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Date: July 30, 2025
Our Ref: 30275629
Subject: Semi-Annual Progress Report – January-June 2025
Revitalizing Auto Communities Environmental Response (RACER) Trust
Buick City Site, Flint, Michigan

Dear Mr. Pepin,

On behalf of Revitalizing Auto Communities Environmental Response (RACER) Trust, Arcadis of Michigan, LLC (Arcadis) is submitting this Semi-Annual Progress Report January-June 2025 to the Michigan Department of Environment, Great Lakes, and Energy (EGLE) for the Buick City Site located in Flint, Michigan (the Site) (**Figure 1**). This report is submitted in accordance with the requirements of Section 8.9.3 of the Corrective Action Consent Order (CACO), Materials Management Division (MMD) Order No. 111-02-2020, which became effective on August 5, 2020.

This Semi-Annual Progress Report January-June 2025 covers the period of January 1, 2025, through June 30, 2025, and summarizes the work performed, data collected, problems encountered, project schedule, and estimated percent complete for a list of ongoing Site activities. Areas of the Site and specific Site features discussed herein are presented on **Figure 2** (Northend Work Areas) and **Figure 3** (Southend Work Areas).

Work Performed

The list below provides a summary of the work conducted from January 1, 2025, through June 30, 2025. Site work included collecting approximately 12 groundwater samples and 26 storm/sanitary sewer samples and included the following activities:

Compliance

- In January, the P-traps associated with the Leith Street underpass French drain (which discharges into the Outfall 005 storm sewer) were inspected.
- Completed monthly inspections of select surface cover areas during redevelopment activities in January, February, and March. The inspections of surface cover areas was then reduced to quarterly due to reduced redevelopment activities occurring and was completed in May 2025 for second quarter 2025.
- Monthly Discharge Monitoring Reports (DMRs) were completed in January, February, March, and April as required by the National Pollutant Discharge Elimination System (NPDES) permit.
- On April 27, 2025 an administrative consent order (ACO) was finalized with the Water Resources Department (WRD). The Site's NPDES permit was superseded by the ACO.
- The final NPDES Pollution Minimization Program (PMP) report was submitted to EGLE on May 15, 2025.
- In April, May and June inspections and boom maintenance (as necessary) for Outfalls 003 and 005 were completed as required by the ACO. Additionally, visual observations of the booms at Outfalls 003 and 005 were completed following each qualifying wet weather event.
- A total of 142 waste drums were removed from the Site by Crystal Clean of Grand Rapids, Michigan and taken to a licensed disposal facility on May 15th, 2025.
- Based on the May 14th, 2025 EGLE discussion regarding Site maintenance conditions, Site maintenance activities, monitoring well inventory of select wells, and items to be addressed were completed in June 2025. Status of Site maintenance activities was provided to EGLE during the June 11th, 2025 update meeting. Additional Site maintenance activities are ongoing.

Remedy Design, Implementation, and OMM

- On February 20, 2025, a Work Plan was submitted to EGLE for completion of additional sampling within the Industrial Avenue sanitary line.
- In April (note: on EGLE update slides it was indicated as March inadvertently), May, and June 2025, samples were collected from select sanitary sewer manholes located along Industrial Avenue to evaluate the concentration of per- and polyfluoroalkyl substances (PFAS). This additional sampling was conducted following detection of PFAS by the City of Flint during routine sampling in March 2024. The City of Flint also completed video activities of portions of the Industrial Avenue sanitary sewer.
- In April, baseline groundwater elevations were collected from select monitoring wells in the area of

Hamilton Avenue in preparation for temporary plugging activities of manhole MH H-1A.

- The temporary plugging of Hamilton Avenue sanitary sewer manhole MH H-1A was completed in May 2025.
 - o Following the installation of the temporary plugs, daily inspections were completed for one week (May 9-16, 2025), then weekly inspection and gauging of monitoring wells in the area and gauging after significant rain events has been ongoing.
 - o Sampling of select sanitary sewer manholes was completed on May 16, 2025, following the installation of the temporary plug.
- In April, a meeting was conducted between RACER Trust and the City of Flint to discuss the Outfall 011 reroute plans. In June, bid solicitation and review was completed for the Outfall 011 reroute.
- EGLE update meetings were held the following days –
 - o January 22nd, February 5th and 19th, March 5th and 19th, and April 16th- discussed project status.
 - o April 30th, 2025 – An update on Hamilton and Industrial sanitary sewer, Outfall 011 re-route, Short Term Construction Monitoring (STCM) data submittal, the ACO, 2024 STCM Summary Submittal and the digital Conceptual Site Model (CSM) were discussed.
 - o May 14th, 2025 – Additional updates communicated relating to tasks outlined during the April meeting.
 - o June 11th, 2025 – An update on Hamilton and Industrial sanitary sewer, summary and conclusions of the Tracer Test conducted at the Site, and Site maintenance progress update were discussed.
- During May-June, a digital (dCSM) was created in an effort to visualize overall soil and groundwater impacts across the Site to aid in future evaluation and investigation efforts at the Site.

Redevelopment

- The 2024 STCM Summary Report was finalized and submitted to EGLE in June 2025.
- STCM sampling events were completed in March and June 2025 and consisted of collecting groundwater samples from six monitoring wells and samples from three manholes/storm sewer structures. During the March event, the East P-trap was inaccessible and thus, not sampled. The summary memo for the March 2025 STCM event is presented in Attachment 1. The summary memo for the June and September STCM events will be included in the next semi-annual report.

Data Collected

The samples collected as part of Site investigation or monitoring activities during this reporting period are presented below.

Groundwater Samples

Groundwater samples were collected at the Site as part of various investigation and/or monitoring activities as follows:

Month	Factory Area	Number of Samples	Number of Locations	Analytes
March	STCM	6	6	PAL VOCs, PAL SVOCs, PAL Metals (dissolved and total), PFAS
June	STCM	6	6	PAL VOCs, PAL SVOCs, PAL Metals (dissolved and total), PFAS

Storm and Sanitary Sewer Water Samples

Samples were collected from multiple storm/sanitary sewers and analyzed as part of various investigation and/or monitoring activities at the Site, as follows:

Month	Storm Sewer Sample Location	Number of Samples	Analytes
March	Outfall 005 West P-trap	1	PAL VOCs, PAL SVOCs, PAL Metals (dissolved and total), PFAS
March	MH 3-9	1	Low Level Mercury, PCBs, PAL VOCs, PAL SVOCs, PAL Metals (dissolved and total), PFAS
June	Outfall 005 West and East P-traps	2	PAL VOCs, PAL SVOCs, PAL Metals (dissolved and total), PFAS
June	MH 3-9	1	Low Level Mercury, PCBs, PAL VOCs, PAL SVOCs, PAL Metals (dissolved and total), PFAS

Month	Sanitary Sewer Sample Locations	Number of Samples	Analytes
April	MH H-3 MH IE-4 MH IE-5 MH IW-6 MH IW-8 MH J-4	6	PFAS
May	MH H-3 MH IE-4 MH IE-5 MH IW-6 MH IW-8 MH J-4 MH E MH E-1 MH H	9	PFAS
June	MH H-3 MH IE-4 MH IE-5 MH IW-6 MH IW-8 MH J-4	6	PFAS

Problems Encountered

Sanitary Sewer Issue

During the sanitary sewer sampling completed along Industrial Avenue in April, May, and June, MH-IE-13 could not be located and no samples were collected. Also, at the location where MH-IW-9 was expected, a manhole was found; however, it was determined not to be part of the sanitary line. This conclusion was based on the presence of a storm manhole lid and the misalignment of its pipes with the surrounding sanitary lines. No samples were collected at this location.

Outfall 005

During an inspection of Outfall 005 on June 23 after a rain event it was discovered the containment boom was tangled and the absorbent boom needed to be replaced. Water was identified as clear. Youngs Environmental was contacted and the containment boom was fixed on June 24th, 2025 along with the replacement of the absorbent boom.

Monitoring Well Inventory

During the June well inventory, the following issues were identified:

- RFI-16-01: The flush-mount lid is broken.
- RFI-16-10: The flush-mount lid is missing.
- SB-04-118(18-23) and SB-04-118(6-11): The stick-up PVC casing is broken, and the wells are filled with dirt and debris.
- SB-04-137(8-28): The well could not be located.
- SB-04-86(15-20) and SB-04-86(5-10): The stick-up PVC casing is bent and broken at ground level.
- SB-04-94(4-9), SB-04-94(10-15), SB-04-94(19-24), and SB-04-94(23-28): The stick-up PVC casing is bent at ground level.
- Please note in regard to damaged monitoring wells, a determination will be made for repair, replacement, or abandonment following evaluation of Site data within these areas of the Site.

Project Schedule

Near-Term Milestone Activities Anticipated During the Next Semi-Annual Period

Proposed Site work for the third and fourth quarters of 2025 include the following activities:

- Temporary plugging of two inverts in manhole MH E-1 in Hamilton Avenue and subsequent monitoring/evaluation
- Sampling of select sanitary manholes along Hamilton Avenue and James P. Cole Boulevard
- Sampling of select sanitary manholes along Industrial Avenue and evaluation of data collected to determine additional sampling/investigation needed
- Further evaluation of groundwater considerations associated with the Outfall 011 reroute activities
- Submittal of ACO and Outfall 011 Reroute Budget Amendment for EGLE review and approval
- Focused EGLE meetings to discuss Bulkhead Inspections, including discussion of Outfall 010; Vapor Intrusion Pathway, and Site Declaration of Restrictive Covenant Updates
- Submittal of Bulkhead Inspection Report and Tracer Study Report
- Submittal of 761.61 Report following completion of Ashley Capital's activities at the Site
- Collection of a dry and wet weather sample from outfalls in preparation for generation of the Discharge Priority List as required by the ACO
- Visual inspections of Outfall 003 and Outfall 005 following qualifying rain events

- Gathering data and preparing preliminary drafts of upcoming reports required by the ACO
- Sampling required by the WRD ACO is not anticipated until January 2026
- Developing and submitting the 2026 annual budget for EGLE review and approval

Estimated Percent Complete

This section presents a percentage complete for action items outlined in the CACO and ACO:

CACO

- Reconcile List of AOIs, AOCs, TSCA areas, etc. (Nov 3, 2020) – 100%
- Meeting with EGLE to discuss CA objectives, expectations, etc. (August 20, 2020) -100%
- Establish public document repository (September 4, 2020) – 100%
- Public Involvement/Communications Plan (September 4, 2020) – 100%
- Corrective Action Framework (Nov 3, 2020) – 100%
- List of electronic files submitted to EGLE (February 1, 2021) – 100%
- Semi-annual progress reports – ongoing
- Need to identify investigation, further corrective action or EGLE approved institutional control for WMU 2, WMU 3, WMU 4, WMU 5, WMU 7 and WMU 10 – 100%
- RACER and EGLE to schedule a meeting to discuss CACO requirements and compliance

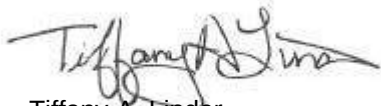
ACO

- Boom Inspections of Outfall 003 and 005 following qualifying wet events – ongoing
- Discharge Point Priority List (Due January 27, 2026) – 10%
- Twice-Year Sampling (wet and dry weather) of discharge points and Industrial Storm Water Visual Assessment Form following completion of EGLE Study – 0%
- Interim Corrective Action Plan (ICAP) (Due February 28, 2026) – 0%

Should you have any questions on the information provided within this progress report, please feel free to contact Brendan Mullen with RACER Trust at bmullen@racertrust.org 201-247-4890 or me at the below referenced contact information.

Mr. Jeremy Pepin
EGLE
July 30, 2025

Sincerely,
Arcadis of Michigan, LLC

A handwritten signature in black ink, appearing to read "Tiffany A. Linder". The signature is fluid and cursive, with the first name "Tiffany" being more prominent.

Tiffany A. Linder
Certified Project Manager

Email: tiffany.linder@arcadis.com
Direct Line: 810 225 1928

CC. Brendan Mullen, RACER Trust
Evin Maguire, EGLE
Shaun Shields, EGLE

Enclosures:

Figure 1 –Site Location Map

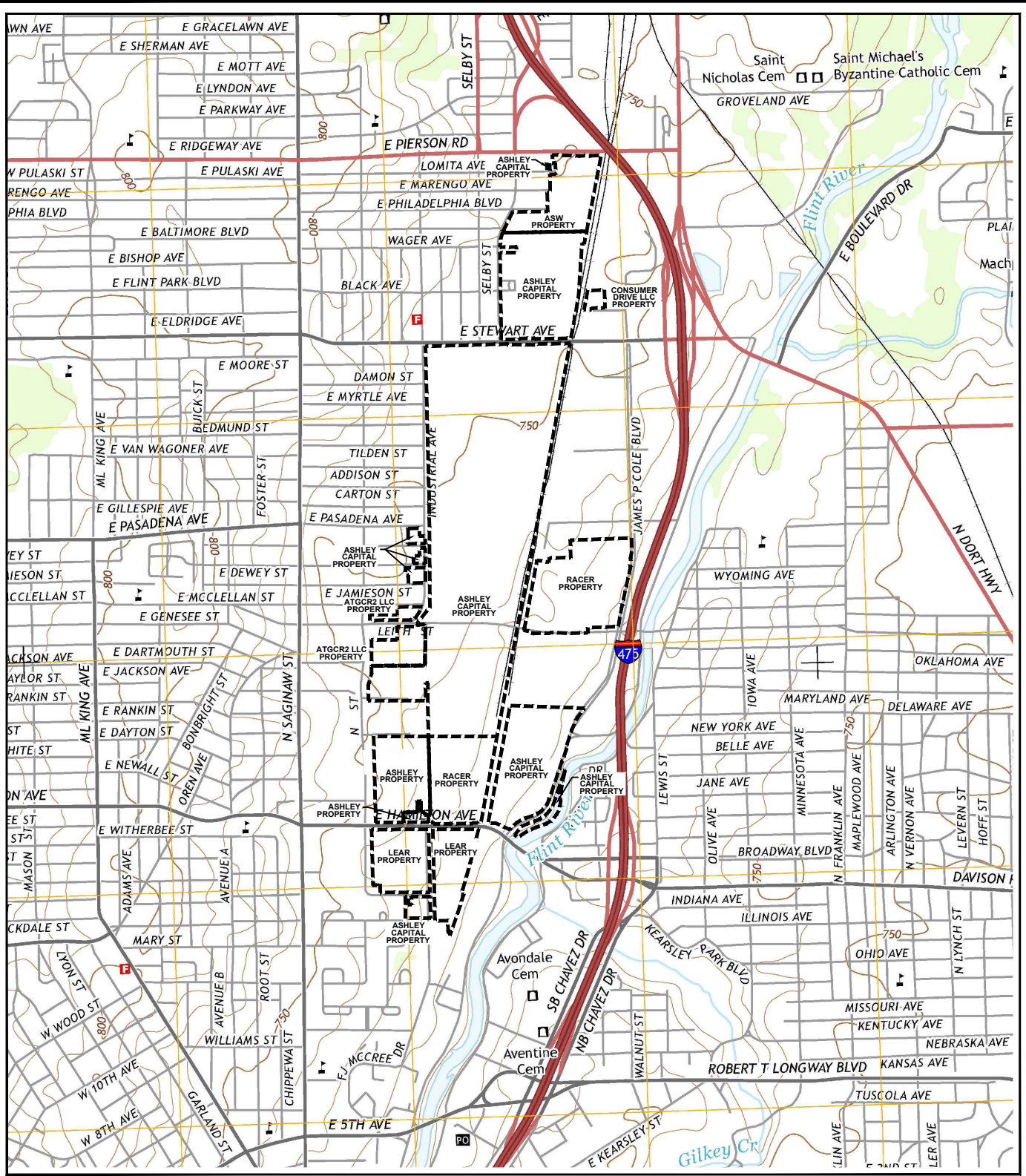
Figure 2 – Northend Work Areas

Figure 3 – Southend Work Areas

Attachment 1 – March 2025 STCM Memo

FIGURES

CITY: SYRACUSE, NY DIV: GROUP: ENV DBA: SANCHEZ, LD: GMS PIC: C. KIKER, TM: C. KIKER, LY: (OPTIONAL) OFF: REF
 C:\Users\B55m\OneDrive\Arcadis\ACC\USA\US-99999999-RACER, BUICK CITY, FLINT, MI\Project Files\10_WIP\107_ARC_ENV\202401-DWG\RTBC-F-SITE LOCATION.dwg LAYOUT: 1 SAVED: 5/20/2024 8:35 AM ACADVER: 24.28 (LMS TECH) PAGES: 1 PLOT: 6/6/2024 8:51 AM BY: SMALL, BRIAN
 XREFS: IMAGES: PROJECTNAME: MI_Flint_North.jpg



SOURCE: USGS 7.5 MIN., FLINT NORTH QUADRANGLE, FLINT NORTH 2014



AREA LOCATION
 MICHIGAN

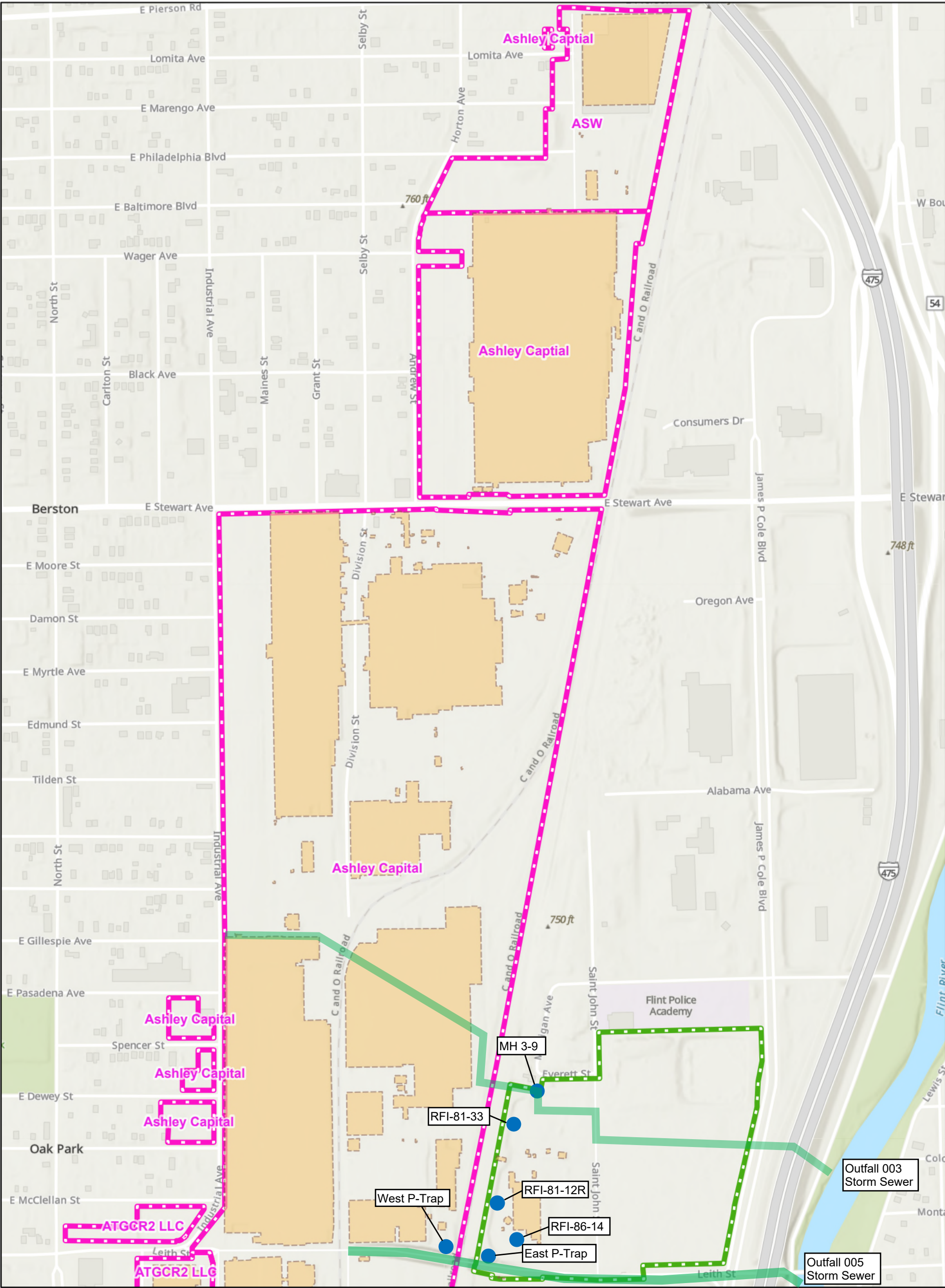


RACER TRUST
 BUICK CITY
 FLINT, MICHIGAN

SITE LOCATION MAP

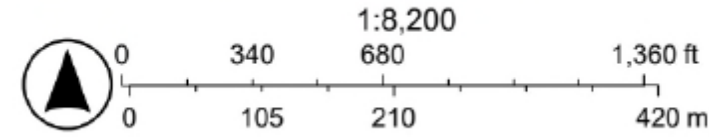


FIGURE
 1



LEGEND

- Former Building Footprints
- Current Racer-owned Properties
- Former Racer-owned Properties

