	9/13/2024 11:45	7.45	15.83	8.02	0.233	0.15	-85.5	203	
Baseline	9/13/2024 11:50	7.45	14.33	8.06	0.226	0.11	-95.5	933	
Baseline	9/13/2024 11:55	7.45	14.42	8.02	0.228	0.07	-99.9	855	
Baseline	9/13/2024 12:00	7.45	14.74	8.02	0.228	0.06	-105.4	733	
Baseline	9/13/2024 12:05	7.45	14.57	8.05	0.227	0.05	-113.7	697	
Baseline	9/13/2024 12:10	7.45	14.21	8.06	0.223	0.04	-120.2	499	
Baseline	9/13/2024 12:15	7.45	14.19	8.06	0.221	0.04	-123.1	408	
Baseline	9/13/2024 12:20	7.45	14.3	8.09	0.222	0.04	-126.3	323	
Baseline	9/13/2024 12:25	7.45	14.32	8.09	0.222	0.06	-119.8	247	
9/19/2024 AM	9/19/2024 10:36	5.94	14.56	6.89	0.301	10.03	-53	5.6	
PM	9/19/2024 16:50	5.91	15.68	7.36	0.291	9.59	-59	33.1	
9/20/2024 AM	9/20/2024 8:04	6.01	12.86	7.55	0.301	9.39	-59	7.9	
PM	9/20/2024 16:37	5.78	15.00	7.52	0.289	9.92	-67	12.4	
9/23/2024 AM	9/23/2024 8:11	6.12	13.82	7.65	0.301	9.30	-41	17.6	
PM	9/23/2024 16:56	5.82	14.01	7.66	0.304	9.50	-50	15.4	
9/24/2024 AM	9/24/2024 7:45	6.06	12.20	7.63	0.301	9.59	-81	6.3	
PM	9/24/2024 12:00	5.42	14.05	7.60	0.296	9.45	-53	10.2	
9/25/2024 AM	9/25/2024 8:39	5.92	13.01	7.61	0.299	9.37	-3	10.9	
PM	9/25/2024 16:13	5.43	13.27	7.59	0.301	9.20	-21	9.4	
9/26/2024 AM	9/26/2024 9:02	5.62	14.37	7.52	0.302	8.75	-6	11.4	
PM	9/26/2024 17:06	5.09	14.66	7.54	0.301	8.45	-8	20.5	
9/27/2024 AM	9/27/2024 8:30	5.42	14.23	7.49	0.301	8.72	-24	18	
PM	9/27/2024 15:00	5.52	17.14	7.38	0.289	8.49	-6	14.3	
9/30/2024 AM	9/30/2024 9:14	5.42	13.58	7.52	0.296	9.37	-126	12.1	
PM	9/30/2024 16:37	5.37	15.15	7.69	0.284	9.91	-120	48.4	
10/1/2024 AM	10/1/2024 8:25	5.55	11.81	7.71	0.302	9.82	-141	71.3	
PM	10/1/2024 16:27	5.28	16.17	7.54	0.289	9.04	-96	90.3	
10/2/2024 AM	10/2/2024 8:10	5.61	12.62	7.68	0.303	9.54	-90	77	
PM	10/2/2024 16:41	5.22	12.87	7.63	0.303	9.48	-84	68.4	
10/3/2024 AM	10/3/2024 8:09	5.62	11.21	7.65	0.309	8.91	-126	73.2	
PM	10/3/2024 16:29	5.41	13.10	7.61	0.307	9.20	-102	61.4	
10/4/2024 AM	10/4/2024 7:39	5.61	11.57	7.74	0.304	9.46	-83	64.3	
PM	10/4/2024 14:40	5.23	14.21	7.47	0.289	9.70	-123	53.9	
10/7/2024 AM	10/7/2024 8:45	5.62	11.44	7.71	0.305	10.09	-67	57.9	
PM	10/7/2024 16:12	5.47	11.85	7.66	0.299	9.50	-112	47.9	
10/8/2024 AM	10/8/2024 8:15	5.81	11.24	7.72	0.307	9.43	-48	99.2	
PM	10/8/2024 15:51	5.49	4.62	7.77	0.305	9.74	-87	64.1	
10/9/2024 AM	10/9/2024 7:59	5.84	11.51	7.79	0.306	9.51	-57	79.8	
PM	10/9/2024 16:09	5.47	10.57	7.74	0.308	9.70	-65	57.3	
10/10/2024 AM	10/10/2024 8:04	5.86	11.27	7.76	0.310	9.42	-77	62.1	