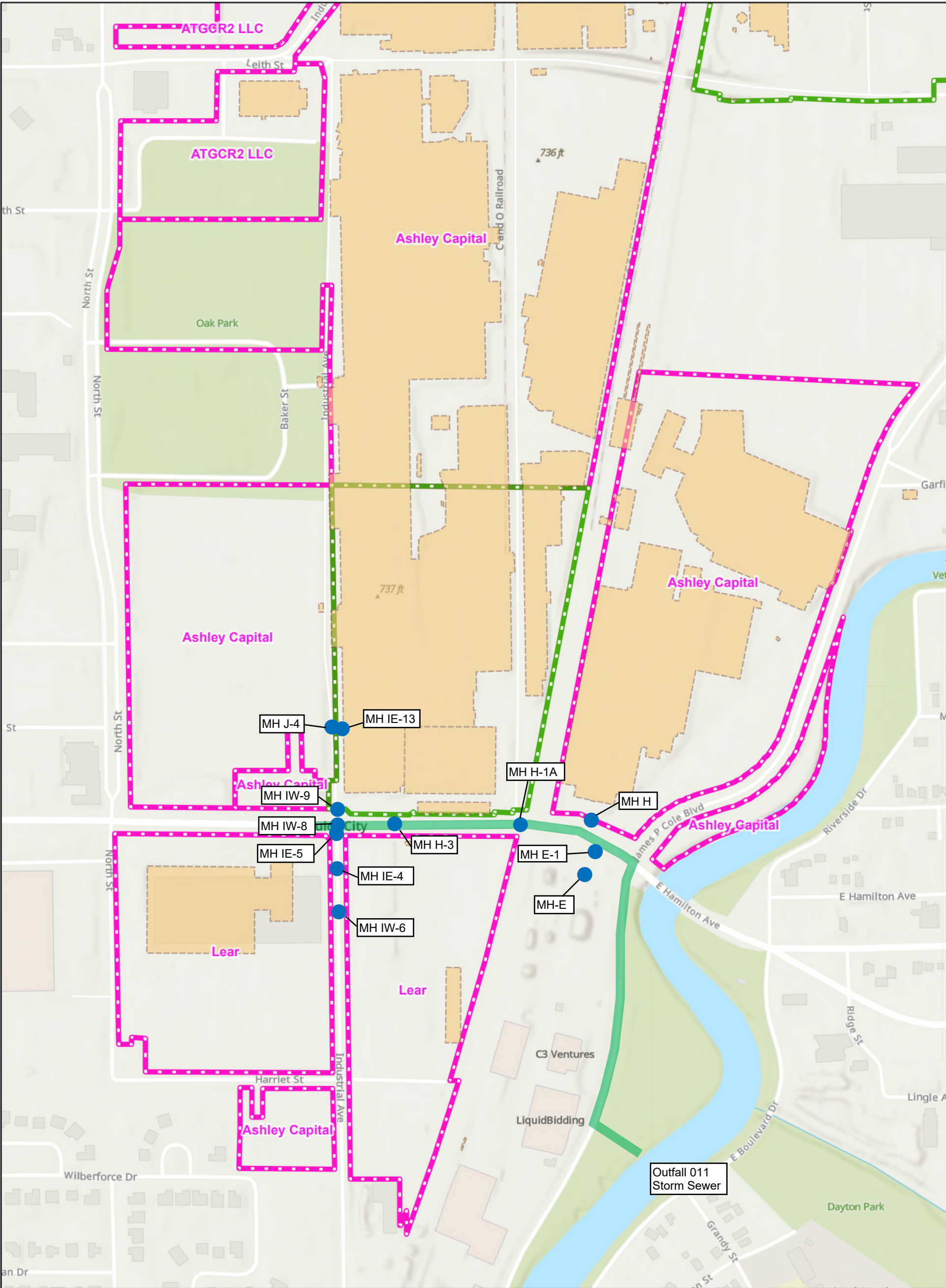


RACER TRUST
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FLINT, MICHIGAN

NORTHEND WORK AREAS

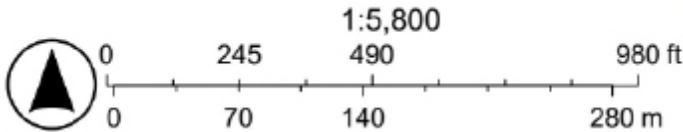
ARCADIS

FIGURE
2



LEGEND

- Former Building Footprints
- Current Racer-owned Properties
- Former Racer-owned Properties



RACER TRUST
BUICK CITY
FLINT, MICHIGAN

SOUTHEND WORK AREAS

FIGURE
3

ATTACHMENT 1

March 2025 STCM Sampling Event Update

SUBJECT

March 2025 STCM Sampling Event Update
RACER Buick City Site
Flint, Michigan

TO

Jeremy Pepin, EGLE
Evin Maguire, EGLE
Shaun Shields, EGLE

DATE

July 30, 2025

DEPARTMENT

Environment

PROJECT NUMBER

30275629

COPIES TO

Brian Zuber, EGLE
Patrick Curry, Arcadis
Micki Maki, Arcadis
Brendan Mullen, RACER Trust
Project File

FROM

Tiffany Linder, Arcadis
Tiffany.Linder@arcadis.com, 810-225-1928

The Short-Term Construction Monitoring (STCM) Plan at the Revitalizing Auto Communities Environmental Response (RACER) Trust Buick City Site (Site) was submitted to the Michigan Department of Environment, Great Lakes, and Energy (EGLE) on April 7, 2023 as the Short-Term Slab Construction Groundwater Monitoring Plan. EGLE provided comments to the STCM Plan on July 6, 2023 and a response to comments was provided to EGLE on July 11, 2023. An updated STCM Plan was submitted to EGLE on March 13, 2024. The STCM was established to assess whether construction activities associated with ongoing redevelopment by Ashley Capital LLC in a 65-acre area north of Leith Street have caused a material change in site conditions that may require a response. This update summarizes sampling information from the March 2025 quarterly sampling event and the conclusion that no evidence of a material change in Site conditions has been identified.

In March 2025, post-construction STCM samples were collected from two storm sewer structures servicing the 65-acre parcel, one manhole associated with Outfall 003 storm sewer, and six monitoring wells downgradient of the 65-acre parcel (**Figure 1**). This memo evaluates the results of the March 2025 and the December 2024 STCM sampling events in comparison to the baseline STCM samples to monitor for increasing trends, as discussed in Section 1, below. The baseline STCM samples were collected north of Leith Street during four sampling events completed in May 2023, August 2023, November 2023, and January 2024, prior to the beginning of redevelopment construction activities at the Site. The redevelopment construction activities began at the 65-acre parcel located north of Leith Street in May 2024.

1. Data Evaluation

The evaluation of the groundwater data will follow the April 7, 2023 “Short-Term Slab Construction Groundwater Monitoring Plan” work plan prepared by Arcadis of Michigan, LLC (Arcadis) and will include:

- Evaluating groundwater elevations to monitor changes in elevations and/or flow directions as a result of the change in surface cover due to redevelopment activities.
- Comparing the analytical results to the baseline concentrations and to the relevant Part 201 criteria. Please note that at the time the work plan was written only one round of baseline samples was planned. However, four rounds of baseline samples were ultimately collected. As such the minimum and average baseline concentrations are shown but the maximum detected baseline concentration is being used for the comparisons discussed below.

- o If the concentration of a constituent of concern (COC) increases by 25% (from the baseline sample) and/or increases to exceed the relevant Part 201 criteria in two consecutive samples then additional downgradient well(s) will be identified and added to the monitoring network.
- o If the downgradient well shows an increasing COC trend and exceeds the relevant Part 201 criteria, then relevant pathways will be evaluated to assess if any risks are present and need to be addressed.
- In the event that a significant increase in COC concentrations or new exceedances of Part 201 criteria are identified during slab removal/construction activities, quarterly sampling will continue for up to one year after the cover is replaced over the restricted areas. However, if the concentrations of COC are stable or decreasing during slab removal/construction activities, then no monitoring will be continued following installation of the new surface cover.

To the extent that groundwater at the Site infiltrates the storm sewers on-Site groundwater surface water interface (GSI) is the only relevant pathway because groundwater is not used for drinking water, and the Flint River is neither a drinking water supply source nor a backup drinking water supply source. Note that for a number of metals, the GSI criteria is based on the hardness of the receiving water body, in this case the Flint River. A hardness concentration of 280 milligrams per liter (mg/L) for the Flint River was used based on past sampling studies.

Due to the small dataset available, the minimum, maximum and average concentration of the four (4) baseline samples were used for comparison of the compounds detected during the December 2024 and March 2025 sampling events. Note that for the purpose of calculating baseline averages, non-detects were represented by using half of the associated reporting limit. As additional data is collected, alternative methods for comparison of baseline to post-construction data may be evaluated.

2. Groundwater Level Evaluation

A summary of the groundwater elevations measured during the baseline, December 2024, and March 2025 sampling events is presented in **Table 1**. The elevations measured during the December 2024 and March 2025 events are generally similar to and lower than the elevations measured during baseline events. The lower elevations may be influenced by the dewatering operations being conducted as part of redevelopment activities.

3. STCM Storm Sewer Sample Evaluation

During the March 2025 sampling event two samples were collected from storm sewer structures (**Table 2**). One sample was collected at manhole MH 3-9 associated with the Outfall 003 storm sewer and a sample was collected from the West P-Trap, which is associated with the Outfall 005 storm sewer system. The East P-Trap was inaccessible during the March 2025 sampling event (this was due to tenant activities which have now been resolved to allow for future sampling). **Tables 3A and 3B** present summaries of the analytes detected during the March 2025 sampling event, the results from the December 2024 event, the minimum and average baseline concentrations, and the maximum baseline concentration for comparison. Bolded results indicate an exceedance of GSI criteria. All analytical data is provided in the laboratory analytical reports in **Attachment 1**.

Please note that MH 3-9 was added to the baseline STCM program in June 2024 at EGLE's request; therefore, the June 2024 sample is the only baseline sample for this location.

3.1 Outfall 003 - Manhole MH 3-9 Summary

A summary of the analytes detected at MH 3-9 during the March 2025 sampling event compared to the results of the December 2024 event and the baseline sample are presented in **Table 3A** and discussed below. All data is presented in **Table 2** and laboratory analytical reports are provided in **Attachment 1**.

- In general, the March 2025 and December 2024 results at MH 3-9 are less than or approximately the same as the results from the baseline sample and no increasing trends were observed.
- Due to the historic presence of mercury in the Outfall 003 storm sewer, the December 2024 and March 2025 samples were analyzed using United States Environmental Protection Agency (USEPA) Method 1631 for low-level mercury analysis. Mercury was detected at a concentration exceeding the GSI criteria during both the December 2024 and March 2025 events; however, the detections were lower than the baseline sample.
- The August and December 2024 STCM Sampling Event Update (dated June 9, 2025) noted that arsenic and zinc were both detected at concentrations greater than 25% of the baseline concentration in the August and December 2024 samples; however, neither analyte was detected at MH 3-9 during the March 2025 event.
- No per- and polyfluoroalkyl substance (PFAS) compounds were detected above GSI criteria in the March 2025 sample.
- The only analyte detected in the March 2025 sample at a concentration greater than the baseline sample was perfluoroethylcyclohexane sulfonate (PFECCHS); however, PFECCHS was not detected during the December 2024 event and there are no Part 201 criteria available for PFECCHS.

3.2 Outfall 005 East and West P-Trap Manholes

The East and West P-traps are located in two manholes on the east and west side of the French drain along the Leith Street underpass. The French drain captures groundwater from behind the north retaining wall at the Leith Street underpass and directs the groundwater to the P-Trap manholes. The P-trap manholes then discharge the groundwater to the Outfall 005 storm sewer through laterals that connect to manholes MH 5-7 and MH 5-9.

Historically, light non-aqueous phase liquid (LNAPL) was found to be discharging to Outfall 005 through the manholes; therefore, P-traps were installed in each manhole which allowed the groundwater to discharge to the storm sewer while keeping the LNAPL in the manhole structure. The P-trap manholes were inspected quarterly and accumulated LNAPL was removed. However, in the last 15 years only occasional sheens have been observed, primarily in the West P-Trap manhole.

As previously noted, due to access issues, the East P-Trap was not able to be sampled during the March 2025 event.

3.2.1 Outfall 005 – West P-Trap Summary

A summary of the analytes detected at the West P-Trap during the March 2025 sampling event compared to the results of the December 2024 event and the baseline maximum are presented in **Table 3B** and are discussed below. Note that the baseline samples minimum and average concentrations are also presented on **Table 3B** for reference purposes.

- The March 2025 and December 2024 results at the West P-Trap are less than the maximum baseline results and no increasing trends were observed.
- PFOS was detected at concentrations exceeding the GSI criteria in the December 2024 and March 2025 samples; however, these PFOS concentrations are less than the baseline maximum and less than the average concentration of the baseline samples.

4. STCM Monitoring Well Sample Evaluation

During the March 2025 event, groundwater samples were collected from six monitoring wells RFI-12-40, RFI-23-01R, RFI-23-02R, RFI-81-12R, RFI-81-33, and RFI-86-14) (**Table 2**) all of which are located downgradient of the 65-acre parcel. Monitoring wells RFI-23-02R and RFI-86-14 were added to the STCM sampling as the concentrations of select PFAS compounds were detected at concentrations greater than a 25% increase from the maximum baseline concentrations at RFI-23-01, RFI-81-12R, RFI-81-33 during the August and December 2024 events. Monitoring well RFI-23-02R is located downgradient of RFI-23-01R, while RFI-86-14 is located in the vicinity of RFI-81-12 and RFI-81-33. Originally RFI-07-01R2 was chosen to be sampled downgradient of RFI-81-12R but RFI-07-01R2 was unable to be located; therefore, it was replaced with RFI-86-14.

All analytical data is provided in the laboratory analytical reports in **Attachment 1** and presented in **Table 2**, compared to the GSI criteria. Groundwater Sampling logs are provided in **Attachment 2**. A summary of the analytes detected during the March 2025 sampling event, the results from the December 2024 event, the minimum and average baseline concentrations, and the maximum baseline concentration for comparison are presented on **Tables 3C through 3F**. The results of the March 2025 event are summarized below.

4.1 Monitoring Well RFI-12-40 Summary

- None of the compounds detected during the March 2025 or December 2024 or events exceeded GSI criteria (**Table 2**).
- Concentrations of detected analytes in March 2025 and December 2024 samples are generally consistent with baseline samples (**Table 3C**).

4.2 Monitoring Well RFI-23-01R Summary

- PFOS exceeded the GSI criterion in December 2024 and March 2025 samples (**Table 2**).
- At RFI-23-01R the concentrations of TCE, manganese, PFDA, PFHpA, PFOS, and PFOA in March 2025 and December 2024 samples are below the baseline maximums (**Table 3D**). However, PFOS continues to be detected above the GSI criterion.
- At RFI-23-01R barium concentrations are showing a slight increase; however, detected concentrations in March 2025 (total - 0.069 mg/L and dissolved – 0.067 mg/L) are well below the GSI criteria of 1.3 mg/L.
- Concentrations of detected analytes in December 2024 and March 2025 samples are generally consistent with baseline samples. However, slight and inconsistent increases in the concentrations of manganese and the uncommon PFAS compounds, PFDA, PFHxS, PFHxA, and PFPeA, were observed (**Table 3D**).

4.2.1 Monitoring Well RFI-23-02R Summary

- PFAS sampling at downgradient monitoring well RFI-23-02R was added to the March 2025 event since in both the August and December 2024 samples collected at RFI-23-01R, PFHxA and PFPeA were detected at concentrations that were 25% greater than the maximum baseline concentration. The analytes detected at RFI-23-02R during the March 2025 event are presented in **Table 3D**.
- The sample collected from downgradient well RFI-23-02R did not detect PFPeA; however, PFHxA was detected at a concentration of 2.8 ng/L. There is not a GSI criteria for PFHxA; however the drinking water criteria is 400,000 ng/L.

4.3 Monitoring Well RFI-81-12R Summary

- PFOS exceeded the GSI criterion in the December 2024 and March 2025 samples. Selenium exceeded the GSI criterion in the March 2025 sample (**Table 2**).
- Concentrations of detected analytes in the December 2024 and March 2025 samples are generally consistent with baseline samples. However, slight increases in the concentrations of select PFAS compounds were observed (**Table 3E**).

4.3.1 Monitoring Well RFI-86-14 Summary

- PFAS sampling at RFI-86-14 in the vicinity of RFI-81-12R was added to the March 2025 event since in both the August 2024 and December 2024 samples collected at RFI-81-12R, PFBA, PFHxA, and PFOA were detected at concentrations that were 25% greater than the maximum baseline concentration. Only PFHxA was detected at concentrations that were 25% greater than the maximum baseline concentration during the December 2024 and March 2025 event. The analytes detected in the March 2025 event do not exceed GSI criteria (**Table 2**).

4.4 Monitoring Well RFI-81-33 Summary

- None of the compounds detected in the December 2024 and March 2025 events exceeded GSI criteria (**Table 2**).
- In both the December 2024 and March 2025 samples, PFBA and PFPeA were detected at concentrations that were more than 25% over the maximum baseline concentration (**Table 3F**). It should be noted that there are no available downgradient monitoring wells to add to the program.

4.4.1 Monitoring Well RFI-86-14 Summary

- PFAS sampling at RFI-86-14 in the vicinity of RFI-81-33 was added to the March 2025 event since in both the August and December 2024 samples collected at RFI-81-33, PFBA was detected at concentrations that were 25% greater than the maximum baseline concentration. The analytes detected in the March 2025 event do not exceed the GSI criteria and are presented on **Table 3F**.

5. Conclusions and Recommendations

Most of the analytical results from the December 2024 and March 2025 STCM sampling events were less than or consistent with the baseline sampling results. However, some new compounds were detected and slight increases in manganese and select PFAS constituent concentrations were observed at some locations.

At monitoring wells RFI-23-01, RFI-81-12R, RFI-81-33 select COCs were detected at concentrations that were greater than a 25% increase from the maximum baseline concentrations. Therefore, in accordance with the work plan, monitoring wells RFI-23-02R and RFI-86-14 were added to the network for PFAS analysis during the March 2025 sampling event (**Figure 1**). There was not a monitoring well available downgradient of RFI-81-33 to add to the monitoring network.

Due to the small size of the dataset, a parametric statistical analysis of data cannot be completed at this time and the significance of the small increases noted above cannot be assessed. Traditional statistical analysis, such as the Mann-Kendall test, which is used to assess data trends, will not be valid given the size of the current data set. As additional data are received, some parametric statistical evaluation may be warranted; however, based on the data collected thus far, there is no evidence to suggest that construction activities have adversely impacted groundwater.

The next STCM event was conducted in June 2025 and the data evaluation and comparison will be presented to EGLE in the monthly project update calls.