PM	10/10/2024 16:12	5.60	11.50	7.71	0.307	9.52	-79	54.2	
10/11/2024 AM	10/11/2024 8:17	5.59	9.81	7.72	0.311	9.62	-35	73.2	
PM	10/11/2024 14:12	5.41	11.27	7.68	0.310	9.47	-43	62.4	
10/14/2024 AM	10/14/2024 8:06	5.30	9.88	6.91	0.320	8.91	-109	50.7	
PM	10/14/2024 14:42	5.21	9.97	6.98	0.320	8.54	-129	56.1	
10/15/2024 AM	10/15/2024 8:17	5.20	9.48	6.74	0.317	8.56	-112	58.5	
PM	10/15/2024 16:11	4.88	10.77	7.20	0.311	9.03	-129	25.6	
10/16/2024 AM	10/16/2024 8:24	5.13	10.61	7.00	0.314	9.27	-114	21.4	
PM	10/16/2024 16:12	4.81	10.80	6.92	0.318	10.19	-122	14.3	
10/17/2024 AM	10/17/2024 8:25	4.84	9.92	7.28	0.321	10.64	-159	39.8	
PM	10/17/2024 16:09	4.71	12.72	7.59	0.317	10.51	-133	39.4	
10/21/2024 AM	10/21/2024 8:20	5.01	10.48	6.76	0.323	12.15	-119	14.2	
PM	10/21/2024 15:12	4.92	12.52	7.14	0.317	11.34	-104	37.5	
10/22/2024 AM	10/22/2024 8:10	5.17	10.51	6.70	0.327	11.12	-121	20.5	
10/23/2024 AM	10/23/2024 8:20	5.17	11.98	6.68	0.329	11.31	-92	3.2	
10/24/2024 AM	10/24/2024 8:22	5.24	10.32	6.61	0.346	11.24	-103	5.4	
PM	10/24/2024 16:10	4.96	11.05	6.98	0.345	11.09	-147	25.1	
10/25/2024 AM	10/25/2024 8:20	5.26	9.09	6.70	0.360	11.04	-107	34.9	
PM	10/25/2024 14:11	4.89	10.65	7.09	0.352	12.24	-112	17.9	
10/28/2024 AM	10/28/2024 8:19	5.32	9.63	6.72	0.357	11.56	-122	27.9	
PM	10/28/2024 15:40	4.96	11.31	7.19	0.348	11.36	-152	15.4	
10/29/2024 AM	10/29/2024 8:10	4.55	10.01	6.77	0.354	10.97	-109	21.30	
PM	10/29/2024 15:40	4.86	11.17	6.99	0.352	10.84	-127	11.40	
10/30/2024 AM	10/30/2024 8:00	4.96	11.80	7.01	0.357	12.98	-101	9.90	

Well ID	PZ-3								Notes
	Start Date & Time	Depth to water (ft)	Temperature (°C)	pH	Conductivity (uS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTUs)	
PM	10/30/2024 15:40	4.90	13.19	7.18	0.360	12.84	-114	14.80	
10/31/2024 AM	10/31/2024 9:15	5.22	14.32	7.37	0.271	11.02	-47	31.9	
PM	10/31/2024 15:40	4.94	15.49	7.89	0.264	11.34	-65	4.70	
11/1/2024 AM	11/1/2024 8:25	5.20	13.83	7.36	0.273	10.26	-25	4.5	
PM	11/1/2024 14:10	5.00	13.10	8.01	0.274	10.34	-56	7.20	
11/4/2024 AM	11/4/2024 8:25	5.27	11.23	7.46	0.292	10.91	-30	28.20	
PM	11/4/2024 16:10	4.94	12.46	8.03	0.284	11.44	-77	9.40	
11/5/2024 AM	11/5/2024 8:24	5.25	13.02	7.32	0.280	11.06	-3	15.2	
PM	11/5/2024 14:40	4.82	14.17	7.84	0.268	12.14	-37	15.4	
11/6/2024 AM	11/6/2024 8:25	5.26	14.15	7.28	0.275	11.66	-1	8.1	
PM	11/6/2024 15:40	4.78	14.24	7.91	0.276	11.84	-7	2.5	
11/7/2024 AM	11/7/2024 8:29	5.29	12.95	7.36	0.285	11.26	-32	11.6	
PM	11/7/2024 15:40	4.89	13.49	7.91	0.280	11.06	-30	5.4	
11/8/2024 AM	11/8/2024 7:54	4.92	11.94	7.54	0.294	10.83	-58	7.6	
PM	11/8/2024 14:10	5.01	13.06	7.97	0.290	11.36	-78	7.5	
11/11/2024 AM	11/11/2024 8:50	5.23	12.54	7.46	0.294	10.72	-50	7	
PM	11/11/2024 15:40	4.81	12.83	7.98	0.288	11.16	-98	1.4	
11/12/2024 AM	11/12/2024 8:24	5.27	10.98	7.47	0.295	10.16	-30	7.3	
PM	11/12/2024 15:40	4.84	12.44	7.76	0.293	10.7	-27	9.9	
11/13/2024 AM	11/13/2024 8:05	5.23	10.84	7.32	0.311	11.35	-92	21.7	
PM	11/13/2024 15:40	4.64	11.95	7.63	0.282	9.78	-23	17.7	
11/14/2024 AM	11/14/2024 8:10	4.98	11.25	7.16	0.287	10.95	-37	57.6	
PM	11/14/2024 15:40	4.67	12.17	7.69	0.290	10.48	-42	31.4	
11/15/2024 AM	11/15/2024 7:55	4.91	11.41	7.24	0.293	10.04	-61	27.8	
PM	11/15/2024 14:10	4.70	12.27	7.71	0.296	10.29	-52	34.6	
11/18/2024 AM	11/18/2024 8:25	5.28	11.84	7.38	0.300	9.79	-48	41.4	
PM	11/18/2024 15:40	4.91	12.49	7.56	0.300	10.38	-64	31.6	
11/19/2024 AM	11/19/2024 8:13	4.99	11.02	7.25	0.300	12.33	-88	52.4	
PM	11/19/2024 15:40	4.89	12.34	7.40	0.292	12.93	-14	45.1	
11/20/2024 AM	11/20/2024 8:10	4.97	11.98	7.36	0.299	12.72	41	75.3	
PM	11/20/2024 15:40	4.83	12.95	7.52	0.282	12.54	40	89.8	
11/21/2024 AM	11/21/2024 7:55	4.96	12.10	7.57	0.301	11.78	52	79.4	
PM	11/21/2024 15:40	4.48	12.51	7.61	0.304	12.01	56	83.2	
11/22/2024 AM	11/22/2024 8:15	3.84	12.01	7.63	0.302	11.59	55	78.4	
PM	11/22/2024 14:40	3.72	12.45	7.65	0.305	11.91	58	90.7	
11/25/2024 AM	11/25/2024 8:20	4.23	12.02	7.72	0.301	11.99	-64	128	
PM	11/25/2024 15:40	3.96	12.26	7.78	0.296	12.30	-119	185	
11/26/2024 AM	11/26/2024 8:25	3.98	12.21	7.76	0.299	12.17	-101	191	
PM	11/26/2024 15:40	4.03	11.93	7.73	0.297	12.33	-82	220	
11/27/2024 AM	11/27/2024 8:10	4.11	9.84	7.74	0.293	11.91	-104	171	
PM	11/27/2024 12:10	4.17	10.71	7.75	0.295	11.73	-129	159	
12/2/2024 AM	12/2/2024 9:40	4.64	8.91	7.73	0.297	11.84	-134	171	
PM	12/2/2024 15:10	4.32	9.40	7.76	0.300	12.19	-139	164	
12/3/2024 AM	12/3/2024 8:30	4.65	9.02	7.78	0.302	11.99	-142	135	
PM	12/3/2024 15:10	4.52	9.37	7.49	0.298	12.48	-147	142	
12/4/2024 AM	12/4/2024 8:25	4.25	9.23	7.92	0.299	12.71	-152	150	
PM	12/4/2024 15:10	4.20	9.51	7.84	0.301	12.58	-160	137	
12/5/2024 AM	12/5/2024 8:20	4.26	9.21	7.86	0.305	11.97	-168	12.8	

Well ID	PZ-4								Notes
	Start Date & Time	Depth to water (ft)	Temperature (°C)	pH	Conductivity (uS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTUs)	