Attachments

Figure 1 – STCM Sampling Locations for December 2024 and March 2025 Events

Table 1 – STCM Groundwater Elevations

Table 2 – STCM December 2024 and March 2025 Analytical Data

Table 3A – MH 3-9 Detected Analytes Trend Analysis

Table 3B – West P-Trap Detected Analytes Trend Analysis

Table 3C – RFI-12-40 Detected Analytes Trend Analysis

Table 3D – RFI-23-01R Detected Analytes Trend Analysis and RFI-23-02R Detected Analytes

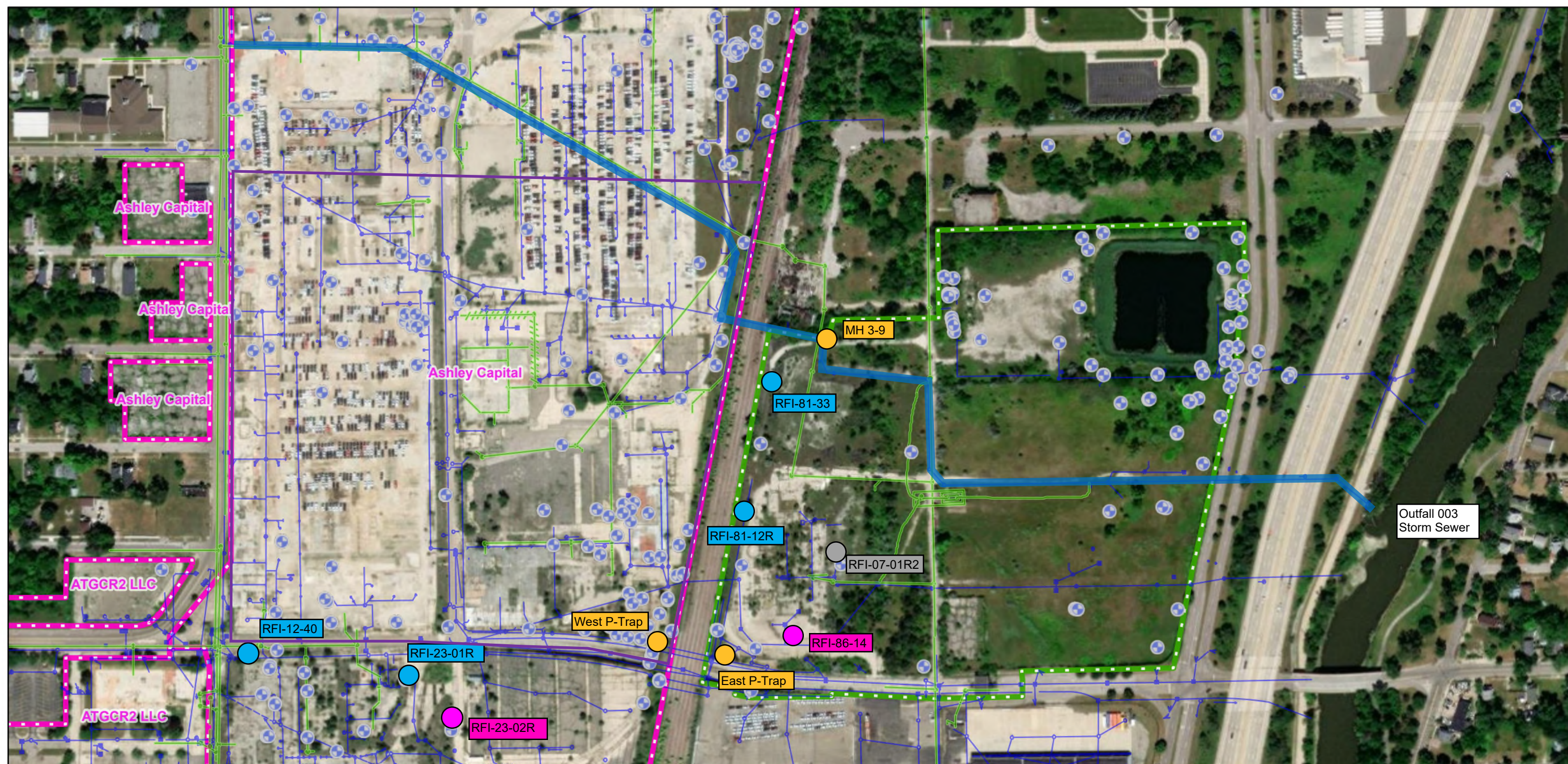
Table 3E – RFI-81-12R Detected Analytes Trend Analysis and RFI-86-14 Detected Analytes

Table 3F – RFI-81-33 Detected Analytes Trend Analysis and RFI-86-14 Detected Analytes

Attachment 1 – Laboratory Analytical Reports

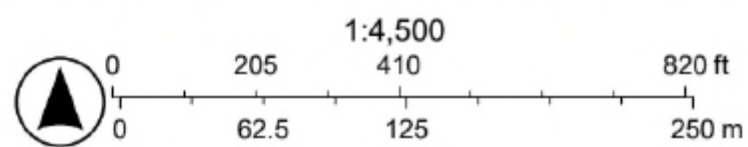
Attachment 2 – Groundwater Sampling Logs

FIGURES



LEGEND

-  Existing Monitoring Wells
-  Sanitary Sewer
-  Utilities Line - Storm Sewer
-  Current Racetrack-owned Properties
-  Former Racetrack-owned Properties
-  65 Acre Parcel
-  Monitoring Well Sampling Locations
-  Sewer Structure Sampling Locations
-  Additional Monitoring Well Sampling Location for March 2025 Event
-  Monitoring Well Sampling Location Unable to Be Located



NOTES:
1. RFI-07-01R2 was unable to be located and was replaced by RFI-86-14 as a down gradient sampling well for RFI-81-12R.

RACER TRUST
BUICK CITY
FLINT, MICHIGAN

**SHORT-TERM CONSTRUCTION
MONITORING LOCATIONS FOR
DECEMBER 2024 AND MARCH
2025 EVENTS**

 **ARCADIS**

FIGURE

1

TABLES

Table 1
STCM Groundwater Elevations
RACER Buick City
Flint, MI

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Well ID	Top of Casing Elevation ¹ (ft AMSL)	Baseline Elevation (ft amsl)				December 2024 (ft AMSL)	March 2025 (ft AMSL)
		May 2023	July 2023	November 2023	January 2024		
RFI-12-40	741.47	736.27	736.28	736.30	736.50	735.87	736.19
RFI-23-01R	742.19	738.09	737.84	737.90	737.93	736.55	737.56
RFI-81-12R	738.42	734.19	734.02	733.57	735.12	732.15	733.13
RFI-81-33	751.64	746.74	746.84	747.00	746.39	745.13	746.22
RFI-86-14*	731.80	--	--	--	--	--	716.43
RFI-23-02R*	740.08	--	--	--	--	--	735.90

Notes:

1. All depth to waters measured from Top of Casing to calculate groundwater elevations.
2. Locations with an asterisk (*) were added after the December 2024 event based on data comparison.
3. RFI-07-01R2 was planned to be sampled during the March 2025 event, however, it was unable to be located so RFI-86-14 was sampled as a replacement location.

Abbreviations:

-- not applicable

ft - feet

AMSL - Above mean sea level

Footnotes:

- ¹ Top of Casing Elevation is in feet National Vertical Geodetic Datum (1988)

Table 2 - STCM December 2024 and March 2025 Analytical Data
RACER - Buick City
Flint, MI

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Location ID:	Groundwater Surface Water Interface (EGLE 2023)		RFI-12-40		RFI-23-01R		RFI-81-12R		RFI-81-33		E-Trap	MH 3-9		W-Trap		RFI-23-02R	RFI-86-14
Date Collected:		units	12/11/24	03/26/25	12/11/24	03/26/25	12/11/24	03/25/25	12/11/24	03/25/25	12/10/24	12/10/24	3/27/25	12/10/24	3/27/25	3/26/25	3/24/25
VOCs																	
1,1,1-Trichloroethane	89	ug/L	5	4	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	NA
1,1,2,2-Tetrachloroethane	78 (X)	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	NA
1,1,2-Trichloroethane	330 (X)	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	NA
1,1-Dichloroethane	740	ug/L	2	2	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	NA
1,1-Dichloroethene	130	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	NA
1,2,4-Trichlorobenzene	99 (X)	ug/L	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	NA	NA
1,2-Dibromo-3-chloropropane (DBCP)	--	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	NA
1,2-Dibromoethane (Ethylene dibromide)	5.7 (X)	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	NA
1,2-Dichlorobenzene	13	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	NA
1,2-Dichloroethane	360 (X)	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	NA
1,2-Dichloropropane	230 (X)	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	NA
1,3-Dichlorobenzene	28	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	NA
1,4-Dichlorobenzene	17	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	NA
2-Butanone (Methyl ethyl ketone) (MEK)	2,200	ug/L	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	NA	NA
2-Hexanone	--	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	NA	NA
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	--	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NA	NA
Acetone	1,700	ug/L	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	NA	NA
Benzene	200 (X)	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	NA
Bromodichloromethane	--	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	NA
Bromoform	--	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	NA
Bromomethane (Methyl bromide)	5 (M)	ug/L	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	NA	NA
Carbon disulfide	--	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NA	NA
Carbon tetrachloride	38 (X)	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	NA
Chlorobenzene	25	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	NA
Chloroethane	1,100 (X)	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	NA
Chloroform (Trichloromethane)	350	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1 U	1 U	1 U	NA	NA
Chloromethane (Methyl chloride)	--	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	NA
cis-1,2-Dichloroethene	620	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	3	1 U	1 U	5	5	NA	NA
cis-1,3-Dichloropropene	--	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	NA
Cyclohexane	--	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	NA
Dibromochloromethane	--	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	NA
Dichlorodifluoromethane (CFC-12)	--	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	NA
Ethylbenzene	18	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	NA
Isopropyl benzene	28	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	NA
m&p-Xylene	--	ug/L	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	NA	NA
Methyl acetate	--	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NA	NA
Methyl cyclohexane	--	ug/L	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	NA	NA
Methyl tert butyl ether (MTBE)	7,100 (M)	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NA	NA
Methylene chloride	1,500	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NA	NA
Naphthalene	11	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	NA
N-Propylbenzene	--	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	NA
o-Xylene	--	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	NA
Styrene	80 (X)	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	NA
Tetrachloroethene	60 (X)	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	NA
Toluene	270	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	NA
trans-1,2-Dichloroethene	1,500 (X)	ug/L	1	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	NA
trans-1,3-Dichloropropene	--	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	NA
Trichloroethene	200 (X)	ug/L	10	8	1 U	2	1 U	1 U	1 U	1 U	2	1 U	1 U	2	2	NA	NA
Trichlorofluoromethane (CFC-11)	--	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	NA
Trifluorotrichloroethane (Freon 113)	32	ug/L	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	NA	NA
Vinyl chloride	13 (X)	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	NA

Table 2 - STCM December 2024 and March 2025 Analytical Data
RACER - Buick City
Flint, MI

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Location ID:	Groundwater Surface Water Interface (EGLE 2023)		RFI-12-40		RFI-23-01R		RFI-81-12R		RFI-81-33		E-Ptrap	MH 3-9		W-Ptrap		RFI-23-02R	RFI-86-14
Date Collected:		units	12/11/24	03/26/25	12/11/24	03/26/25	12/11/24	03/25/25	12/11/24	03/25/25	12/10/24	12/10/24	3/27/25	12/10/24	3/27/25	3/26/25	3/24/25
SVOCs																	
2,2'-Oxybis(1-chloropropane)	--	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NA	NA
2,4,5-Trichlorophenol	--	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NA	NA
2,4,6-Trichlorophenol	5	ug/L	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	NA	NA
2,4-Dichlorophenol	11	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NA	NA
2,4-Dimethylphenol	380	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NA	NA
2,4-Dinitrophenol	--	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	NA	NA
2,4-Dinitrotoluene	--	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NA	NA
2,6-Dinitrotoluene	--	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NA	NA
2-Chloronaphthalene	--	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NA	NA
2-Chlorophenol	18	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NA	NA
2-Methylnaphthalene	19	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NA	NA
2-Methylphenol	--	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NA	NA
2-Nitroaniline	--	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	NA	NA
2-Nitrophenol	--	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NA	NA
3&4-Methylphenol	--	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NA	NA
3,3'-Dichlorobenzidine	0.3 (M)	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NA	NA
3-Nitroaniline	--	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	NA	NA
4,6-Dinitro-2-methylphenol	--	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	NA	NA
4-Bromophenyl phenyl ether	--	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NA	NA
4-Chloro-3-methylphenol	7.4	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NA	NA
4-Chloroaniline	--	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NA	NA
4-Chlorophenyl phenyl ether	--	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NA	NA
4-Nitroaniline	--	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	NA	NA
4-Nitrophenol	--	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	NA	NA
Acenaphthene	38	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NA	NA
Acenaphthylene	--	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NA	NA
Acetophenone	--	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NA	NA
Anthracene	--	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NA	NA
Atrazine	7.3	ug/L	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	NA	NA
Benzaldehyde	--	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NA	NA
Benzo(a)anthracene	--	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	NA
Benzo(a)pyrene	--	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NA	NA
Benzo(b)fluoranthene	--	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 p	1 U	1 U	1 U	1 U	NA	NA
Benzo(g,h,i)perylene	--	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NA	NA
Benzo(k)fluoranthene	--	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NA	NA
Biphenyl (1,1-Biphenyl)	--	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NA	NA
bis(2-Chloroethoxy)methane	--	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NA	NA
bis(2-Chloroethyl)ether	1 (M)	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	NA
bis(2-Ethylhexyl)phthalate (DEHP)	14	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NA	NA
Butyl benzylphthalate (BBP)	67 (X)	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NA	NA
Caprolactam	--	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NA	NA
Carbazole	10 (M)	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NA	NA
Chrysene	--	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	NA
Dibenz(a,h)anthracene	--	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NA	NA
Dibenzofuran	4	ug/L	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	NA	NA
Diethyl phthalate	110	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NA	NA
Dimethyl phthalate	--	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NA	NA
Di-n-butylphthalate (DBP)	9.7	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NA	NA
Di-n-octyl phthalate (DnOP)	--	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NA	NA
Fluoranthene	1.6	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U	NA	NA
Fluorene	12	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NA	NA
Hexachlorobenzene	0.2 (M)	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NA	NA
Hexachlorobutadiene	0.053	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NA	NA
Hexachlorocyclopentadiene	--	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NA	NA

Table 2 - STCM December 2024 and March 2025 Analytical Data
RACER - Buick City
Flint, MI

DRAFT



Location ID:	Groundwater Surface Water Interface (EGLE 2023)		RFI-12-40		RFI-23-01R		RFI-81-12R		RFI-81-33		E-Ptrap	MH 3-9		W-Ptrap		RFI-23-02R	RFI-86-14
Date Collected:		units	12/11/24	03/26/25	12/11/24	03/26/25	12/11/24	03/25/25	12/11/24	03/25/25	12/10/24	12/10/24	3/27/25	12/10/24	3/27/25	3/26/25	3/24/25
Hexachloroethane	6.7 (X)	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NA	NA
Indeno(1,2,3-cd)pyrene	--	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NA	NA
Isophorone	1,300 (X)	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NA	NA
Naphthalene	11	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NA	NA
Nitrobenzene	180 (X)	ug/L	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	NA	NA
N-Nitrosodi-n-propylamine	--	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NA	NA
N-Nitrosodiphenylamine	--	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NA	NA
Pentachlorophenol	--	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NA	NA
Phenanthrene	2 (M)	ug/L	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	NA	NA
Phenol	450	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NA	NA
Pyrene	--	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NA	NA
PCBs																	
Aroclor-1016 (PCB-1016)	--	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.1 U	0.1 U	NA	NA	NA	NA
Aroclor-1221 (PCB-1221)	--	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.1 U	0.1 U	NA	NA	NA	NA
Aroclor-1232 (PCB-1232)	--	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.1 U	0.1 U	NA	NA	NA	NA
Aroclor-1242 (PCB-1242)	--	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.1 U	0.1 U	NA	NA	NA	NA
Aroclor-1248 (PCB-1248)	--	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.1 U	0.1 U	NA	NA	NA	NA
Aroclor-1254 (PCB-1254)	--	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.1 U	0.1 U	NA	NA	NA	NA
Aroclor-1260 (PCB-1260)	--	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.1 U	0.1 U	NA	NA	NA	NA
Total PCBs	0.2 (M)	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.1 U	0.1 U	NA	NA	NA	NA
Inorganic																	
Antimony	0.13 (X)	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.01	0.005 U	0.005 U	0.005 U	0.005 U	NA	NA
Arsenic	0.01	mg/L	0.002 U	0.002 U	0.002	0.002 U	0.002 U	0.002 U	0.002	0.002 U	0.059	0.004	0.002 U	0.01	0.003	NA	NA
Barium	1.3 (G)	mg/L	0.035	0.034	0.061	0.069	0.116	0.089	0.134	0.143	0.66	0.029	0.046	0.09	0.076	NA	NA
Beryllium	0.037 (G)	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.003	0.001 U	0.001 U	0.001 U	0.001 U	NA	NA
Cadmium	0.0048 (G,X)	mg/L	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0119	0.0005 U	0.0005 U	0.0005 U	0.0005 U	NA	NA
Chromium	0.17 (G,X)	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.183	0.005 U	0.005 U	0.005 U	0.005 U	NA	NA
Cobalt	0.1	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.046	0.005 U	0.005 U	0.005 U	0.005 U	NA	NA
Copper	0.022 (G)	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.367	0.005 U	0.005 U	0.005 U	0.005 U	NA	NA
Lead	0.055 (G,X)	mg/L	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.86	0.004	0.003 U	0.003 U	0.003 U	NA	NA
Manganese	4.9 (G,X)	mg/L	0.277	0.171	0.197	0.023	0.04	0.007	0.994	0.897	4.13	0.104	0.08	0.842	0.679	NA	NA
Mercury	0.0000013	mg/L	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0008	0.0002 U	0.0002 U	0.0002 U	0.0002 U	NA	NA
Nickel	0.12 (G)	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.159	0.005 U	0.005 U	0.005 U	0.005 U	NA	NA
Selenium	0.005	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.014	0.005 U	0.005 U	0.012	0.005 U	0.005 U	0.005 U	0.005 U	NA	NA
Silver	0.0002 (M)	mg/L	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0007	0.0005 U	0.0005 U	0.0005 U	0.0005 U	NA	NA
Thallium	0.0037 (X)	mg/L	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002	0.002 U	0.002 U	0.002 U	0.002 U	NA	NA
Vanadium	0.027	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.132	0.005 U	0.005 U	0.005 U	0.005 U	NA	NA
Zinc	0.28 (G)	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.007	0.008	0.005 U	0.005 U	3.83	0.011	0.005 U	0.005 U	0.012	NA	NA
Inorganic - Dissolved																	
Antimony (dissolved)	--	mg/L	0.005 U	0.005 Uf	0.005 U	0.005 Uf	0.005 U	0.005 Uf	0.005 U	0.005 Uf	0.005 U	0.005 U	0.005 Uf	0.005 U	0.005 Uf	NA	NA
Arsenic (dissolved)	--	mg/L	0.002 U	0.002 Uf	0.002 U	0.002 Uf	0.002 U	0.002 Uf	0.002 U	0.002 Uf	0.007	0.003	0.002 Uf	0.007	0.002 Uf	NA	NA
Barium (dissolved)	--	mg/L	0.035	0.033 f	0.061	0.067 f	0.113	0.084 f	0.136	0.134 f	0.08	0.023	0.044 f	0.085	0.07 f	NA	NA
Beryllium (dissolved)	--	mg/L	0.001 U	0.001 Uf	0.001 U	0.001 Uf	0.001 U	0.001 Uf	0.001 U	0.001 Uf	0.001 U	0.001 U	0.001 Uf	0.001 U	0.001 Uf	NA	NA
Cadmium (dissolved)	--	mg/L	0.0005 U	0.0005 Uf	0.0005 U	0.0005 Uf	0.0005 U	0.0005 Uf	0.0005 U	0.0005 Uf	0.0005 U	0.0005 U	0.0005 Uf	0.0005 U	0.0005 Uf	NA	NA
Chromium Total (dissolved)	0.17 (G,X)	mg/L	0.005 U	0.005 Uf	0.005 U	0.005 Uf	0.005 U	0.005 Uf	0.005 U	0.005 Uf	0.005 U	0.005 U	0.005 Uf	0.005 U	0.005 Uf	NA	NA
Cobalt (dissolved)	--	mg/L	0.005 U	0.005 Uf	0.005 U	0.005 Uf	0.005 U	0.005 Uf	0.005 U	0.005 Uf	0.005 U	0.005 U	0.005 Uf	0.005 U	0.005 Uf	NA	NA
Copper (dissolved)	--	mg/L	0.005 U	0.005 Uf	0.005 U	0.005 Uf	0.005 U	0.005 Uf	0.005 U	0.005 Uf	0.005 U	0.005 U	0.005 Uf	0.005 U	0.005 Uf	NA	NA
Lead (dissolved)	--	mg/L	0.003 U	0.003 Uf	0.003 U	0.003 Uf	0.003 U	0.003 Uf	0.003 U	0.003 Uf	0.003 U	0.003 U	0.003 Uf	0.003 U	0.003 Uf	NA	NA
Manganese (dissolved)	--	mg/L	0.221	0.126 f	0.196	0.005 Uf	0.027	0.005 Uf	1.06	0.835 f	0.55	0.073	0.075 f	0.827	0.65 f	NA	NA
Mercury (dissolved)	--	mg/L	0.0002 U	0.0002 Uf	0.0002 U	0.0002 Uf	0.0002 U	0.0002 Uf	0.0002 U	0.0002 Uf	0.0002 U	0.0002 U	0.0002 Uf	0.0002 U	0.0002 Uf	NA	NA
Nickel (dissolved)	--	mg/L	0.005 U	0.005 Uf	0.005 U	0.005 Uf	0.005 U	0.005 Uf	0.005 U	0.005 Uf	0.005 U	0.005 U	0.005 Uf	0.005 U	0.005 Uf	NA	NA
Selenium (dissolved)	--	mg/L	0.005 U	0.005 Uf	0.005 U	0.005 Uf	0.005 U	0.013 f	0.005 U	0.005 Uf	0.005 U	0.005 U	0.005 Uf	0.005 U	0.005 Uf	NA	NA
Silver (dissolved)	--	mg/L	0.0005 U	0.0005 Uf	0.0005 U	0.0005 Uf	0.0005 U	0.0005 Uf	0.0005 U	0.0005 Uf	0.0005 U	0.0005 U	0.0005 Uf	0.0005 U	0.0005 Uf	NA	NA
Thallium (dissolved)	--	mg/L	0.002 U	0.002 Uf	0.002 U	0.002 Uf	0.002 U	0.002 Uf	0.002 U	0.002 Uf	0.002 U	0.002 U	0.002 Uf	0.002 U	0.002 Uf	NA	NA
Vanadium (dissolved)	--	mg/L	0.005 U	0.005 Uf	0.005 U	0.005 Uf	0.005 U	0.005 Uf	0.005 U	0.005 Uf	0.005 U	0.005 U	0.005 Uf	0.005 U	0.005 Uf	NA	NA
Zinc (dissolved)	--	mg/L	0.005 U	0.005 f	0.005 U	0.005 Uf	0.008	0.009 f	0.005 U	0.005 Uf	0.005 U	0.005 U	0.005 Uf	0.005 U	0.005 Uf	NA	NA

Table 2 - STCM December 2024 and March 2025 Analytical Data
RACER - Buick City
Flint, MI

DRAFT



Location ID:	Groundwater Surface Water Interface (EGLE 2023)		RFI-12-40		RFI-23-01R		RFI-81-12R		RFI-81-33		E-Ptrap	MH 3-9		W-Ptrap		RFI-23-02R	RFI-86-14
Date Collected:		units	12/11/24	03/26/25	12/11/24	03/26/25	12/11/24	03/25/25	12/11/24	03/25/25	12/10/24	12/10/24	3/27/25	12/10/24	3/27/25	3/26/25	3/24/25
PFAS																	
11CI-PF3OUdS (F-53B Minor)	--	ng/L	2 U	2.1 U	2.1 U	2.1 U	2 U	2.1 U	2.1 U	2 U	2.1 U	2 U	2 U	2 U	2 U	2 U	2.1 U
4:2 FTS	--	ng/L	2 U	2.1 U	2.1 U	2.1 U	2 U	2.1 U	2.1 U	2 U	2.1 U	2 U	2 U	2 U	2 U	2 U	2.1 U
6:2FTS	--	ng/L	2 U	2.1 U	2.1 U	2.1 U	2 U	2.1 U	2.1 U	2 U	2.1 U	2 U	2 U	2 U	2 U	2 U	2.1 U
8:2FTS	--	ng/L	2 U	2.1 U	2.1 U	2.1 U	2 U	2.1 U	2.1 U	2 U	2.1 U	2 U	2 U	2 U	2 U	2 U	2.1 U
9CI-PF3ONS (F-53B Major)	--	ng/L	2 U	2.1 U	2.1 U	2.1 U	2 U	2.1 U	2.1 U	2 U	2.1 U	2 U	2 U	2 U	2 U	2 U	2.1 U
ADONA	--	ng/L	2 U	2.1 U	2.1 U	2.1 U	2 U	2.1 U	2.1 U	2 U	2.1 U	2 U	2 U	2 U	2 U	2 U	2.1 U
FHpPA (7:3 FTCA)	--	ng/L	10 U	11 U	11 U	10 U	9.9 U	10 U	11 U	10 U	10 U	10 U	9.9 U	9.9 U	10 U	10 U	10 U
FPePA (5:3 FTCA)	--	ng/L	10 U	11 U	11 U	10 U	9.9 U	10 U	11 U	10 U	10 U	10 U	9.9 U	9.9 U	10 U	10 U	10 U
FPrPA (3:3 FTCA)	--	ng/L	10 U	11 U	11 U	10 U	9.9 U	10 U	11 U	10 U	10 U	10 U	9.9 U	9.9 U	10 U	10 U	10 U
HFPO-DA (GenX)	--	ng/L	10 U	11 U	11 U	10 U	9.9 U	10 U	11 U	10 U	10 U	10 U	9.9 U	9.9 U	10 U	10 U	10 U
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	--	ng/L	4 U	4.2 U	4.2 U	4.1 U	3.9 U	4.2 U	4.2 U	4 U	4.2 U	4.1 U	4 U	4 U	4 U	4.1 U	4.2 U
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	--	ng/L	2 U	2.1 U	2.1 U	2.1 U	2 U	2.1 U	2.1 U	2 U	2.1 U	2 U	2 U	2 U	2 U	2 U	2.1 U
Perfluorobutanesulfonic acid (PFBS)	--	ng/L	2 U	2.1 U	2.1 U	2.1 U	2.2	2.1 U	2.1 U	2 U	2.3	2 U	2 U	2.1	2.1	2 U	2.1 U
Perfluorobutanoic acid (PFBA)	--	ng/L	10 U	11 U	16	10 U	16	10 U	20	18	10 U	10 U	9.9 U	9.9 U	10 U	10 U	10 U
Perfluorodecanesulfonic acid (PFDS)	--	ng/L	2 U	2.1 U	2.1 U	2.1 U	2 U	2.1 U	2.1 U	2 U	2.1 U	2 U	2 U	2 U	2 U	2 U	2.1 U
Perfluorodecanoic acid (PFDA)	--	ng/L	2 U	2.1 U	2.1 U	7	2 U	2.1 U	2.1 U	2 U	2.1 U	2 U	2 U	2 U	2 U	2 U	2.1 U
Perfluorododecanoic acid (PFDoA)	--	ng/L	2 U	2.1 U	2.1 U	2.1 U	2 U	2.1 U	2.1 U	2 U	2.1 U	2 U	2 U	2 U	2 U	2 U	2.1 U
Perfluoroheptanesulfonic Acid (PFHpS)	--	ng/L	2 U	2.1 U	2.1 U	2.1 U	2 U	2.1 U	2.1 U	2 U	2.1 U	2 U	2 U	2 U	2 U	2 U	2.1 U
Perfluoroheptanoic acid (PFHpA)	--	ng/L	2 U	2.1 U	5.3	2.2	3.5	2.1 U	2.1 U	2 U	2.1 U	2 U	2 U	2.5	2 U	2 U	3.3
Perfluorohexanesulfonic acid (PFHxS)	--	ng/L	3.3	3.8	10	2.1 U	2.5	2.1 U	2.3	2.4	8.9	2 U	3	16	12	23	2.1 U
Perfluorohexanoic acid (PFHxA)	--	ng/L	2 U	2.1 U	10	2.1 U	3.6	2.1 U	2.3	2 U	2.1 U	2 U	2.1	3.2	2.7	2.8	5.1
Perfluorononanesulfonic acid (PFNS)	--	ng/L	2 U	2.1 U	2.1 U	2.1 U	2 U	2.1 U	2.1 U	2 U	2.1 U	2 U	2 U	2 U	2 U	2 U	2.1 U
Perfluorononanoic acid (PFNA)	--	ng/L	2.7	2.1 U	3.5	8.2	3	2.1 U	2.1 U	2 U	2.1 U	2 U	2 U	2.8	2 U	2 U	2.1 U
Perfluorooctane Sulfonamide (FOSA)	--	ng/L	2 U	2.1 U	2.1 U	2.1 U	2 U	2.1 U	2.1 U	2 U	2.1 U	2 U	2 U	2 U	2 U	2 U	2.1 U
Perfluorooctane sulfonic acid (PFOS)	12 (X)	ng/L	12	8	17	14	23	13	2.1 U	2 U	38	2.5	4.4	61	55	11	2.1 U
Perfluorooctanoic acid (PFOA)	12,000 (X)	ng/L	3	2.7	7.8	6.9	12	3.8	2.1 U	2 U	6.4	2 U	2.3	10	8.2	3.4	7.6
Perfluoropentanesulfonic acid (PFPeS)	--	ng/L	2 U	2.1 U	2.1 U	2.1 U	2 U	2.1 U	2.1 U	2 U	2.1 U	2 U	2 U	2 U	2 U	2.1	2.1 U
Perfluoropentanoic acid (PFPeA)	--	ng/L	4 U	4.2 U	11	4.1 U	3.9 U	4.2 U	6.6	5.3	4.2 U	4.1 U	4 U	4 U	4 U	4.1 U	4.6
Perfluorotetradecanoic acid (PFTeA)	--	ng/L	4 U	4.2 U	4.2 U	4.1 U	3.9 U	4.2 U	4.2 U	4 U	4.2 U	4.1 U	4 U	4 U	4 U	4.1 U	4.2 U
Perfluorotridecanoic Acid (PFTriA)	--	ng/L	2 U	2.1 U	2.1 U	2.1 U	2 U	2.1 U	2.1 U	2 U	2.1 U	2 U	2 U	2 U	2 U	2 U	2.1 U
Perfluoroundecanoic acid (PFUnA)	--	ng/L	2 U	2.1 U	2.1 U	2.1 U	2 U	2.1 U	2.1 U	2 U	2.1 U	2 U	2 U	2 U	2 U	2 U	2.1 U
PFBSA	--	ng/L	2 U	2.1 U	2.1 U	2.1 U	2 U	2.1 U	2.1 U	2 U	2.1 U	2 U	2 U	2 U	2 U	2 U	2.1 U
PFECHS	--	ng/L	2 U	2.1 U	2.1 U	2.1 U	2 U	2.1 U	2.1 U	2 U	2.1 U	2 U	2.8	2 U	2 U	2 U	2.1 U
PFHxSA	--	ng/L	2 U	2.1 U	2.1 U	2.1 U	2 U	2.1 U	2.1 U	2 U	2.1 U	2 U	2 U	2 U	2 U	2 U	2.1 U
PFHxS-BR	--	ng/L	2 U	2.1 U	2.1 U	2.1 U	2 U	2.1 U	2.1 U	2 U	2.1 U	2 U	2 U	2.1	2.1	4.3	2.1 U
PFHxS-LN	--	ng/L	2.5	2.1 U	7.6	2.1 U	2	2.1 U	2.1 U	2 U	7.4	2 U	2	13	9.2	18	2.1 U
PFOS-BR	--	ng/L	5.6	3.5	6.9	3.8	6.2	2.3	2.1 U	2 U	15	2 U	2 U	24	23	6	2.1 U
PFOS-LN	--	ng/L	6	4.2	8.9	9.7	16	9	2.1 U	2 U	21	2 U	2.2	34	31	5.2	2.1 U

- Notes:
1. Data compared to the EGLE GSI Criteria from Table 1: Groundwater: Residential and Nonresidential, Part 201 Generic Cleanup Criteria and Screening Levels, October 12, 2023.
 2. Groundwater Surface Water Interface Criteria listed for barium, beryllium, cadmium, chromium, copper, lead, manganese, nickel and zinc are calculated based on a hardness of 150 mg/L-CaCO3 for southern Lower Peninsula protected as a drinking water source.
 3. Bold values indicate an exceedance in GSI criteria.
 4. Samples were analyzed via USEPA SW 846 Method 3015A, 3510C, 8260C, 6020A, 7471B, 8270D, and Method ASTM D7979-19 Modified.
 5. The East P-Trap was inaccessible during the 1Q 2025 sampling event.

Acronyms and Abbreviations:

µg/L = microgram per liter
mg/L = milligrams per liter
ng/L = nanograms per liter
-- = no applicable criteria
NA = Not analyzed
ID = identification
U = not detected at the reporting limit
f = analysis run outside of holding time
EGLE = Michigan Department of Environment, Great Lakes, and Energy
USEPA = United States Environmental Protection Agency

EGLE Footnotes:

G - Groundwater surface water interface (GSI) criterion depends on the pH or water hardness, or both, of the receiving surface water.
M - Calculated criterion is below the analytical target detection limit, therefore, the criterion defaults to the target detection limit.
X - The GSI criterion shown in the generic cleanup criteria tables is not protective for surface water that is used as a drinking water source.

Table 3A - MH 3-9 Detected Analytes Trend Analysis
RACER Buick City
Flint, MI



Analyte	Units	Baseline Result June 2024	December 2024 Result	March 2025 Result	Are Two Consecutive Results Greater than Baseline?
Barium	mg/L	0.074	0.029	0.046	No
Barium (dissolved)	mg/L	0.08	0.023	0.044	No
Manganese	mg/L	0.181	0.104	0.08	No
Manganese (dissolved)	mg/L	0.192	0.073	0.075	No
Mercury	mg/L	0.00001	0.0000025	0.0000034	No
PFHxS	ng/L	9.1	2 U	3	No
PFHxA	ng/L	3.2	2 U	2.1	No
PFOS	ng/L	34	2.5	4.4	No
PFOA	ng/L	4.4	2 U	2.3	No
PFECHS	ng/L	2.3	2 U	2.8	No

Notes:

1. Results compared to baseline samples and the Data compared to the EGLE GSI Criteria from Table 1: Groundwater: Residential and Nonresidential, Part 201 Generic Cleanup Criteria and Screening Levels, October 12, 2023.
2. Bolded results indicate an exceedance in GSI criteria.
3. Samples were analyzed via USEPA SW 846 Method 6020A and 7471B, and Method ASTM D7979-19 Modified.

Acronyms and Abbreviations:

mg/L = milligrams per liter

ng/L = nanograms per liter

U = The analyte was analyzed for but not detected. Associated value is the reporting limit

GSI = Groundwater Surface Water Interface

EGLE = Michigan Department of Environment, Great Lakes, and Energy.

USEPA = United States Environmental Protection Agency

Table 3B - West P-Trap Detected Analytes Trend Analysis
RACER Buick City
Flint, MI



Analyte	Units	Baseline			December 2024 Result	March 2025 Result	Are Two Consecutive Samples Greater than Maximum Baseline?
		Minimum	Maximum	Average			
Cis-1,2-DCE	ug/L	3	5	4	5	5	No
TCE	ug/L	2	6	4.3	2	2	No
Arsenic	mg/L	0.007	0.013	0.009	0.01	0.003	No
Barium	mg/L	0.083	0.1	0.094	0.09	0.076	No
Barium (dissolved)	mg/L	0.093	0.093	0.093	0.085	0.07	No
Manganese	mg/L	0.631	0.934	0.748	0.842	0.679	No
Manganese (dissolved)	mg/L	0.696	0.895	0.796	0.827	0.65	No
Zinc	mg/L	0.01	0.018	0.01	0.005 U	0.012	No
PFBS	ng/L	2.8	2.8	2.8	2.1	2.1	No
PFHxS	ng/L	13	19	15.3	16	12	No
PFHxA	ng/L	3.1	4	3.43	3.2	2.7	No
PFOS	ng/L	58	110	78.7	61	55	No
PFOA	ng/L	11	14	13	10	8.2	No

Notes:

1. Results compared to baseline samples and the Data compared to the EGLE GSI Criteria from Table 1: Groundwater: Residential and Nonresidential, Part 201 Generic Cleanup Criteria and Screening Levels, October 12, 2023.
2. Bolded results indicate an exceedance in GSI criteria.
3. Samples were analyzed via USEPA SW 846 Method 8270D, 6020A, and 7471B, and Method ASTMD7979-19 Modified.

Acronyms and Abbreviations:

µg/L = microgram per liter

mg/L = milligrams per liter

ng/L = nanograms per liter

U = The analyte was analyzed for but not detected. Associated value is the reporting limit

GSI = Groundwater Surface Water Interface

EGLE = Michigan Department of Environment, Great Lakes, and Energy.

USEPA = United States Environmental Protection Agency

Table 3C - RFI-12-40 Detected Analytes Trend Analysis
RACER Buick City
Flint, MI



Analyte	Units	Baseline			December 2024 Result	March 2025 Result	Are Two Consecutive Samples Greater than Maximum Baseline?
		Minimum	Maximum	Average			
1,1,1-TCA	ug/L	3	8	5.25	5	4	No
1,1-DCA	ug/L	2	4	2.75	2	2	No
Cis-1,2-DCE	ug/L	1	1	0.625	1 U	1 U	No
Trans-1,2-DCE	ug/L	1	1	0.875	1	1 U	No
TCE	ug/L	8	21	12	10	8	No
Barium	mg/L	0.039	0.059	0.046	0.035	0.034	No
Barium (dissolved)	mg/L	0.041	0.044	0.0425	0.035	0.033	No
Manganese	mg/L	0.268	0.42	0.33	0.277	0.171	No
Manganese(dissolved)	mg/L	0.266	0.282	0.274	0.221	0.126	No
Zinc(dissolved)	mg/L	0.005 U	0.005 U	0.0023 U	0.005 U	0.005	No
PFHxS	ng/L	5.5	8.2	6.55	3.3	3.8	No
PFNA	ng/L	1.6	3.2	2.275	2.7	2.1 U	No
PFOS	ng/L	15	23	18	12	8	No
PFOA	ng/L	4.7	9.1	6.725	3	2.7	No

Notes:

1. Results compared to baseline samples and the Data compared to the EGLE GSI Criteria from Table 1: Groundwater: Residential and Nonresidential, Part 201 Generic Cleanup Criteria and Screening Levels, October 12, 2023.
2. Bolded results indicate an exceedance in GSI criteria.
3. Samples were analyzed via USEPA SW 846 Method 3015A, 3510C, 8260C, 6020A, 7471B, 8270D, and Method ASTM D7979-19 Modified.

Acronyms and Abbreviations:

µg/L = microgram per liter
mg/L = milligrams per liter
ng/L = nanograms per liter
U = The analyte was analyzed for but not detected. Associated value is the reporting limit
GSI = Groundwater Surface Water Interface
EGLE = Michigan Department of Environment, Great Lakes, and Energy.
USEPA = United States Environmental Protection Agency

Table 3D - RFI-23-01R Detected Analytes Trend Analysis and
RFI-23-02R Detected Analytes
RACER Buick City
Flint, MI

RFI-23-01R							
Analyte	Units	Baseline			December 2024 Result	March 2025 Result	Are Two Consecutive Samples Greater than Maximum Baseline?
		Minimum	Maximum	Average			
TCE	ug/L	2	3	2.5	1 U	2	No
Barium	mg/L	0.046	0.065	0.055	0.061	0.069	No
Barium(dissolved)	mg/L	0.048	0.064	0.056	0.061	0.067	No
Manganese	mg/L	0.05	0.178	0.079	0.197	0.023	No
Manganese(dissolved)	mg/L	0.084	0.168	0.126	0.196	0.005	No
PFBA	ng/L	7.9	19	12.85	16	10 U	No
PFDA	ng/L	5.2	8.2	6.375	2.1 U	7	No
PFHpA	ng/L	2.5	5.4	3.54	5.3	2.2	No
PFHxS	ng/L	2.5	7.7	4.5	10	2.1 U	No
PFHxA	ng/L	2.4	7.5	4.15	10	2.1 U	No
PFNA	ng/L	4.9	7.3	5.88	3.5	8.2	No
PFOS	ng/L	9.1	25	14.5	17	14	No
PFOA	ng/L	6	11	8.73	7.8	6.9	No
PFPeA	ng/L	1.7	7.8	3.39	11	3.9U	No

RFI-23-02R		
Analyte	Units	March 2025 Result
PFHxS	ng/L	23
PFHxA	ng/L	2.8
PFOS	ng/L	11
PFOA	ng/L	3.4
PFPeS	ng/L	2.1

Notes:

1. Results compared to baseline samples and the Data compared to the EGLE GSI Criteria from Table 1: Groundwater: Residential and Nonresidential, Part 201 Generic Cleanup Criteria and Screening Levels, October 12, 2023.
2. Bolded results indicate an exceedance in GSI criteria.
3. Samples were analyzed via USEPA SW 846 Method 8270D, 6020A, and 7471B, and Method ASTMD7979-19 Modified.

Acronyms and Abbreviations:

µg/L = microgram per liter
mg/L = milligrams per liter
ng/L = nanograms per liter
U = The analyte was analyzed for but not detected. Associated value is the reporting limit
GSI = Groundwater Surface Water Interface
EGLE = Michigan Department of Environment, Great Lakes, and Energy.
USEPA = United States Environmental Protection Agency

**Table 3E - RFI-81-12R Detected Analytes Trend Analysis and
RFI-86-14 Detected Analytes
RACER Buick City
Flint, MI**



RFI-81-12R								
Analyte	Units	Baseline			December 2024 Result	March 2025 Result	Are Two Consecutive Samples Greater than Maximum Baseline?	Do Two Consecutive Samples Exceed Baseline Maximum by More Than 25%?
		Minimum	Maximum	Average				
Barium	mg/L	0.053	0.136	0.0895	0.116	0.089	No	No
Barium(dissolved)	mg/L	0.098	0.135	0.1165	0.113	0.084	No	No
Manganese	mg/L	0.009	0.009	0.007	0.04	0.007	No	No
Selenium	mg/L	0.006	0.011	0.0066	0.005 U	0.014	No	No
Selenium (dissolved)	mg/L	0.006	0.006	0.0043	0.005 U	0.013	No	No
Zinc	mg/L	0.007	0.008	0.006	0.007	0.008	No	No
Zinc (dissolved)	mg/L	0.006	0.009	0.0075	0.008	0.009	No	No
PFBA	ng/L	7.1	10	8.03	16	10 U	No	No
PFHxA	ng/L	1.6	1.6	1.15	3.6	2.1 U	Yes	Yes
PFOS	ng/L	12	24	17	23	13	No	No
PFOA	ng/L	2.6	5.6	3.83	12	3.8	No	No

RFI-86-14		
Analyte	Units	March 2025 Result
PFHpA	ng/L	3.3
PFHxA	ng/L	5.1
PFOA	ng/L	7.6
PFPeA	ng/L	4.6

Notes:

1. Results compared to baseline samples and the Data compared to the EGLE GSI Criteria from Table 1: Groundwater: Residential and Nonresidential, Part 201 Generic Cleanup Criteria and Screening Levels, October 12, 2023.
2. Bolded results indicate an exceedance in GSI criteria.
3. Samples were analyzed via USEPA SW 846 Method 6020A and 7471B, and Method ASTM D7979-19 Modified.

Acronyms and Abbreviations:

mg/L = milligrams per liter

ng/L = nanograms per liter

U = The analyte was analyzed for but not detected. Associated value is the reporting limit

GSI = Groundwater Surface Water Interface

EGLE = Michigan Department of Environment, Great Lakes, and Energy.

USEPA = United States Environmental Protection Agency

**Table 3F - RFI-81-33 Detected Analytes Trend Analysis and
RFI-86-14 Detected Analytes
RACER Buick City
Flint,MI**



RFI-81-33								
Analyte	Units	Baseline			December 2024 Result	March 2025 Result	Are Two Consecutive Samples Greater than Maximum Baseline?	Do Two Consecutive Samples Exceed Baseline Maximum by More Than 25%?
		Minimum	Maximum	Average				
Barium	mg/L	0.124	0.143	0.135	0.134	0.143	No	No
Barium(dissolved)	mg/L	0.14	0.143	0.142	0.136	0.134	No	No
Manganese	mg/L	0.932	1.44	1.19	0.994	0.897	No	No
Manganese (dissolved)	mg/L	1.17	1.2	1.19	1.06	0.835	No	No
PFBA	ng/L	8.7	14	9.35	20	18	Yes	Yes
PFHxS	ng/L	1.9 U	2.4	1.5125	2.3	2.4	No	No
PFPeA	ng/L	0.68	0.7	1.6325	6.6	5.3	Yes	Yes

RFI-86-14		
Analyte	Units	March 2025 Result
PFHpA	ng/L	3.3
PFHxA	ng/L	5.1
PFOA	ng/L	7.6
PFPeA	ng/L	4.6

Notes:

1. Results compared to baseline samples and the Data compared to the EGLE GSI Criteria from Table 1: Groundwater: Residential and Nonresidential, Part 201 Generic Cleanup Criteria and Screening Levels, October 12, 2023.
2. Bolded results indicate an exceedance in GSI criteria.
3. Samples were analyzed via USEPA SW 846 Method 6020A and 7471B, and Method ASTM D7979-19 Modified.