Baseline	9/13/2024 8:20	7.35	13.78	7.93	0.329	1.4	-63.3	107.3	
Baseline	9/13/2024 8:25	7.38	13.28	7.88	0.322	0.76	-84.2	89.4	
Baseline	9/13/2024 8:30	7.4	12.73	7.89	0.323	0.58	-106.1	79.8	
Baseline	9/13/2024 8:35	7.41	12.68	7.89	0.322	0.57	-114.3	59.7	
Baseline	9/13/2024 8:40	7.41	12.76	7.9	0.321	0.56	-126.4	47.4	
Baseline	9/13/2024 8:45	7.41	12.84	7.9	0.321	0.54	-124.1	28.2	
Baseline	9/13/2024 8:50	7.41	12.94	7.91	0.321	0.51	-123.3	16.4	
Baseline	9/13/2024 8:55	7.41	12.91	7.91	0.321	0.5	-121.6	16.9	
Baseline	9/13/2024 9:00	7.41	12.87	7.92	0.32	0.49	-119.4	16	
9/19/2024 AM	9/19/2024 10:32	4.73	16.32	6.78	0.316	9.18	-68	7.3	
PM	9/19/2024 16:46	4.66	16.52	7.25	0.296	8.77	-73	13.1	
9/20/2024 AM	9/20/2024 7:59	4.81	13.89	7.45	0.308	8.76	-27	15.2	
PM	9/20/2024 16:39	4.98	15.41	7.41	0.300	9.10	-72	10.5	
9/23/2024 AM	9/23/2024 8:05	4.90	14.77	7.55	0.305	9.18	-22	5.4	
PM	9/23/2024 16:52	4.62	14.34	7.57	0.301	9.24	-42	8.7	
9/24/2024 AM	9/24/2024 7:42	4.71	12.56	7.61	0.304	9.58	-124	7.7	
PM	9/24/2024 0:00	4.13	14.71	7.52	0.305	8.75	-18	17.7	
9/25/2024 AM	9/25/2024 8:34	4.68	13.79	7.56	0.308	8.52	-3	11.5	
PM	9/25/2024 16:09	4.15	13.49	7.58	0.304	9.12	-44	12.2	
9/26/2024 AM	9/26/2024 9:07	4.38	14.21	7.49	0.310	9.27	-7	12.4	
PM	9/26/2024 17:10	3.81	16.04	7.45	0.305	8.80	9	17	
9/27/2024 AM	9/27/2024 8:30	4.19	14.92	7.46	0.306	8.29	-70	18	
PM	9/27/2024 15:00	4.25	17.72	7.27	0.298	8.07	-41	12.6	
9/30/2024 AM	9/30/2024 8:15	4.22	14.83	7.65	0.303	9.07	-91	8.4	
PM	9/30/2024 16:34	4.16	17.46	7.65	0.290	9.35	-134	10.3	
10/1/2024 AM	10/1/2024 8:20	4.32	12.44	7.70	0.302	9.54	-171	10.4	
PM	10/1/2024 16:24	4.12	14.79	7.71	0.297	9.28	-163	13.8	
10/2/2024 AM	10/2/2024 8:06	4.40	12.35	7.76	0.301	9.51	-141	47.9	
PM	10/2/2024 16:37	4.36	13.75	7.61	0.305	9.22	-102	51.6	
10/3/2024 AM	10/3/2024 8:04	4.42	11.11	7.66	0.308	8.93	-115	33.2	
PM	10/3/2024 16:24	4.21	13.48	7.62	0.303	9.05	-127	41.2	
10/4/2024 AM	10/4/2024 7:34	4.46	13.41	7.70	0.312	8.57	-65	37.6	
PM	10/4/2024 14:36	4.19	15.01	7.62	0.286	9.21	-159	43.4	
10/7/2024 AM	10/7/2024 8:41	4.62	12.00	7.75	0.305	10.04	-60	29.1	
PM	10/7/2024 16:08	4.27	12.59	7.69	0.302	9.38	-92	24	
10/8/2024 AM	10/8/2024 8:11	4.60	11.67	7.72	0.312	9.25	-1	101.4	
PM	10/8/2024 15:47	4.29	13.31	7.68	0.309	9.47	-53	167	
10/9/2024 AM	10/9/2024 7:54	4.61	11.84	7.71	0.315	9.17	-24	172	
PM	10/9/2024 16:05	4.34	11.17	7.72	0.313	9.73	-86	37.8	