Acronyms and Abbreviations:

mg/L = milligrams per liter

ng/L = nanograms per liter

GSI = Groundwater Surface Water Interface

EGLE = Michigan Department of Environment, Great Lakes, and Energy.

USEPA = United States Environmental Protection Agency

Attachment 1 – Laboratory Analytical Reports



Analytical Laboratory Report

Report ID: S69412.01(01)
Generated on 12/30/2024

Report to

Attention: Erin Kozak
Arcadis US, Inc.
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: O: 810-225-1901 FAX:
Email: erin.kozak@arcadis.com

Additional Contacts: Megan Humphrey, Micki Maki, Madison Olender

Report produced by

Merit Laboratories, Inc.
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Contacts for report questions:
John Lavery (johnlavery@meritlabs.com)
Barbara Ball (bball@meritlabs.com)

Report Summary

Lab Sample ID(s): S69412.01-S69412.03
Project: RACER BUICK CITY
Collected Date(s): 12/10/2024
Submitted Date/Time: 12/10/2024 16:00
Sampled by: Donald Richmond
P.O. #: 30219382.01

Table of Contents

- Cover Page (Page 1)
- General Report Notes (Page 2)
- Report Narrative (Page 2)
- Laboratory Accreditations (Page 3)
- Qualifier Descriptions (Page 3)
- Glossary of Abbreviations (Page 3)
- Method Summary (Page 4)
- Parameter Summary (Page 5)
- Sample Summary (Page 6)

Maya Murshak
Technical Director



Analytical Laboratory Report

General Report Notes

Analytical results relate only to the samples tested, in the condition received by the laboratory.

Methods may be modified for improved performance.

Results reported on a dry weight basis where applicable.

'Not detected' indicates that parameter was not found at a level equal to or greater than the reporting limit (RL).

When MDL results are provided, then 'Not detected' indicates that parameter was not found at a level equal to or greater than the MDL.

40 CFR Part 136 Table II Required Containers, Preservation Techniques and Holding Times for the Clean Water Act specify that samples for acrolein and acrylonitrile, and 2-chloroethylvinyl ether need to be preserved at a pH in the range of 4 to 5 or if not preserved, analyzed within 3 days of sampling.

QA/QC corresponding to this analytical report is a separate document with the same Merit ID reference and is available upon request.

Starred (*) analytes are not NY NELAP accredited.

Samples are held by the lab for 30 days from the final report date unless a written request to hold longer is provided by the client.

Report shall not be reproduced except in full, without the written approval of Merit Laboratories, Inc.

Limits for drinking water samples, are listed as the MCL Limits (Maximum Contaminant Level Concentrations)

PFAS requirement: Section 9.3.8 of U.S. EPA Method 537.1 states "If the method analyte(s) found in the Field Sample is present in the FRB at a concentration greater than 1/3 the MRL, then all samples collected with that FRB are invalid and must be recollected and reanalyzed."

Samples submitted without an accompanying FRB may not be acceptable for compliance purposes.

Wisconsin PFAs analysis: MDL = LOD; RL = LOQ. LOD and LOQ are adjusted for dilution.

All accreditations/certifications held by this laboratory are listed on page 3. Not all accreditations/certifications are applicable to this report.

For a specific list of accredited analytes, please feel free to contact the laboratory or visit <https://www.meritlabs.com/certifications>.

Report Narrative

There is no additional narrative for this analytical report

Laboratory Accreditations (For Reference Only)

Authority	Accreditation ID
Michigan DEQ	#9956
DOD ELAP & ISO/IEC 17025:2017	#69699 PJLA Testing
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702
Pennsylvania DEP	#68-05884
Wisconsin DNR	FID# 399147320

Qualifier Descriptions

Qualifier	Description
!	Result is outside of stated limit criteria
B	Compound also found in associated method blank
E	Concentration exceeds calibration range
F	Analysis run outside of holding time
G	Estimated result due to extraction run outside of holding time
H	Sample submitted and run outside of holding time
I	Matrix interference with internal standard
J	Estimated value less than reporting limit, but greater than MDL
L	Elevated reporting limit due to low sample amount
M	Result reported to MDL not RDL
O	Analysis performed by outside laboratory. See attached report.
R	Preliminary result
S	Surrogate recovery outside of control limits
T	No correction for total solids
X	Elevated reporting limit due to matrix interference
Y	Elevated reporting limit due to high target concentration
b	Value detected less than reporting limit, but greater than MDL
e	Reported value estimated due to interference
j	Analyte also found in associated method blank
o	Associated EIS outside of control limits
p	Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.
q	Qualifier ion ratio outside of control limits
x	Preserved from bulk sample

Glossary of Abbreviations

Abbreviation	Description
RL/RDL	Reporting Limit
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
SW	EPA SW 846 (Soil and Wastewater) Methods
E	EPA Methods
SM	Standard Methods
LN	Linear
BR	Branched



Analytical Laboratory Report

Method Summary

Method	Version
ASTMD7979-19M	ASTM Method D7979 - 19 Modified (Isotopic Dilution)

Parameter Summary

Parameter	Synonym	Cas #
PFBA	Perfluorobutanoic Acid	375-22-4
PFPeA	Perfluoropentanoic Acid	2706-90-3
4:2 FTSA	4:2 Fluorotelomer Sulfonic Acid	757124-72-4
PFHxA	Perfluorohexanoic Acid	307-24-4
PFBS	Perfluorobutane sulfonic Acid	375-73-5
PFHpA	Perfluoroheptanoic Acid	375-85-9
PFPeS	Perfluoropentane Sulfonic Acid	2706-91-4
6:2 FTSA	6:2 Fluorotelomer Sulfonic Acid	27619-97-2
PFOA	Perfluorooctanoic Acid	335-67-1
PFHxS	Perfluorohexane Sulfonic Acid	355-46-4
PFHxS-LN	Perfluorohexane Sulfonic Acid - LN	355-46-4-LN
PFHxS-BR	Perfluorohexane Sulfonic Acid - BR	355-46-4-BR
PFNA	Perfluorononanoic Acid	375-95-1
8:2 FTSA	8:2 Fluorotelomer Sulfonic Acid	39108-34-4
PFHpS	Perfluoroheptane Sulfonic Acid	375-92-8
PFDA	Perfluorodecanoic Acid	335-76-2
N-MeFOSAA	N-methyl perfluorooctanesulfonamidoacetic acid	2355-31-9
EtFOSAA	N-Ethyl Perfluorooctane Sulfonamidoacetic Acid	2991-50-6
PFOS	Perfluorooctane Sulfonic Acid	1763-23-1
PFOS-LN	Perfluorooctane Sulfonic Acid - LN	1763-23-1-LN
PFOS-BR	Perfluorooctane Sulfonic Acid - BR	1763-23-1-BR
PFUnDA	Perfluoroundecanoic Acid	2058-94-8
PFNS	Perfluorononane Sulfonic Acid	68259-12-1
PFDoDA	Perfluorododecanoic Acid	307-55-1
PFDS	Perfluorodecane Sulfonic Acid	335-77-3
PFTTrDA	Perfluorotridecanoic Acid	72629-94-8
FOSA	Perfluorooctane Sulfonamide	754-91-6
PFTeDA	Perfluorotetradecanoic Acid	376-06-7
11Cl-PF3OUdS	11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	763051-92-9
9Cl-PF3ONS	9-chlorohexadecafluoro-3-oxanone1-sulfonic acid	756426-58-1
ADONA	4,8-dioxa-3H-perfluorononanoic acid	919005-14-4
HFPO-DA	Hexafluoropropylene oxide dimer	13252-13-6
FHpPA (7:3 FTCA)	3-Perfluoroheptyl propanoic acid	812-70-4
FPePA (5:3 FTCA)	3-Perfluoropentyl propanoic acid	914637-49-3
FPrPA (3:3 FTCA)	3-Perfluoropropyl propanoic acid	356-02-5
PFBSA	Perfluorobutanesulfonamide	30334-69-1
PFECHS	Perfluoro-4-ethylcyclohexanesulfonate	67584-42-3
PFHxSA	Perfluorohexanesulfonamide	41997-13-1



Analytical Laboratory Report

Sample Summary (3 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S69412.01	WestP-Trap_121024	Groundwater	12/10/24 10:10
S69412.02	EastP-Trap_121024	Groundwater	12/10/24 11:15
S69412.03	MH3-9_121024	Groundwater	12/10/24 12:30



Analytical Laboratory Report

Lab Sample ID: S69412.01

Sample Tag: WestP-Trap_121024

Collected Date/Time: 12/10/2024 10:10

Matrix: Groundwater

COC Reference: 162494

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15mL Centrifuge Tube	None	Yes	4.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	11.98/6.48/11	ASTMD7979-19M	12/13/24 15:00	CED	
Initial wt. (g) / Final wt. (g) / Volume (ml) (Rep1)	1.54/6.48/10	ASTMD7979-19M	12/20/24 11:30	CED	

Organics

34 PFAs, Method: ASTMD7979-19M, Run Date: 12/20/24 17:42, Analyst: CED

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	9.9		ng/L	1.98	375-22-4	
PFPeA*	Not detected	4.0		ng/L	1.98	2706-90-3	
4:2 FTSA*	Not detected	2.0		ng/L	1.98	757124-72-4	
PFHxA*	3.2	2.0		ng/L	1.98	307-24-4	
PFBS*	2.1	2.0		ng/L	1.98	375-73-5	
PFHpA*	2.5	2.0		ng/L	1.98	375-85-9	
PFPeS*	Not detected	2.0		ng/L	1.98	2706-91-4	
6:2 FTSA*	Not detected	2.0		ng/L	1.98	27619-97-2	
PFOA*	10	2.0		ng/L	1.98	335-67-1	
PFHxS*	16	2.0		ng/L	1.98	355-46-4	
PFHxS-LN*	13	2.0		ng/L	1.98	355-46-4-LN	
PFHxS-BR*	2.1	2.0		ng/L	1.98	355-46-4-BR	
PFNA*	2.8	2.0		ng/L	1.98	375-95-1	
8:2 FTSA*	Not detected	2.0		ng/L	1.98	39108-34-4	
PFHpS*	Not detected	2.0		ng/L	1.98	375-92-8	
PFDA*	Not detected	2.0		ng/L	1.98	335-76-2	
N-MeFOSAA*	Not detected	2.0		ng/L	1.98	2355-31-9	
EtFOSAA*	Not detected	4.0		ng/L	1.98	2991-50-6	
PFOS*	61	2.0		ng/L	1.98	1763-23-1	
PFOS-LN*	34	2.0		ng/L	1.98	1763-23-1-LN	
PFOS-BR*	24	2.0		ng/L	1.98	1763-23-1-BR	
PFUnDA*	Not detected	2.0		ng/L	1.98	2058-94-8	
PFNS*	Not detected	2.0		ng/L	1.98	68259-12-1	
PFDODA*	Not detected	2.0		ng/L	1.98	307-55-1	
PFDS*	Not detected	2.0		ng/L	1.98	335-77-3	
PFTTrDA*	Not detected	2.0		ng/L	1.98	72629-94-8	
FOSA*	Not detected	2.0		ng/L	1.98	754-91-6	
PFTeDA*	Not detected	4.0		ng/L	1.98	376-06-7	
11Cl-PF3OUdS*	Not detected	2.0		ng/L	1.98	763051-92-9	
9Cl-PF3ONS*	Not detected	2.0		ng/L	1.98	756426-58-1	
ADONA*	Not detected	2.0		ng/L	1.98	919005-14-4	
HFPO-DA*	Not detected	9.9		ng/L	1.98	13252-13-6	
FHpPA (7:3 FTCA)*	Not detected	9.9		ng/L	1.98	812-70-4	
FPePA (5:3 FTCA)*	Not detected	9.9		ng/L	1.98	914637-49-3	
FPrPA (3:3 FTCA)*	Not detected	9.9		ng/L	1.98	356-02-5	
PFBSA*	Not detected	2.0		ng/L	1.98	30334-69-1	



Analytical Laboratory Report

Lab Sample ID: S69412.01 (continued)
Sample Tag: WestP-Trap_121024

34 PFAs, Method: ASTMD7979-19M, Run Date: 12/20/24 17:42, Analyst: CED (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFECHS*	Not detected	2.0		ng/L	1.98	67584-42-3	
PFHxSA*	Not detected	2.0		ng/L	1.98	41997-13-1	



Analytical Laboratory Report

Lab Sample ID: S69412.02

Sample Tag: EastP-Trap_121024

Collected Date/Time: 12/10/2024 11:15

Matrix: Groundwater

COC Reference: 162494

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15mL Centrifuge Tube	None	Yes	4.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	11.78/6.48/11	ASTMD7979-19M	12/13/24 15:00	CED	

Organics

34 PFAs, Method: ASTMD7979-19M, Run Date: 12/14/24 04:19, Analyst: CED

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	10		ng/L	2.08	375-22-4	
PFPeA*	Not detected	4.2		ng/L	2.08	2706-90-3	
4:2 FTSA*	Not detected	2.1		ng/L	2.08	757124-72-4	
PFHxA*	Not detected	2.1		ng/L	2.08	307-24-4	
PFBS*	2.3	2.1		ng/L	2.08	375-73-5	
PFHpA*	Not detected	2.1		ng/L	2.08	375-85-9	
PFPeS*	Not detected	2.1		ng/L	2.08	2706-91-4	
6:2 FTSA*	Not detected	2.1		ng/L	2.08	27619-97-2	
PFOA*	6.4	2.1		ng/L	2.08	335-67-1	
PFHxS*	8.9	2.1		ng/L	2.08	355-46-4	
PFHxS-LN*	7.4	2.1		ng/L	2.08	355-46-4-LN	
PFHxS-BR*	Not detected	2.1		ng/L	2.08	355-46-4-BR	
PFNA*	Not detected	2.1		ng/L	2.08	375-95-1	
8:2 FTSA*	Not detected	2.1		ng/L	2.08	39108-34-4	
PFHpS*	Not detected	2.1		ng/L	2.08	375-92-8	
PFDA*	Not detected	2.1		ng/L	2.08	335-76-2	
N-MeFOSAA*	Not detected	2.1		ng/L	2.08	2355-31-9	
EtFOSAA*	Not detected	4.2		ng/L	2.08	2991-50-6	
PFOS*	38	2.1		ng/L	2.08	1763-23-1	
PFOS-LN*	21	2.1		ng/L	2.08	1763-23-1-LN	
PFOS-BR*	15	2.1		ng/L	2.08	1763-23-1-BR	
PFUnDA*	Not detected	2.1		ng/L	2.08	2058-94-8	
PFNS*	Not detected	2.1		ng/L	2.08	68259-12-1	
PFDODA*	Not detected	2.1		ng/L	2.08	307-55-1	
PFDS*	Not detected	2.1		ng/L	2.08	335-77-3	
PFTTrDA*	Not detected	2.1		ng/L	2.08	72629-94-8	
FOSA*	Not detected	2.1		ng/L	2.08	754-91-6	
PFTeDA*	Not detected	4.2		ng/L	2.08	376-06-7	
11Cl-PF3OUdS*	Not detected	2.1		ng/L	2.08	763051-92-9	
9Cl-PF3ONS*	Not detected	2.1		ng/L	2.08	756426-58-1	
ADONA*	Not detected	2.1		ng/L	2.08	919005-14-4	
HFPO-DA*	Not detected	10		ng/L	2.08	13252-13-6	
FHpPA (7:3 FTCA)*	Not detected	10		ng/L	2.08	812-70-4	
FPePA (5:3 FTCA)*	Not detected	10		ng/L	2.08	914637-49-3	
FPrPA (3:3 FTCA)*	Not detected	10		ng/L	2.08	356-02-5	
PFBSA*	Not detected	2.1		ng/L	2.08	30334-69-1	
PFECHS*	Not detected	2.1		ng/L	2.08	67584-42-3	



Analytical Laboratory Report

Lab Sample ID: S69412.02 (continued)
Sample Tag: EastP-Trap_121024

34 PFAs, Method: ASTMD7979-19M, Run Date: 12/14/24 04:19, Analyst: CED (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFHxSA*	Not detected	2.1		ng/L	2.08	41997-13-1	



Analytical Laboratory Report

Lab Sample ID: S69412.03
Sample Tag: MH3-9_121024
Collected Date/Time: 12/10/2024 12:30
Matrix: Groundwater
COC Reference: 162494

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15mL Centrifuge Tube	None	Yes	4.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.35/6.44/12	ASTMD7979-19M	12/13/24 15:00	CED	

Organics

34 PFAs, Method: ASTMD7979-19M, Run Date: 12/14/24 04:39, Analyst: CED

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	10		ng/L	2.03	375-22-4	
PFPeA*	Not detected	4.1		ng/L	2.03	2706-90-3	
4:2 FTSA*	Not detected	2.0		ng/L	2.03	757124-72-4	
PFHxA*	Not detected	2.0		ng/L	2.03	307-24-4	
PFBS*	Not detected	2.0		ng/L	2.03	375-73-5	
PFHpA*	Not detected	2.0		ng/L	2.03	375-85-9	
PFPeS*	Not detected	2.0		ng/L	2.03	2706-91-4	
6:2 FTSA*	Not detected	2.0		ng/L	2.03	27619-97-2	
PFOA*	Not detected	2.0		ng/L	2.03	335-67-1	
PFHxS*	Not detected	2.0		ng/L	2.03	355-46-4	
PFHxS-LN*	Not detected	2.0		ng/L	2.03	355-46-4-LN	
PFHxS-BR*	Not detected	2.0		ng/L	2.03	355-46-4-BR	
PFNA*	Not detected	2.0		ng/L	2.03	375-95-1	
8:2 FTSA*	Not detected	2.0		ng/L	2.03	39108-34-4	
PFHpS*	Not detected	2.0		ng/L	2.03	375-92-8	
PFDA*	Not detected	2.0		ng/L	2.03	335-76-2	
N-MeFOSAA*	Not detected	2.0		ng/L	2.03	2355-31-9	
EtFOSAA*	Not detected	4.1		ng/L	2.03	2991-50-6	
PFOS*	2.5	2.0		ng/L	2.03	1763-23-1	
PFOS-LN*	Not detected	2.0		ng/L	2.03	1763-23-1-LN	
PFOS-BR*	Not detected	2.0		ng/L	2.03	1763-23-1-BR	
PFUnDA*	Not detected	2.0		ng/L	2.03	2058-94-8	
PFNS*	Not detected	2.0		ng/L	2.03	68259-12-1	
PFDODA*	Not detected	2.0		ng/L	2.03	307-55-1	
PFDS*	Not detected	2.0		ng/L	2.03	335-77-3	
PFTTrDA*	Not detected	2.0		ng/L	2.03	72629-94-8	
FOSA*	Not detected	2.0		ng/L	2.03	754-91-6	
PFTeDA*	Not detected	4.1		ng/L	2.03	376-06-7	
11Cl-PF3OUdS*	Not detected	2.0		ng/L	2.03	763051-92-9	
9Cl-PF3ONS*	Not detected	2.0		ng/L	2.03	756426-58-1	
ADONA*	Not detected	2.0		ng/L	2.03	919005-14-4	
HFPO-DA*	Not detected	10		ng/L	2.03	13252-13-6	
FHpPA (7:3 FTCA)*	Not detected	10		ng/L	2.03	812-70-4	
FPePA (5:3 FTCA)*	Not detected	10		ng/L	2.03	914637-49-3	
FPrPA (3:3 FTCA)*	Not detected	10		ng/L	2.03	356-02-5	
PFBSA*	Not detected	2.0		ng/L	2.03	30334-69-1	
PFECHS*	Not detected	2.0		ng/L	2.03	67584-42-3	



Analytical Laboratory Report

Lab Sample ID: S69412.03 (continued)
Sample Tag: MH3-9_121024

34 PFAs, Method: ASTMD7979-19M, Run Date: 12/14/24 04:39, Analyst: CED (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFHxSA*	Not detected	2.0		ng/L	2.03	41997-13-1	

Merit Laboratories Login Checklist

Lab Set ID:S69412

Client:ARCADIS_NOVI (ARCADIS U.S., Inc.)

Project: RACER BUICK CITY

Submitted: 12/10/2024 16:00 Login User: PFD

Attention: Erin Kozak

Address: Arcadis US, Inc.
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: O: 810-225-1901 FAX:

Email: erin.kozak@arcadis.com

Selection	Description	Note
Sample Receiving		
01.	☒ Yes ☐ No ☐ N/A	Samples are received at 4C +/- 2C Thermometer # IR 4.7
02.	☒ Yes ☐ No ☐ N/A	Received on ice/ cooling process begun
03.	☐ Yes ☒ No ☐ N/A	Samples shipped
04.	☐ Yes ☒ No ☐ N/A	Samples left in 24 hr. drop box
05.	☐ Yes ☐ No ☒ N/A	Are there custody seals/tape or is the drop box locked
Chain of Custody		
06.	☒ Yes ☐ No ☐ N/A	COC adequately filled out
07.	☒ Yes ☐ No ☐ N/A	COC signed and relinquished to the lab
08.	☒ Yes ☐ No ☐ N/A	Sample tag on bottles match COC
09.	☐ Yes ☒ No ☐ N/A	Subcontracting needed? Subcontacted to:
Preservation		
10.	☒ Yes ☐ No ☐ N/A	Do sample have correct chemical preservation
11.	☐ Yes ☐ No ☒ N/A	Completed pH checks on preserved samples? (no VOAs)
12.	☐ Yes ☒ No ☐ N/A	Did any samples need to be preserved in the lab?
Bottle Conditions		
13.	☒ Yes ☐ No ☐ N/A	All bottles intact
14.	☒ Yes ☐ No ☐ N/A	Appropriate analytical bottles are used
15.	☒ Yes ☐ No ☐ N/A	Merit bottles used
16.	☒ Yes ☐ No ☐ N/A	Sufficient sample volume received
17.	☐ Yes ☒ No ☐ N/A	Samples require laboratory filtration
18.	☒ Yes ☐ No ☐ N/A	Samples submitted within holding time
19.	☐ Yes ☐ No ☒ N/A	Do water VOC, TOX, DO or Alkalinity bottles contain

Corrective action for all exceptions is to call the client and to notify the project manager.

Client Review By: _____ Date: _____

REPORT TO

CHAIN OF CUSTODY RECORD

INVOICE TO

CONTACT NAME E. Kozak, M. Maki, M. Humphrey, M. Olender			
COMPANY Arcadis.			
ADDRESS 28550 Cabot Dr #500			
CITY Novi		STATE MI	ZIP CODE 48377
PHONE NO. 248-790-1666		CELL NO.	P.O. NO. 30219382.01
E-MAIL ADDRESS madison.olender@arcadis.com		QUOTE NO.	

CONTACT NAME		E-NAME	
COMPANY			
ADDRESS			
CITY		STATE	ZIP CODE
PHONE NO.	E-MAIL ADDRESS		

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

PROJECT NO./NAME RACER Buick City	SAMPLER(S) - PLEASE PRINT/SIGN NAME Dannie Richmond / Donald Tiers
TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER _____	
DELIVERABLES REQUIRED ☐ STD ☒ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER _____	

MATRIX CODE:	W=WATER	GW=GROUNDWATER	WW=WASTEWATER	S=SOIL	L=LIQUID	SD=SOLID
	SL=SLUDGE	DW=DRINKING WATER	O=OIL	WP=WIPE	A=AIR	WS=WASTE

Containers & Preservatives

[illegible][illegible]

RELINQUISHED BY:	☒ Sampler	DATE	TIME
SIGNATURE/ORGANIZATION	<i>Donald King / Arcadis</i>	12/10/24	1600
RECEIVED BY:		DATE	TIME
SIGNATURE/ORGANIZATION	<i>Pha</i>	12/10/24	1600
RELINQUISHED BY:		DATE	TIME
SIGNATURE/ORGANIZATION			
RECEIVED BY:		DATE	TIME
SIGNATURE/ORGANIZATION			

RELINQUISHED BY: SIGNATURE/ORGANIZATION			DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION			DATE	TIME
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	NOTES:	TEMP. ON ARRIVAL 4.7
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS		

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE



Analytical Laboratory Report

Report ID: S69489.01(01)
Generated on 12/30/2024

Report to

Attention: Erin Kozak
Arcadis US, Inc.
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: O: 810-225-1901 FAX:
Email: erin.kozak@arcadis.com

Additional Contacts: Megan Humphrey, Joey Barker, Micki Maki, Madison Olender

Report produced by

Merit Laboratories, Inc.
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Contacts for report questions:
John Lavery (johnlavery@meritlabs.com)
Barbara Ball (bball@meritlabs.com)

Report Summary

Lab Sample ID(s): S69489.01-S69489.04
Project: 30219382.00001 / Buick City
Collected Date(s): 12/11/2024
Submitted Date/Time: 12/11/2024 16:45
Sampled by: Donald Richmond
P.O. #: 30219382.00001

Table of Contents

- Cover Page (Page 1)
- General Report Notes (Page 2)
- Report Narrative (Page 2)
- Laboratory Accreditations (Page 3)
- Qualifier Descriptions (Page 3)
- Glossary of Abbreviations (Page 3)
- Method Summary (Page 4)
- Parameter Summary (Page 5)
- Sample Summary (Page 6)

Maya Murshak
Technical Director



Analytical Laboratory Report

General Report Notes

Analytical results relate only to the samples tested, in the condition received by the laboratory.

Methods may be modified for improved performance.

Results reported on a dry weight basis where applicable.

'Not detected' indicates that parameter was not found at a level equal to or greater than the reporting limit (RL).

When MDL results are provided, then 'Not detected' indicates that parameter was not found at a level equal to or greater than the MDL.

40 CFR Part 136 Table II Required Containers, Preservation Techniques and Holding Times for the Clean Water Act specify that samples for acrolein and acrylonitrile, and 2-chloroethylvinyl ether need to be preserved at a pH in the range of 4 to 5 or if not preserved, analyzed within 3 days of sampling.

QA/QC corresponding to this analytical report is a separate document with the same Merit ID reference and is available upon request.

Starred (*) analytes are not NY NELAP accredited.

Samples are held by the lab for 30 days from the final report date unless a written request to hold longer is provided by the client.

Report shall not be reproduced except in full, without the written approval of Merit Laboratories, Inc.

Limits for drinking water samples, are listed as the MCL Limits (Maximum Contaminant Level Concentrations)

PFAS requirement: Section 9.3.8 of U.S. EPA Method 537.1 states "If the method analyte(s) found in the Field Sample is present in the FRB at a concentration greater than 1/3 the MRL, then all samples collected with that FRB are invalid and must be recollected and reanalyzed."

Samples submitted without an accompanying FRB may not be acceptable for compliance purposes.

Wisconsin PFAs analysis: MDL = LOD; RL = LOQ. LOD and LOQ are adjusted for dilution.

All accreditations/certifications held by this laboratory are listed on page 3. Not all accreditations/certifications are applicable to this report.

For a specific list of accredited analytes, please feel free to contact the laboratory or visit <https://www.meritlabs.com/certifications>.

Report Narrative

There is no additional narrative for this analytical report

Laboratory Accreditations (For Reference Only)

Authority	Accreditation ID
Michigan DEQ	#9956
DOD ELAP & ISO/IEC 17025:2017	#69699 PJLA Testing
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702
Pennsylvania DEP	#68-05884
Wisconsin DNR	FID# 399147320

Qualifier Descriptions

Qualifier	Description
!	Result is outside of stated limit criteria
B	Compound also found in associated method blank
E	Concentration exceeds calibration range
F	Analysis run outside of holding time
G	Estimated result due to extraction run outside of holding time
H	Sample submitted and run outside of holding time
I	Matrix interference with internal standard
J	Estimated value less than reporting limit, but greater than MDL
L	Elevated reporting limit due to low sample amount
M	Result reported to MDL not RDL
O	Analysis performed by outside laboratory. See attached report.
R	Preliminary result
S	Surrogate recovery outside of control limits
T	No correction for total solids
X	Elevated reporting limit due to matrix interference
Y	Elevated reporting limit due to high target concentration
b	Value detected less than reporting limit, but greater than MDL
e	Reported value estimated due to interference
j	Analyte also found in associated method blank
o	Associated EIS outside of control limits
p	Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.
q	Qualifier ion ratio outside of control limits
x	Preserved from bulk sample

Glossary of Abbreviations

Abbreviation	Description
RL/RDL	Reporting Limit
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
SW	EPA SW 846 (Soil and Wastewater) Methods
E	EPA Methods
SM	Standard Methods
LN	Linear
BR	Branched



Analytical Laboratory Report

Method Summary

Method	Version
ASTMD7979-19M	ASTM Method D7979 - 19 Modified (Isotopic Dilution)

Parameter Summary

Parameter	Synonym	Cas #
PFBA	Perfluorobutanoic Acid	375-22-4
PFPeA	Perfluoropentanoic Acid	2706-90-3
4:2 FTSA	4:2 Fluorotelomer Sulfonic Acid	757124-72-4
PFHxA	Perfluorohexanoic Acid	307-24-4
PFBS	Perfluorobutane sulfonic Acid	375-73-5
PFHpA	Perfluoroheptanoic Acid	375-85-9
PFPeS	Perfluoropentane Sulfonic Acid	2706-91-4
6:2 FTSA	6:2 Fluorotelomer Sulfonic Acid	27619-97-2
PFOA	Perfluorooctanoic Acid	335-67-1
PFHxS	Perfluorohexane Sulfonic Acid	355-46-4
PFHxS-LN	Perfluorohexane Sulfonic Acid - LN	355-46-4-LN
PFHxS-BR	Perfluorohexane Sulfonic Acid - BR	355-46-4-BR
PFNA	Perfluorononanoic Acid	375-95-1
8:2 FTSA	8:2 Fluorotelomer Sulfonic Acid	39108-34-4
PFHpS	Perfluoroheptane Sulfonic Acid	375-92-8
PFDA	Perfluorodecanoic Acid	335-76-2
N-MeFOSAA	N-methyl perfluorooctanesulfonamidoacetic acid	2355-31-9
EtFOSAA	N-Ethyl Perfluorooctane Sulfonamidoacetic Acid	2991-50-6
PFOS	Perfluorooctane Sulfonic Acid	1763-23-1
PFOS-LN	Perfluorooctane Sulfonic Acid - LN	1763-23-1-LN
PFOS-BR	Perfluorooctane Sulfonic Acid - BR	1763-23-1-BR
PFUnDA	Perfluoroundecanoic Acid	2058-94-8
PFNS	Perfluorononane Sulfonic Acid	68259-12-1
PFDoDA	Perfluorododecanoic Acid	307-55-1
PFDS	Perfluorodecane Sulfonic Acid	335-77-3
PFTTrDA	Perfluorotridecanoic Acid	72629-94-8
FOSA	Perfluorooctane Sulfonamide	754-91-6
PFTeDA	Perfluorotetradecanoic Acid	376-06-7
11Cl-PF3OUdS	11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	763051-92-9
9Cl-PF3ONS	9-chlorohexadecafluoro-3-oxanone1-sulfonic acid	756426-58-1
ADONA	4,8-dioxa-3H-perfluorononanoic acid	919005-14-4
HFPO-DA	Hexafluoropropylene oxide dimer	13252-13-6
FHpPA (7:3 FTCA)	3-Perfluoroheptyl propanoic acid	812-70-4
FPePA (5:3 FTCA)	3-Perfluoropentyl propanoic acid	914637-49-3
FPrPA (3:3 FTCA)	3-Perfluoropropyl propanoic acid	356-02-5
PFBSA	Perfluorobutanesulfonamide	30334-69-1
PFECHS	Perfluoro-4-ethylcyclohexanesulfonate	67584-42-3
PFHxSA	Perfluorohexanesulfonamide	41997-13-1



Analytical Laboratory Report

Sample Summary (4 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S69489.01	RFI-12-40_121124	Groundwater	12/11/24 11:05
S69489.02	RFI-23-01R_121124	Groundwater	12/11/24 12:35
S69489.03	RFI-81-12R_121124	Groundwater	12/11/24 14:00
S69489.04	RFI-81-33_121124	Groundwater	12/11/24 15:20



Analytical Laboratory Report

Lab Sample ID: S69489.01

Sample Tag: RFI-12-40_121124

Collected Date/Time: 12/11/2024 11:05

Matrix: Groundwater

COC Reference: 174584

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15mL Centrifuge Tube	None	Yes	6.9	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	11.93/6.43/11	ASTMD7979-19M	12/13/24 15:00	CED	

Organics

34 PFAs, Method: ASTMD7979-19M, Run Date: 12/14/24 06:59, Analyst: CED

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	10		ng/L	2	375-22-4	
PFPeA*	Not detected	4.0		ng/L	2	2706-90-3	
4:2 FTSA*	Not detected	2.0		ng/L	2	757124-72-4	
PFHxA*	Not detected	2.0		ng/L	2	307-24-4	
PFBS*	Not detected	2.0		ng/L	2	375-73-5	
PFHpA*	Not detected	2.0		ng/L	2	375-85-9	
PFPeS*	Not detected	2.0		ng/L	2	2706-91-4	
6:2 FTSA*	Not detected	2.0		ng/L	2	27619-97-2	
PFOA*	3.0	2.0		ng/L	2	335-67-1	
PFHxS*	3.3	2.0		ng/L	2	355-46-4	
PFHxS-LN*	2.5	2.0		ng/L	2	355-46-4-LN	
PFHxS-BR*	Not detected	2.0		ng/L	2	355-46-4-BR	
PFNA*	2.7	2.0		ng/L	2	375-95-1	
8:2 FTSA*	Not detected	2.0		ng/L	2	39108-34-4	
PFHpS*	Not detected	2.0		ng/L	2	375-92-8	
PFDA*	Not detected	2.0		ng/L	2	335-76-2	
N-MeFOSAA*	Not detected	2.0		ng/L	2	2355-31-9	
EtFOSAA*	Not detected	4.0		ng/L	2	2991-50-6	
PFOS*	12	2.0		ng/L	2	1763-23-1	
PFOS-LN*	6.0	2.0		ng/L	2	1763-23-1-LN	
PFOS-BR*	5.6	2.0		ng/L	2	1763-23-1-BR	
PFUnDA*	Not detected	2.0		ng/L	2	2058-94-8	
PFNS*	Not detected	2.0		ng/L	2	68259-12-1	
PFDODA*	Not detected	2.0		ng/L	2	307-55-1	
PFDS*	Not detected	2.0		ng/L	2	335-77-3	
PFTTrDA*	Not detected	2.0		ng/L	2	72629-94-8	
FOSA*	Not detected	2.0		ng/L	2	754-91-6	
PFTeDA*	Not detected	4.0		ng/L	2	376-06-7	
11Cl-PF3OUdS*	Not detected	2.0		ng/L	2	763051-92-9	
9Cl-PF3ONS*	Not detected	2.0		ng/L	2	756426-58-1	
ADONA*	Not detected	2.0		ng/L	2	919005-14-4	
HFPO-DA*	Not detected	10		ng/L	2	13252-13-6	
FHpPA (7:3 FTCA)*	Not detected	10		ng/L	2	812-70-4	
FPePA (5:3 FTCA)*	Not detected	10		ng/L	2	914637-49-3	
FPrPA (3:3 FTCA)*	Not detected	10		ng/L	2	356-02-5	
PFBSA*	Not detected	2.0		ng/L	2	30334-69-1	
PFECHS*	Not detected	2.0		ng/L	2	67584-42-3	



Analytical Laboratory Report

Lab Sample ID: S69489.01 (continued)
Sample Tag: RFI-12-40_121124

34 PFAs, Method: ASTMD7979-19M, Run Date: 12/14/24 06:59, Analyst: CED (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFHxSA*	Not detected	2.0		ng/L	2	41997-13-1	



Analytical Laboratory Report

Lab Sample ID: S69489.02
Sample Tag: RFI-23-01R_121124
Collected Date/Time: 12/11/2024 12:35
Matrix: Groundwater
COC Reference: 174584

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15mL Centrifuge Tube	None	Yes	6.9	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	11.83/6.49/11	ASTMD7979-19M	12/13/24 15:00	CED	
Initial wt. (g) / Final wt. (g) / Volume (ml) (Rep1)	11.63/6.41/11	ASTMD7979-19M	12/20/24 11:30	CED	

Organics

34 PFAs, Method: ASTMD7979-19M, Run Date: 12/20/24 19:42, Analyst: CED

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	16	11		ng/L	2.11	375-22-4	
PFPeA*	11	4.2		ng/L	2.11	2706-90-3	
4:2 FTSA*	Not detected	2.1		ng/L	2.11	757124-72-4	
PFHxA*	10	2.1		ng/L	2.11	307-24-4	
PFBS*	Not detected	2.1		ng/L	2.11	375-73-5	
PFHpA*	5.3	2.1		ng/L	2.11	375-85-9	
PFPeS*	Not detected	2.1		ng/L	2.11	2706-91-4	
6:2 FTSA*	Not detected	2.1		ng/L	2.11	27619-97-2	
PFOA*	7.8	2.1		ng/L	2.11	335-67-1	
PFHxS*	10.0	2.1		ng/L	2.11	355-46-4	
PFHxS-LN*	7.6	2.1		ng/L	2.11	355-46-4-LN	
PFHxS-BR*	Not detected	2.1		ng/L	2.11	355-46-4-BR	
PFNA*	3.5	2.1		ng/L	2.11	375-95-1	
8:2 FTSA*	Not detected	2.1		ng/L	2.11	39108-34-4	
PFHpS*	Not detected	2.1		ng/L	2.11	375-92-8	
PFDA*	Not detected	2.1		ng/L	2.11	335-76-2	
N-MeFOSAA*	Not detected	2.1		ng/L	2.11	2355-31-9	
EtFOSAA*	Not detected	4.2		ng/L	2.11	2991-50-6	
PFOS*	17	2.1		ng/L	2.11	1763-23-1	
PFOS-LN*	8.9	2.1		ng/L	2.11	1763-23-1-LN	
PFOS-BR*	6.9	2.1		ng/L	2.11	1763-23-1-BR	
PFUnDA*	Not detected	2.1		ng/L	2.11	2058-94-8	
PFNS*	Not detected	2.1		ng/L	2.11	68259-12-1	
PFDODA*	Not detected	2.1		ng/L	2.11	307-55-1	
PFDS*	Not detected	2.1		ng/L	2.11	335-77-3	
PFTTrDA*	Not detected	2.1		ng/L	2.11	72629-94-8	
FOSA*	Not detected	2.1		ng/L	2.11	754-91-6	
PFTeDA*	Not detected	4.2		ng/L	2.11	376-06-7	
11Cl-PF3OUdS*	Not detected	2.1		ng/L	2.11	763051-92-9	
9Cl-PF3ONS*	Not detected	2.1		ng/L	2.11	756426-58-1	
ADONA*	Not detected	2.1		ng/L	2.11	919005-14-4	
HFPO-DA*	Not detected	11		ng/L	2.11	13252-13-6	
FHpPA (7:3 FTCA)*	Not detected	11		ng/L	2.11	812-70-4	
FPePA (5:3 FTCA)*	Not detected	11		ng/L	2.11	914637-49-3	
FPrPA (3:3 FTCA)*	Not detected	11		ng/L	2.11	356-02-5	
PFBSA*	Not detected	2.1		ng/L	2.11	30334-69-1	



Analytical Laboratory Report

Lab Sample ID: S69489.02 (continued)
Sample Tag: RFI-23-01R_121124

34 PFAs, Method: ASTMD7979-19M, Run Date: 12/20/24 19:42, Analyst: CED (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFECHS*	Not detected	2.1		ng/L	2.11	67584-42-3	
PFHxSA*	Not detected	2.1		ng/L	2.11	41997-13-1	



Analytical Laboratory Report

Lab Sample ID: S69489.03
Sample Tag: RFI-81-12R_121124
Collected Date/Time: 12/11/2024 14:00
Matrix: Groundwater
COC Reference: 174584

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15mL Centrifuge Tube	None	Yes	6.9	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	11.92/6.46/11	ASTMD7979-19M	12/13/24 15:00	CED	
Initial wt. (g) / Final wt. (g) / Volume (ml) (Rep#1)	1.51/6.43/10	ASTMD7979-19M	12/20/24 11:30	CED	

Organics

34 PFAs, Method: ASTMD7979-19M, Run Date: 12/20/24 20:02, Analyst: CED

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	16	9.9		ng/L	1.97	375-22-4	
PFPeA*	Not detected	3.9		ng/L	1.97	2706-90-3	
4:2 FTSA*	Not detected	2.0		ng/L	1.97	757124-72-4	
PFHxA*	3.6	2.0		ng/L	1.97	307-24-4	
PFBS*	2.2	2.0		ng/L	1.97	375-73-5	
PFHpA*	3.5	2.0		ng/L	1.97	375-85-9	
PFPeS*	Not detected	2.0		ng/L	1.97	2706-91-4	
6:2 FTSA*	Not detected	2.0		ng/L	1.97	27619-97-2	
PFOA*	12	2.0		ng/L	1.97	335-67-1	
PFHxS*	2.5	2.0		ng/L	1.97	355-46-4	
PFHxS-LN*	2.0	2.0		ng/L	1.97	355-46-4-LN	
PFHxS-BR*	Not detected	2.0		ng/L	1.97	355-46-4-BR	
PFNA*	3.0	2.0		ng/L	1.97	375-95-1	
8:2 FTSA*	Not detected	2.0		ng/L	1.97	39108-34-4	
PFHpS*	Not detected	2.0		ng/L	1.97	375-92-8	
PFDA*	Not detected	2.0		ng/L	1.97	335-76-2	
N-MeFOSAA*	Not detected	2.0		ng/L	1.97	2355-31-9	
EtFOSAA*	Not detected	3.9		ng/L	1.97	2991-50-6	
PFOS*	23	2.0		ng/L	1.97	1763-23-1	
PFOS-LN*	16	2.0		ng/L	1.97	1763-23-1-LN	
PFOS-BR*	6.2	2.0		ng/L	1.97	1763-23-1-BR	
PFUnDA*	Not detected	2.0		ng/L	1.97	2058-94-8	
PFNS*	Not detected	2.0		ng/L	1.97	68259-12-1	
PFDODA*	Not detected	2.0		ng/L	1.97	307-55-1	
PFDS*	Not detected	2.0		ng/L	1.97	335-77-3	
PFTTrDA*	Not detected	2.0		ng/L	1.97	72629-94-8	
FOSA*	Not detected	2.0		ng/L	1.97	754-91-6	
PFTeDA*	Not detected	3.9		ng/L	1.97	376-06-7	
11Cl-PF3OUdS*	Not detected	2.0		ng/L	1.97	763051-92-9	
9Cl-PF3ONS*	Not detected	2.0		ng/L	1.97	756426-58-1	
ADONA*	Not detected	2.0		ng/L	1.97	919005-14-4	
HFPO-DA*	Not detected	9.9		ng/L	1.97	13252-13-6	
FHpPA (7:3 FTCA)*	Not detected	9.9		ng/L	1.97	812-70-4	
FPePA (5:3 FTCA)*	Not detected	9.9		ng/L	1.97	914637-49-3	
FPrPA (3:3 FTCA)*	Not detected	9.9		ng/L	1.97	356-02-5	
PFBSA*	Not detected	2.0		ng/L	1.97	30334-69-1	