10/10/2024 AM	10/10/2024 8:00	4.60	11.71	7.74	0.311	9.34	-71	47.4	
PM	10/10/2024 16:07	4.46	11.80	7.69	0.308	9.74	-64	44.8	
10/11/2024 AM	10/11/2024 8:12	4.40	10.50	7.67	0.313	9.41	13	71.5	
PM	10/11/2024 14:08	4.23	14.27	7.70	0.310	9.35	17	52.4	
10/14/2024 AM	10/14/2024 8:10	4.14	9.41	6.79	0.329	9.13	-68	83.4	
PM	10/14/2024 14:46	3.96	9.52	6.94	0.321	8.89	-44	120	
10/15/2024 AM	10/15/2024 8:13	3.98	9.33	6.68	0.334	8.63	-50	139	
PM	10/15/2024 16:06	3.67	11.13	7.17	0.314	9.15	-113	50.8	
10/16/2024 AM	10/16/2024 8:20	3.92	10.97	6.94	0.320	9.31	-102	74.9	
PM	10/16/2024 16:07	3.63	11.09	6.89	0.324	10.13	-83	127	
10/17/2024 AM	10/17/2024 8:20	4.03	9.92	7.22	0.392	10.53	-159	72	
PM	10/17/2024 16:05	3.94	12.14	7.39	0.314	9.89	-25	106	
10/21/2024 AM	10/21/2024 9:15	3.92	10.67	6.67	0.326	11.90	-104	121	
PM	10/21/2024 15:07	3.84	12.38	6.94	0.321	10.78	-91	107	
10/22/2024 AM	10/22/2024 8:05	4.00	10.72	6.70	0.338	10.94	-97	136	
10/23/2024 AM	10/23/2024 8:15	4.01	12.10	6.74	0.336	11.06	-24	99.5	
10/24/2024 AM	10/24/2024 8:16	4.09	10.43	6.77	0.350	11.09	-153	137	
PM	10/24/2024 16:05	3.80	10.89	7.02	0.350	11.30	-112	86.9	
10/25/2024 AM	10/24/2024 8:15	4.12	9.26	6.81	0.373	10.66	-68	123	
PM	10/25/2024 14:06	3.96	10.49	7.28	0.359	11.39	-102	31.5	
10/28/2024 AM	10/28/2024 8:15	4.15	9.72	6.84	0.368	11.09	-95	15.4	
PM	10/28/2024 15:35	3.78	11.57	7.31	0.349	12.10	-152	11	
10/29/2024 AM	10/29/2024 8:06	3.69	10.94	6.82	0.351	10.97	-72	9.8	
PM	10/29/2024 15:35	3.70	11.21	7.20	0.358	11.24	-104	12.9	
10/30/2024 AM	10/30/2024 8:05	3.73	12.20	6.88	0.359	13.57	-56	6.9	

Well ID	PZ-4								Notes
	Start Date & Time	Depth to water (ft)	Temperature (°C)	pH	Conductivity (uS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTUs)	
PM	10/30/2024 15:36	3.73	13.57	6.90	0.363	11.41	-35	4.8	
10/31/2024 AM	10/31/2024 9:10	4.09	14.27	7.17	0.275	10.63	8	22.6	
PM	10/31/2024 15:35	3.76	15.29	7.87	0.308	10.43	13	41.1	
11/1/2024 AM	11/1/2024 8:21	4.04	14.27	7.23	0.274	10.13	-26	66.6	
PM	11/1/2024 14:05	3.91	13.35	7.97	0.276	10.49	-49	103	
11/4/2024 AM	11/4/2024 8:20	4.10	11.27	7.16	0.288	10.55	-26	87.7	
PM	11/4/2024 16:05	3.78	12.36	7.88	0.283	11.62	-101	203	
11/5/2024 AM	11/5/2024 8:20	4.11	13.05	7.10	0.281	11.14	12	161	
PM	11/5/2024 14:35	3.74	14.27	7.88	0.263	11.61	-73	260	
11/6/2024 AM	11/6/2024 8:20	4.11	14.68	7.13	0.276	11.66	24	252	
PM	11/6/2024 15:35	3.61	15.03	7.90	0.273	11.53	-40	131	
11/7/2024 AM	11/7/2024 8:25	4.11	13.61	7.17	0.338	10.12	12	80.4	