Analytical Laboratory Report

Lab Sample ID: S69489.03 (continued)
Sample Tag: RFI-81-12R_121124

34 PFAs, Method: ASTMD7979-19M, Run Date: 12/20/24 20:02, Analyst: CED (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFECHS*	Not detected	2.0		ng/L	1.97	67584-42-3	
PFHxSA*	Not detected	2.0		ng/L	1.97	41997-13-1	



Analytical Laboratory Report

Lab Sample ID: S69489.04
Sample Tag: RFI-81-33_121124
Collected Date/Time: 12/11/2024 15:20
Matrix: Groundwater
COC Reference: 174584

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15mL Centrifuge Tube	None	Yes	6.9	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	11.64/6.42/11	ASTMD7979-19M	12/13/24 15:00	CED	

Organics

34 PFAs, Method: ASTMD7979-19M, Run Date: 12/14/24 07:59, Analyst: CED

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	20	11		ng/L	2.11	375-22-4	
PFPeA*	6.6	4.2		ng/L	2.11	2706-90-3	
4:2 FTSA*	Not detected	2.1		ng/L	2.11	757124-72-4	
PFHxA*	2.3	2.1		ng/L	2.11	307-24-4	
PFBS*	Not detected	2.1		ng/L	2.11	375-73-5	
PFHpA*	Not detected	2.1		ng/L	2.11	375-85-9	
PFPeS*	Not detected	2.1		ng/L	2.11	2706-91-4	
6:2 FTSA*	Not detected	2.1		ng/L	2.11	27619-97-2	
PFOA*	Not detected	2.1		ng/L	2.11	335-67-1	
PFHxS*	2.3	2.1		ng/L	2.11	355-46-4	
PFHxS-LN*	Not detected	2.1		ng/L	2.11	355-46-4-LN	
PFHxS-BR*	Not detected	2.1		ng/L	2.11	355-46-4-BR	
PFNA*	Not detected	2.1		ng/L	2.11	375-95-1	
8:2 FTSA*	Not detected	2.1		ng/L	2.11	39108-34-4	
PFHpS*	Not detected	2.1		ng/L	2.11	375-92-8	
PFDA*	Not detected	2.1		ng/L	2.11	335-76-2	
N-MeFOSAA*	Not detected	2.1		ng/L	2.11	2355-31-9	
EtFOSAA*	Not detected	4.2		ng/L	2.11	2991-50-6	
PFOS*	Not detected	2.1		ng/L	2.11	1763-23-1	
PFOS-LN*	Not detected	2.1		ng/L	2.11	1763-23-1-LN	
PFOS-BR*	Not detected	2.1		ng/L	2.11	1763-23-1-BR	
PFUnDA*	Not detected	2.1		ng/L	2.11	2058-94-8	
PFNS*	Not detected	2.1		ng/L	2.11	68259-12-1	
PFDODA*	Not detected	2.1		ng/L	2.11	307-55-1	
PFDS*	Not detected	2.1		ng/L	2.11	335-77-3	
PFTTrDA*	Not detected	2.1		ng/L	2.11	72629-94-8	
FOSA*	Not detected	2.1		ng/L	2.11	754-91-6	
PFTeDA*	Not detected	4.2		ng/L	2.11	376-06-7	
11Cl-PF3OUdS*	Not detected	2.1		ng/L	2.11	763051-92-9	
9Cl-PF3ONS*	Not detected	2.1		ng/L	2.11	756426-58-1	
ADONA*	Not detected	2.1		ng/L	2.11	919005-14-4	
HFPO-DA*	Not detected	11		ng/L	2.11	13252-13-6	
FHpPA (7:3 FTCA)*	Not detected	11		ng/L	2.11	812-70-4	
FPePA (5:3 FTCA)*	Not detected	11		ng/L	2.11	914637-49-3	
FPrPA (3:3 FTCA)*	Not detected	11		ng/L	2.11	356-02-5	
PFBSA*	Not detected	2.1		ng/L	2.11	30334-69-1	
PFECHS*	Not detected	2.1		ng/L	2.11	67584-42-3	



Analytical Laboratory Report

Lab Sample ID: S69489.04 (continued)
Sample Tag: RFI-81-33_121124

34 PFAs, Method: ASTMD7979-19M, Run Date: 12/14/24 07:59, Analyst: CED (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFHxSA*	Not detected	2.1		ng/L	2.11	41997-13-1	

Merit Laboratories Login Checklist

Lab Set ID:S69489

Client:ARCADIS_NOVI (ARCADIS U.S., Inc.)

Project: 30219382.00001 / Buick City

Submitted: 12/11/2024 16:45 Login User: PFD

Attention: Erin Kozak

Address: Arcadis US, Inc.
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: O: 810-225-1901 FAX:

Email: erin.kozak@arcadis.com

Selection	Description	Note
Sample Receiving		
01.	☒ Yes ☐ No ☐ N/A	Samples are received at 4C +/- 2C Thermometer # IR 6.9
02.	☒ Yes ☐ No ☐ N/A	Received on ice/ cooling process begun
03.	☐ Yes ☒ No ☐ N/A	Samples shipped
04.	☐ Yes ☒ No ☐ N/A	Samples left in 24 hr. drop box
05.	☐ Yes ☐ No ☒ N/A	Are there custody seals/tape or is the drop box locked
Chain of Custody		
06.	☒ Yes ☐ No ☐ N/A	COC adequately filled out
07.	☒ Yes ☐ No ☐ N/A	COC signed and relinquished to the lab
08.	☒ Yes ☐ No ☐ N/A	Sample tag on bottles match COC
09.	☐ Yes ☒ No ☐ N/A	Subcontracting needed? Subcontacted to:
Preservation		
10.	☒ Yes ☐ No ☐ N/A	Do sample have correct chemical preservation
11.	☐ Yes ☐ No ☒ N/A	Completed pH checks on preserved samples? (no VOAs)
12.	☐ Yes ☒ No ☐ N/A	Did any samples need to be preserved in the lab?
Bottle Conditions		
13.	☒ Yes ☐ No ☐ N/A	All bottles intact
14.	☒ Yes ☐ No ☐ N/A	Appropriate analytical bottles are used
15.	☒ Yes ☐ No ☐ N/A	Merit bottles used
16.	☒ Yes ☐ No ☐ N/A	Sufficient sample volume received
17.	☐ Yes ☒ No ☐ N/A	Samples require laboratory filtration
18.	☒ Yes ☐ No ☐ N/A	Samples submitted within holding time
19.	☐ Yes ☐ No ☒ N/A	Do water VOC, TOX, DO or Alkalinity bottles contain

Corrective action for all exceptions is to call the client and to notify the project manager.

Client Review By: _____ Date: _____



Analytical Laboratory Report

Report ID: S69414.01(01)
Generated on 12/23/2024

Report to

Attention: Erin Kozak
Arcadis US, Inc.
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: O: 810-225-1901 FAX:
Email: erin.kozak@arcadis.com

Additional Contacts: Megan Humphrey, Micki Maki, Madison Olender

Report produced by

Merit Laboratories, Inc.
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Contacts for report questions:
John Lavery (johnlavery@meritlabs.com)
Barbara Ball (bball@meritlabs.com)

Report Summary

Lab Sample ID(s): S69414.01-S69414.03
Project: RACER Buick City
Collected Date(s): 12/10/2024
Submitted Date/Time: 12/10/2024 16:00
Sampled by: Donnie Richmond
P.O. #: 30215500

Table of Contents

- Cover Page (Page 1)
- General Report Notes (Page 2)
- Report Narrative (Page 2)
- Laboratory Accreditations (Page 3)
- Qualifier Descriptions (Page 3)
- Glossary of Abbreviations (Page 3)
- Method Summary (Page 4)
- Sample Summary (Page 5)

Maya Murshak
Technical Director



Analytical Laboratory Report

General Report Notes

Analytical results relate only to the samples tested, in the condition received by the laboratory.

Methods may be modified for improved performance.

Results reported on a dry weight basis where applicable.

'Not detected' indicates that parameter was not found at a level equal to or greater than the reporting limit (RL).

When MDL results are provided, then 'Not detected' indicates that parameter was not found at a level equal to or greater than the MDL.

40 CFR Part 136 Table II Required Containers, Preservation Techniques and Holding Times for the Clean Water Act specify that samples for acrolein and acrylonitrile, and 2-chloroethylvinyl ether need to be preserved at a pH in the range of 4 to 5 or if not preserved, analyzed within 3 days of sampling.

QA/QC corresponding to this analytical report is a separate document with the same Merit ID reference and is available upon request.

Starred (*) analytes are not NY NELAP accredited.

Samples are held by the lab for 30 days from the final report date unless a written request to hold longer is provided by the client.

Report shall not be reproduced except in full, without the written approval of Merit Laboratories, Inc.

Limits for drinking water samples, are listed as the MCL Limits (Maximum Contaminant Level Concentrations)

PFAS requirement: Section 9.3.8 of U.S. EPA Method 537.1 states "If the method analyte(s) found in the Field Sample is present in the FRB at a concentration greater than 1/3 the MRL, then all samples collected with that FRB are invalid and must be recollected and reanalyzed."

Samples submitted without an accompanying FRB may not be acceptable for compliance purposes.

Wisconsin PFAs analysis: MDL = LOD; RL = LOQ. LOD and LOQ are adjusted for dilution.

All accreditations/certifications held by this laboratory are listed on page 3. Not all accreditations/certifications are applicable to this report.

For a specific list of accredited analytes, please feel free to contact the laboratory or visit <https://www.meritlabs.com/certifications>.

Report Narrative

There is no additional narrative for this analytical report

Laboratory Accreditations (For Reference Only)

Authority	Accreditation ID
Michigan DEQ	#9956
DOD ELAP & ISO/IEC 17025:2017	#69699 PJLA Testing
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702
Pennsylvania DEP	#68-05884
Wisconsin DNR	FID# 399147320

Qualifier Descriptions

Qualifier	Description
!	Result is outside of stated limit criteria
B	Compound also found in associated method blank
E	Concentration exceeds calibration range
F	Analysis run outside of holding time
G	Estimated result due to extraction run outside of holding time
H	Sample submitted and run outside of holding time
I	Matrix interference with internal standard
J	Estimated value less than reporting limit, but greater than MDL
L	Elevated reporting limit due to low sample amount
M	Result reported to MDL not RDL
O	Analysis performed by outside laboratory. See attached report.
R	Preliminary result
S	Surrogate recovery outside of control limits
T	No correction for total solids
X	Elevated reporting limit due to matrix interference
Y	Elevated reporting limit due to high target concentration
b	Value detected less than reporting limit, but greater than MDL
e	Reported value estimated due to interference
j	Analyte also found in associated method blank
o	Associated EIS outside of control limits
p	Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.
q	Qualifier ion ratio outside of control limits
x	Preserved from bulk sample

Glossary of Abbreviations

Abbreviation	Description
RL/RDL	Reporting Limit
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
SW	EPA SW 846 (Soil and Wastewater) Methods
E	EPA Methods
SM	Standard Methods
LN	Linear
BR	Branched



Analytical Laboratory Report

Method Summary

Method	Version
E1631E	EPA Method 1631 Revision E
E608.3	EPA Method 608.3 December 2016
N/A	Not Applicable
SW3015A	SW 846 Method 3015A Revision 1 February 2007
SW3510C	SW 846 Method 3510C Revision 3 December 1996
SW5030C/8260C	SW 846 Method 8260C Revision 3 August 2006 / 5030C Revision 3 May 2003
SW6020A	SW 846 Method 6020A Revision 1 February 2007
SW7471B	SW 846 Method 7471B Revision 2 February 2007
SW8270D	SW 846 Method 8270D Revision 4 February 2007



Analytical Laboratory Report

Sample Summary (3 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S69414.01	WestP-Trap_121024	Groundwater	12/10/24 10:10
S69414.02	EastP-Trap_121024	Groundwater	12/10/24 11:15
S69414.03	MH3-9_121024	Groundwater	12/10/24 12:30



Analytical Laboratory Report

Lab Sample ID: S69414.01
Sample Tag: WestP-Trap_121024
Collected Date/Time: 12/10/2024 10:10
Matrix: Groundwater
COC Reference: 174587

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	4.7	IR
2	1L Amber	None	Yes	4.7	IR
2	125mL Plastic	HNO3	Yes	4.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	12/12/24 11:40	NDK	
Metal Digestion	Completed	SW3015A	12/17/24 09:40	CCM	
Metal Digestion	Completed	SW3015A	12/17/24 09:40	CCM	
BNA Extraction	Completed	SW3510C	12/17/24 10:00	JWR	
Mercury Digestion*	Completed	SW7471B	12/12/24 14:00	CTV	
Mercury Digestion*	Completed	SW7471B	12/12/24 14:00	CTV	

Metals

Method: SW6020A, Run Date: 12/17/24 12:42, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Antimony*	Not detected	0.005		mg/L	5	7440-36-0	
Arsenic	0.010	0.002		mg/L	5	7440-38-2	
Barium	0.090	0.005		mg/L	5	7440-39-3	
Beryllium	Not detected	0.001		mg/L	5	7440-41-7	
Cadmium	Not detected	0.0005		mg/L	5	7440-43-9	
Chromium	Not detected	0.005		mg/L	5	7440-47-3	
Cobalt	Not detected	0.005		mg/L	5	7440-48-4	
Copper	Not detected	0.005		mg/L	5	7440-50-8	
Lead	Not detected	0.003		mg/L	5	7439-92-1	
Manganese	0.842	0.005		mg/L	5	7439-96-5	
Nickel	Not detected	0.005		mg/L	5	7440-02-0	
Selenium	Not detected	0.005		mg/L	5	7782-49-2	
Silver	Not detected	0.0005		mg/L	5	7440-22-4	
Thallium	Not detected	0.002		mg/L	5	7440-28-0	
Vanadium	Not detected	0.005		mg/L	5	7440-62-2	
Zinc	Not detected	0.005		mg/L	5	7440-66-6	

Method: SW6020A, Run Date: 12/17/24 12:45, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Antimony, Dissolved*	Not detected	0.005		mg/L	5	7440-36-0	
Arsenic, Dissolved	0.007	0.002		mg/L	5	7440-38-2	
Barium, Dissolved	0.085	0.005		mg/L	5	7440-39-3	
Beryllium, Dissolved	Not detected	0.001		mg/L	5	7440-41-7	
Cadmium, Dissolved	Not detected	0.0005		mg/L	5	7440-43-9	
Chromium, Dissolved	Not detected	0.005		mg/L	5	7440-47-3	
Cobalt, Dissolved	Not detected	0.005		mg/L	5	7440-48-4	
Copper, Dissolved	Not detected	0.005		mg/L	5	7440-50-8	
Lead, Dissolved	Not detected	0.003		mg/L	5	7439-92-1	
Manganese, Dissolved	0.827	0.005		mg/L	5	7439-96-5	
Nickel, Dissolved	Not detected	0.005		mg/L	5	7440-02-0	



Analytical Laboratory Report

Lab Sample ID: S69414.01 (continued)

Sample Tag: WestP-Trap_121024

Method: SW6020A, Run Date: 12/17/24 12:45, Analyst: CCM (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Selenium, Dissolved	Not detected	0.005		mg/L	5	7782-49-2	
Silver, Dissolved	Not detected	0.0005		mg/L	5	7440-22-4	
Thallium, Dissolved	Not detected	0.002		mg/L	5	7440-28-0	
Vanadium, Dissolved	Not detected	0.005		mg/L	5	7440-62-2	
Zinc, Dissolved	Not detected	0.005		mg/L	5	7440-66-6	

Method: SW7471B, Run Date: 12/12/24 19:52, Analyst: CTV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Mercury*	Not detected	0.0002		mg/L	1	7439-97-6	

Method: SW7471B, Run Date: 12/12/24 20:02, Analyst: CTV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Mercury, Dissolved*	Not detected	0.0002		mg/L	1	7439-97-6	

Organics - Semi-Volatiles

TCL Semi-Volatile Organics, Method: SW8270D, Run Date: 12/18/24 20:23, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Benzaldehyde	Not detected	5		ug/L	2	100-52-7	
Acetophenone	Not detected	5		ug/L	2	98-86-2	
Caprolactam	Not detected	10		ug/L	2	105-60-2	
1,1'-Biphenyl	Not detected	5		ug/L	2	92-52-4	
Atrazine*	Not detected	3		ug/L	2	1912-24-9	

TCL Semi-Volatile Organics, Method: SW8270D, Run Date: 12/18/24 20:23, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acenaphthene	Not detected	5		ug/L	2	83-32-9	
Acenaphthylene	Not detected	5		ug/L	2	208-96-8	
Anthracene	Not detected	5		ug/L	2	120-12-7	
4-Bromophenyl phenyl ether	Not detected	5		ug/L	2	101-55-3	
di-n-Butyl phthalate	Not detected	5		ug/L	2	84-74-2	
Benzo(a)anthracene	Not detected	1		ug/L	2	56-55-3	
Benzo(a)pyrene	Not detected	5		ug/L	2	50-32-8	
Benzo(b)fluoranthene	Not detected	1		ug/L	2	205-99-2	
Benzo(ghi)perylene	Not detected	5		ug/L	2	191-24-2	
Benzo(k)fluoranthene	Not detected	5		ug/L	2	207-08-9	
Butyl benzyl phthalate	Not detected	5		ug/L	2	85-68-7	
2-Chloronaphthalene	Not detected	5		ug/L	2	91-58-7	
2-Chlorophenol	Not detected	10		ug/L	2	95-57-8	
4-Chloro-3-methylphenol	Not detected	5		ug/L	2	59-50-7	
4-Chloroaniline	Not detected	10		ug/L	2	106-47-8	
4-Chlorophenyl phenyl ether	Not detected	5		ug/L	2	7005-72-3	
bis(2-Chloroethoxy)methane	Not detected	5		ug/L	2	111-91-1	
bis(2-Chloroethyl)ether	Not detected	1		ug/L	2	111-44-4	
Chrysene	Not detected	1		ug/L	2	218-01-9	
2,4-Dichlorophenol	Not detected	10		ug/L	2	120-83-2	
2,4-Dimethylphenol	Not detected	5		ug/L	2	105-67-9	
2,4-Dinitrophenol	Not detected	25		ug/L	2	51-28-5	
2,4-Dinitrotoluene	Not detected	5		ug/L	2	121-14-2	
2,6-Dinitrotoluene	Not detected	5		ug/L	2	606-20-2	
4,6-Dinitro-2-methylphenol	Not detected	25		ug/L	2	534-52-1	



Analytical Laboratory Report

Lab Sample ID: S69414.01 (continued)