PM	11/7/2024 15:35	3.76	14.64	7.91	0.278	10.69	-47	45.6	
11/8/2024 AM	11/8/2024 7:50	3.85	11.92	7.36	0.300	10.88	-48	45.8	
PM	11/8/2024 14:05	3.86	13.19	7.93	0.287	11.51	-78	99.6	
11/11/2024 AM	11/11/2024 8:45	4.08	12.36	7.30	0.296	10.80	-24	32.9	
PM	11/11/2024 15:35	3.71	12.98	7.96	0.288	11.48	-80	138	
11/12/2024 AM	11/12/2024 8:20	4.11	10.21	7.28	0.297	10.53	6	103	
PM	11/12/2024 15:35	3.65	11.58	7.78	0.293	11.34	36	93.4	
11/13/2024 AM	11/13/2024 8:00	4.13	9.31	7.34	0.313	12.08	-57	42.9	
PM	11/13/2024 15:33	3.63	11.67	7.51	0.283	9.82	-9	34.2	
11/14/2024 AM	11/14/2024 8:05	4.06	10.45	6.90	0.292	11.38	-28	138	
PM	11/14/2024 15:35	3.55	11.71	7.45	0.297	10.94	-31	79.7	
11/15/2024 AM	11/15/2024 7:50	3.99	11.21	6.99	0.299	9.97	-17	94.1	
PM	11/15/2024 14:05	3.60	12.01	7.51	0.301	10.48	-36	104.8	Slight white
11/18/2024 AM	11/18/2024 8:20	4.15	11.84	7.14	0.302	10.14	-35	97.9	Slight white
PM	11/18/2024 15:35	3.79	12.17	7.48	0.303	10.61	-40	110.4	Slight white
11/19/2024 AM	11/19/2024 8:10	3.85	10.55	7.12	0.302	11.69	-83	391	Slight white
PM	11/19/2024 15:35	3.57	11.12	7.46	0.299	12.04	140	944	White
11/20/2024 AM	11/20/2024 8:05	3.36	11.15	7.26	0.404	12.36	133	>1000	White
PM	11/20/2024 15:35	3.71	12.54	7.56	0.680	12.71	151	>1000	White
11/21/2024 AM	11/21/2024 7:50	3.67	12.21	7.60	0.700	11.74	157	>1000	White
PM	11/21/2024 15:35	3.34	12.60	7.62	0.724	11.81	160	>1000	White
11/22/2024 AM	11/22/2024 8:10	2.83	12.04	7.49	0.749	10.98	141	>1000	White
PM	11/22/2024 14:35	2.75	12.49	7.60	0.794	11.71	168	>1000	White
11/25/2024 AM	11/25/2024 8:15	3.13	12.01	7.49	0.720	12.24	-101	>1000	White
PM	11/25/2024 15:35	2.52	12.25	7.35	0.617	12.41	-153	>1000	White
11/26/2024 AM	11/26/2024 8:20	2.60	11.01	7.43	0.611	12.84	-133	>1000	White
PM	11/26/2024 15:35	2.96	11.16	7.50	0.604	13.34	-108	>1000	White
11/27/2024 AM	11/27/2024 8:05	3.08	10.07	7.56	0.520	12.61	-113	>1000	White
PM	11/27/2024 12:05	3.14	10.34	7.64	0.471	12.06	-122	>1000	White
12/2/2024 AM	12/2/2024 9:35	3.56	8.89	7.67	0.394	11.24	-128	>1000	White
PM	12/2/2024 15:05	3.39	9.41	7.69	0.378	11.93	-130	>1000	White
12/3/2024 AM	12/3/2024 8:25	3.57	9.02	7.70	0.354	12.82	-133	854	White
PM	12/3/2024 18:03	3.45	9.48	7.72	0.348	11.87	-140	793	White
12/4/2024 AM	12/4/2024 8:20	3.37	9.14	7.74	0.350	12.04	-144	894	White
PM	12/4/2024 15:05	3.34	9.57	7.76	0.356	12.56	-151	487	White
12/5/2024 AM	12/5/2024 8:15	3.38	9.21	7.77	0.360	12.09	-154	372	White