Sample Tag: WestP-Trap_121024

TCL Semi-Volatile Organics, Method: SW8270D, Run Date: 12/18/24 20:23, Analyst: PL (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibenzo(ah)anthracene	Not detected	5		ug/L	2	53-70-3	
Dibenzofuran	Not detected	4		ug/L	2	132-64-9	
Diethyl phthalate	Not detected	5		ug/L	2	84-66-2	
Dimethyl phthalate	Not detected	5		ug/L	2	131-11-3	
bis(2-Ethylhexyl)phthalate	Not detected	5		ug/L	2	117-81-7	
Fluoranthene	Not detected	1		ug/L	2	206-44-0	
Fluorene	Not detected	5		ug/L	2	86-73-7	
Hexachlorocyclopentadiene	Not detected	5		ug/L	2	77-47-4	
Hexachloroethane	Not detected	5		ug/L	2	67-72-1	
Indeno(1,2,3-cd)pyrene	Not detected	5		ug/L	2	193-39-5	
Isophorone	Not detected	5		ug/L	2	78-59-1	
2-Methylnaphthalene	Not detected	5		ug/L	2	91-57-6	
2-Methylphenol (o-Cresol)	Not detected	10		ug/L	2	95-48-7	
2-Nitroaniline	Not detected	25		ug/L	2	88-74-4	
2-Nitrophenol	Not detected	5		ug/L	2	88-75-5	
3-Nitroaniline	Not detected	25		ug/L	2	99-09-2	
4-Nitroaniline	Not detected	25		ug/L	2	100-01-6	
4-Nitrophenol	Not detected	25		ug/L	2	100-02-7	
N-Nitrosodi-n-propylamine	Not detected	10		ug/L	2	621-64-7	
N-Nitrosodiphenylamine	Not detected	5		ug/L	2	86-30-6	
Naphthalene	Not detected	5		ug/L	2	91-20-3	
Nitrobenzene	Not detected	3		ug/L	2	98-95-3	
di-n-Octyl phthalate	Not detected	5		ug/L	2	117-84-0	
2,4,5-Trichlorophenol	Not detected	5		ug/L	2	95-95-4	
2,4,6-Trichlorophenol	Not detected	4		ug/L	2	88-06-2	
3,3'-Dichlorobenzidine	Not detected	10		ug/L	2	91-94-1	
3-, 4-Methylphenol (p,m-Cresol)	Not detected	10		ug/L	2	3/4-CRESOL	
Pentachlorophenol	Not detected	5		ug/L	2	87-86-5	
Phenanthrene	Not detected	2		ug/L	2	85-01-8	
Phenol	Not detected	5		ug/L	2	108-95-2	
Pyrene	Not detected	5		ug/L	2	129-00-0	
Hexachlorobenzene	Not detected	5		ug/L	2	118-74-1	
Hexachlorobutadiene	Not detected	5		ug/L	2	87-68-3	
bis(2-Chloroisopropyl)ether*	Not detected	5		ug/L	2	108-60-1	
Carbazole	Not detected	5		ug/L	2	86-74-8	

Organics - Volatiles

TCL Volatile Organics 8260 PAL, Method: SW5030C/8260C, Run Date: 12/12/24 02:37, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	30		ug/L	1	76-13-1	
Acetone	Not detected	20		ug/L	1	67-64-1	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
Methyl Acetate	Not detected	10		ug/L	1	79-20-9	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
2-Butanone (MEK)	Not detected	20		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	1		ug/L	1	75-71-8	
Chloromethane	Not detected	1		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	2		ug/L	1	74-83-9	
Chloroethane	Not detected	1		ug/L	1	75-00-3	



Analytical Laboratory Report

Lab Sample ID: S69414.01 (continued)

Sample Tag: WestP-Trap_121024

TCL Volatile Organics 8260 PAL, Method: SW5030C/8260C, Run Date: 12/12/24 02:37, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	5	1		ug/L	1	156-59-2	
Chloroform	Not detected	1		ug/L	1	67-66-3	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
Cyclohexane	Not detected	1		ug/L	1	110-82-7	
4-Methyl-2-pentanone (MIBK)	Not detected	10		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	2	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Methyl cyclohexane	Not detected	20		ug/L	1	108-87-2	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
Dibromochloromethane	Not detected	1		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	1		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2-Dibromo-3-chloropropane	Not detected	1		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	2		ug/L	1	120-82-1	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Naphthalene	Not detected	1		ug/L	1	91-20-3	



Analytical Laboratory Report

Lab Sample ID: S69414.02

Sample Tag: EastP-Trap_121024

Collected Date/Time: 12/10/2024 11:15

Matrix: Groundwater

COC Reference: 174587

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	4.7	IR
2	1L Amber	None	Yes	4.7	IR
2	125mL Plastic	HNO3	Yes	4.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	12/12/24 11:40	NDK	
Metal Digestion	Completed	SW3015A	12/17/24 09:40	CCM	
Metal Digestion	Completed	SW3015A	12/17/24 09:40	CCM	
BNA Extraction	Completed	SW3510C	12/17/24 10:00	JWR	
Mercury Digestion*	Completed	SW7471B	12/12/24 14:00	CTV	
Mercury Digestion*	Completed	SW7471B	12/12/24 14:00	CTV	

Metals

Method: SW6020A, Run Date: 12/17/24 13:04, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Antimony*	0.010	0.005		mg/L	5	7440-36-0	
Arsenic	0.059	0.002		mg/L	5	7440-38-2	
Beryllium	0.003	0.001		mg/L	5	7440-41-7	
Cadmium	0.0119	0.0005		mg/L	5	7440-43-9	
Chromium	0.183	0.005		mg/L	5	7440-47-3	
Cobalt	0.046	0.005		mg/L	5	7440-48-4	
Copper	0.367	0.005		mg/L	5	7440-50-8	
Nickel	0.159	0.005		mg/L	5	7440-02-0	
Selenium	0.012	0.005		mg/L	5	7782-49-2	
Silver	0.0007	0.0005		mg/L	5	7440-22-4	
Thallium	0.002	0.002		mg/L	5	7440-28-0	
Vanadium	0.132	0.005		mg/L	5	7440-62-2	

Method: SW6020A, Run Date: 12/17/24 13:16, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Barium	0.66	0.05		mg/L	50	7440-39-3	
Lead	0.86	0.03		mg/L	50	7439-92-1	
Manganese	4.13	0.05		mg/L	50	7439-96-5	
Zinc	3.83	0.05		mg/L	50	7440-66-6	

Method: SW6020A, Run Date: 12/17/24 13:21, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Antimony, Dissolved*	Not detected	0.005		mg/L	5	7440-36-0	
Arsenic, Dissolved	0.007	0.002		mg/L	5	7440-38-2	
Barium, Dissolved	0.080	0.005		mg/L	5	7440-39-3	
Beryllium, Dissolved	Not detected	0.001		mg/L	5	7440-41-7	
Cadmium, Dissolved	Not detected	0.0005		mg/L	5	7440-43-9	
Chromium, Dissolved	Not detected	0.005		mg/L	5	7440-47-3	
Cobalt, Dissolved	Not detected	0.005		mg/L	5	7440-48-4	
Copper, Dissolved	Not detected	0.005		mg/L	5	7440-50-8	



Analytical Laboratory Report

Lab Sample ID: S69414.02 (continued)

Sample Tag: EastP-Trap_121024

Method: SW6020A, Run Date: 12/17/24 13:21, Analyst: CCM (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Lead, Dissolved	Not detected	0.003		mg/L	5	7439-92-1	
Manganese, Dissolved	0.550	0.005		mg/L	5	7439-96-5	
Nickel, Dissolved	Not detected	0.005		mg/L	5	7440-02-0	
Selenium, Dissolved	Not detected	0.005		mg/L	5	7782-49-2	
Silver, Dissolved	Not detected	0.0005		mg/L	5	7440-22-4	
Thallium, Dissolved	Not detected	0.002		mg/L	5	7440-28-0	
Vanadium, Dissolved	Not detected	0.005		mg/L	5	7440-62-2	
Zinc, Dissolved	Not detected	0.005		mg/L	5	7440-66-6	

Method: SW7471B, Run Date: 12/12/24 20:05, Analyst: CTV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Mercury*	0.0008	0.0002		mg/L	1	7439-97-6	

Method: SW7471B, Run Date: 12/12/24 20:09, Analyst: CTV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Mercury, Dissolved*	Not detected	0.0002		mg/L	1	7439-97-6	

Organics - Semi-Volatiles

TCL Semi-Volatile Organics, Method: SW8270D, Run Date: 12/19/24 04:01, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Benzaldehyde	Not detected	5		ug/L	2	100-52-7	
Acetophenone	Not detected	5		ug/L	2	98-86-2	
Caprolactam	Not detected	10		ug/L	2	105-60-2	
1,1'-Biphenyl	Not detected	5		ug/L	2	92-52-4	
Atrazine*	Not detected	3		ug/L	2	1912-24-9	

TCL Semi-Volatile Organics, Method: SW8270D, Run Date: 12/19/24 04:01, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acenaphthene	Not detected	5		ug/L	2	83-32-9	
Acenaphthylene	Not detected	5		ug/L	2	208-96-8	
Anthracene	Not detected	5		ug/L	2	120-12-7	
4-Bromophenyl phenyl ether	Not detected	5		ug/L	2	101-55-3	
di-n-Butyl phthalate	Not detected	5		ug/L	2	84-74-2	
Benzo(a)anthracene	Not detected	1		ug/L	2	56-55-3	
Benzo(a)pyrene	Not detected	5		ug/L	2	50-32-8	
Benzo(b)fluoranthene	2	1		ug/L	2	205-99-2	p
Benzo(ghi)perylene	Not detected	5		ug/L	2	191-24-2	
Benzo(k)fluoranthene	Not detected	5		ug/L	2	207-08-9	
Butyl benzyl phthalate	Not detected	5		ug/L	2	85-68-7	
2-Chloronaphthalene	Not detected	5		ug/L	2	91-58-7	
2-Chlorophenol	Not detected	10		ug/L	2	95-57-8	
4-Chloro-3-methylphenol	Not detected	5		ug/L	2	59-50-7	
4-Chloroaniline	Not detected	10		ug/L	2	106-47-8	
4-Chlorophenyl phenyl ether	Not detected	5		ug/L	2	7005-72-3	
bis(2-Chloroethoxy)methane	Not detected	5		ug/L	2	111-91-1	
bis(2-Chloroethyl)ether	Not detected	1		ug/L	2	111-44-4	
Chrysene	Not detected	1		ug/L	2	218-01-9	
2,4-Dichlorophenol	Not detected	10		ug/L	2	120-83-2	
2,4-Dimethylphenol	Not detected	5		ug/L	2	105-67-9	

p-Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.



Analytical Laboratory Report

Lab Sample ID: S69414.02 (continued)

Sample Tag: EastP-Trap_121024

TCL Semi-Volatile Organics, Method: SW8270D, Run Date: 12/19/24 04:01, Analyst: PL (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
2,4-Dinitrophenol	Not detected	25		ug/L	2	51-28-5	
2,4-Dinitrotoluene	Not detected	5		ug/L	2	121-14-2	
2,6-Dinitrotoluene	Not detected	5		ug/L	2	606-20-2	
4,6-Dinitro-2-methylphenol	Not detected	25		ug/L	2	534-52-1	
Dibenzo(ah)anthracene	Not detected	5		ug/L	2	53-70-3	
Dibenzofuran	Not detected	4		ug/L	2	132-64-9	
Diethyl phthalate	Not detected	5		ug/L	2	84-66-2	
Dimethyl phthalate	Not detected	5		ug/L	2	131-11-3	
bis(2-Ethylhexyl)phthalate	Not detected	5		ug/L	2	117-81-7	
Fluoranthene	1	1		ug/L	2	206-44-0	
Fluorene	Not detected	5		ug/L	2	86-73-7	
Hexachlorocyclopentadiene	Not detected	5		ug/L	2	77-47-4	
Hexachloroethane	Not detected	5		ug/L	2	67-72-1	
Indeno(1,2,3-cd)pyrene	Not detected	5		ug/L	2	193-39-5	
Isophorone	Not detected	5		ug/L	2	78-59-1	
2-Methylnaphthalene	Not detected	5		ug/L	2	91-57-6	
2-Methylphenol (o-Cresol)	Not detected	10		ug/L	2	95-48-7	
2-Nitroaniline	Not detected	25		ug/L	2	88-74-4	
2-Nitrophenol	Not detected	5		ug/L	2	88-75-5	
3-Nitroaniline	Not detected	25		ug/L	2	99-09-2	
4-Nitroaniline	Not detected	25		ug/L	2	100-01-6	
4-Nitrophenol	Not detected	25		ug/L	2	100-02-7	
N-Nitrosodi-n-propylamine	Not detected	10		ug/L	2	621-64-7	
N-Nitrosodiphenylamine	Not detected	5		ug/L	2	86-30-6	
Naphthalene	Not detected	5		ug/L	2	91-20-3	
Nitrobenzene	Not detected	3		ug/L	2	98-95-3	
di-n-Octyl phthalate	Not detected	5		ug/L	2	117-84-0	
2,4,5-Trichlorophenol	Not detected	5		ug/L	2	95-95-4	
2,4,6-Trichlorophenol	Not detected	4		ug/L	2	88-06-2	
3,3'-Dichlorobenzidine	Not detected	10		ug/L	2	91-94-1	
3-, 4-Methylphenol (p,m-Cresol)	Not detected	10		ug/L	2	3/4-CRESOL	
Pentachlorophenol	Not detected	5		ug/L	2	87-86-5	
Phenanthrene	Not detected	2		ug/L	2	85-01-8	
Phenol	Not detected	5		ug/L	2	108-95-2	
Pyrene	Not detected	5		ug/L	2	129-00-0	
Hexachlorobenzene	Not detected	5		ug/L	2	118-74-1	
Hexachlorobutadiene	Not detected	5		ug/L	2	87-68-3	
bis(2-Chloroisopropyl)ether*	Not detected	5		ug/L	2	108-60-1	
Carbazole	Not detected	5		ug/L	2	86-74-8	

Organics - Volatiles

TCL Volatile Organics 8260 PAL, Method: SW5030C/8260C, Run Date: 12/12/24 03:00, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	30		ug/L	1	76-13-1	
Acetone	Not detected	20		ug/L	1	67-64-1	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
Methyl Acetate	Not detected	10		ug/L	1	79-20-9	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
2-Butanone (MEK)	Not detected	20		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	1		ug/L	1	75-71-8	



Analytical Laboratory Report

Lab Sample ID: S69414.02 (continued)

Sample Tag: EastP-Trap_121024

TCL Volatile Organics 8260 PAL, Method: SW5030C/8260C, Run Date: 12/12/24 03:00, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chloromethane	Not detected	1		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	2		ug/L	1	74-83-9	
Chloroethane	Not detected	1		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	3	1		ug/L	1	156-59-2	
Chloroform	Not detected	1		ug/L	1	67-66-3	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
Cyclohexane	Not detected	1		ug/L	1	110-82-7	
4-Methyl-2-pentanone (MIBK)	Not detected	10		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	2	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Methyl cyclohexane	Not detected	20		ug/L	1	108-87-2	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
Dibromochloromethane	Not detected	1		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	1		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2-Dibromo-3-chloropropane	Not detected	1		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	2		ug/L	1	120-82-1	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Naphthalene	Not detected	1		ug/L	1	91-20-3	



Analytical Laboratory Report

Lab Sample ID: S69414.03
Sample Tag: MH3-9_121024
Collected Date/Time: 12/10/2024 12:30
Matrix: Groundwater
COC Reference: 174587

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	4.7	IR
4	1L Amber	None	Yes	4.7	IR
2	125mL Plastic	HNO3	Yes	4.7	IR
1	LLHg Kit	None	Yes	4.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	12/12/24 11:40	NDK	
Metal Digestion	Completed	SW3015A	12/17/24 09:40	CCM	
Metal Digestion	Completed	SW3015A	12/17/24 09:40	CCM	
BNA Extraction	Completed	SW3510C	12/17/24 10:00	JWR	
Extraction, PCB*	Completed	E608.3	12/15/24 13:30	JWR	
Mercury Digestion*	Completed	SW7471B	12/12/24 14:00	CTV	
Mercury Digestion*	Completed	SW7471B	12/12/24 14:00	CTV	

Metals

Method: SW6020A, Run Date: 12/17/24 12:58, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Antimony*	Not detected	0.005		mg/L	5	7440-36-0	
Arsenic	0.004	0.002		mg/L	5	7440-38-2	
Barium	0.029	0.005		mg/L	5	7440-39-3	
Beryllium	Not detected	0.001		mg/L	5	7440-41-7	
Cadmium	Not detected	0.0005		mg/L	5	7440-43-9	
Chromium	Not detected	0.005		mg/L	5	7440-47-3	
Cobalt	Not detected	0.005		mg/L	5	7440-48-4	
Copper	Not detected	0.005		mg/L	5	7440-50-8	
Lead	0.004	0.003		mg/L	5	7439-92-1	
Manganese	0.104	0.005		mg/L	5	7439-96-5	
Nickel	Not detected	0.005		mg/L	5	7440-02-0	
Selenium	Not detected	0.005		mg/L	5	7782-49-2	
Silver	Not detected	0.0005		mg/L	5	7440-22-4	
Thallium	Not detected	0.002		mg/L	5	7440-28-0	
Vanadium	Not detected	0.005		mg/L	5	7440-62-2	
Zinc	0.011	0.005		mg/L	5	7440-66-6	

Method: SW6020A, Run Date: 12/17/24 13:01, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Antimony, Dissolved*	Not detected	0.005		mg/L	5	7440-36-0	
Arsenic, Dissolved	0.003	0.002		mg/L	5	7440-38-2	
Barium, Dissolved	0.023	0.005		mg/L	5	7440-39-3	
Beryllium, Dissolved	Not detected	0.001		mg/L	5	7440-41-7	
Cadmium, Dissolved	Not detected	0.0005		mg/L	5	7440-43-9	
Chromium, Dissolved	Not detected	0.005		mg/L	5	7440-47-3	
Cobalt, Dissolved	Not detected	0.005		mg/L	5	7440-48-4	
Copper, Dissolved	Not detected	0.005		mg/L	5	7440-50-8	
Lead, Dissolved	Not detected	0.003		mg/L	5	7439-92-1	



Analytical Laboratory Report

Lab Sample ID: S69414.03 (continued)

Sample Tag: MH3-9_121024

Method: SW6020A, Run Date: 12/17/24 13:01, Analyst: CCM (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Manganese, Dissolved	0.073	0.005		mg/L	5	7439-96-5	
Nickel, Dissolved	Not detected	0.005		mg/L	5	7440-02-0	
Selenium, Dissolved	Not detected	0.005		mg/L	5	7782-49-2	
Silver, Dissolved	Not detected	0.0005		mg/L	5	7440-22-4	
Thallium, Dissolved	Not detected	0.002		mg/L	5	7440-28-0	
Vanadium, Dissolved	Not detected	0.005		mg/L	5	7440-62-2	
Zinc, Dissolved	Not detected	0.005		mg/L	5	7440-66-6	

Method: SW7471B, Run Date: 12/12/24 20:12, Analyst: CTV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Mercury*	Not detected	0.0002		mg/L	1	7439-97-6	

Method: SW7471B, Run Date: 12/12/24 20:15, Analyst: CTV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Mercury, Dissolved*	Not detected	0.0002		mg/L	1	7439-97-6	

Method: E1631E, Run Date: 12/17/24 13:17, Analyst: EF

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Mercury, Low Level*	Completed	0.50		ng/L	1	7439-97-6	O

Organics - PCBs/Pesticides

PCB, Method: E608.3, Run Date: 12/16/24 19:08, Analyst: JANB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PCB-1016	Not detected	0.1		ug/L	1	12674-11-2	
PCB-1221	Not detected	0.1		ug/L	1	11104-28-2	
PCB-1232	Not detected	0.1		ug/L	1	11141-16-5	
PCB-1242	Not detected	0.1		ug/L	1	53469-21-9	
PCB-1248	Not detected	0.1		ug/L	1	12672-29-6	
PCB-1254	Not detected	0.1		ug/L	1	11097-69-1	
PCB-1260	Not detected	0.1		ug/L	1	11096-82-5	
PCB, Total*	Not detected	0.1		ug/L	1	1336-36-3	

Organics - Semi-Volatiles

TCL Semi-Volatile Organics, Method: SW8270D, Run Date: 12/18/24 20:54, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Benzaldehyde	Not detected	5		ug/L	2	100-52-7	
Acetophenone	Not detected	5		ug/L	2	98-86-2	
Caprolactam	Not detected	10		ug/L	2	105-60-2	
1,1'-Biphenyl	Not detected	5		ug/L	2	92-52-4	
Atrazine*	Not detected	3		ug/L	2	1912-24-9	

TCL Semi-Volatile Organics, Method: SW8270D, Run Date: 12/18/24 20:54, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acenaphthene	Not detected	5		ug/L	2	83-32-9	
Acenaphthylene	Not detected	5		ug/L	2	208-96-8	
Anthracene	Not detected	5		ug/L	2	120-12-7	
4-Bromophenyl phenyl ether	Not detected	5		ug/L	2	101-55-3	
di-n-Butyl phthalate	Not detected	5		ug/L	2	84-74-2	
Benzo(a)anthracene	Not detected	1		ug/L	2	56-55-3	

O-Analysis performed by outside laboratory. See attached report.



Analytical Laboratory Report

Lab Sample ID: S69414.03 (continued)

Sample Tag: MH3-9_121024

TCL Semi-Volatile Organics, Method: SW8270D, Run Date: 12/18/24 20:54, Analyst: PL (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Benzo(a)pyrene	Not detected	5		ug/L	2	50-32-8	
Benzo(b)fluoranthene	Not detected	1		ug/L	2	205-99-2	
Benzo(ghi)perylene	Not detected	5		ug/L	2	191-24-2	
Benzo(k)fluoranthene	Not detected	5		ug/L	2	207-08-9	
Butyl benzyl phthalate	Not detected	5		ug/L	2	85-68-7	
2-Chloronaphthalene	Not detected	5		ug/L	2	91-58-7	
2-Chlorophenol	Not detected	10		ug/L	2	95-57-8	
4-Chloro-3-methylphenol	Not detected	5		ug/L	2	59-50-7	
4-Chloroaniline	Not detected	10		ug/L	2	106-47-8	
4-Chlorophenyl phenyl ether	Not detected	5		ug/L	2	7005-72-3	
bis(2-Chloroethoxy)methane	Not detected	5		ug/L	2	111-91-1	
bis(2-Chloroethyl)ether	Not detected	1		ug/L	2	111-44-4	
Chrysene	Not detected	1		ug/L	2	218-01-9	
2,4-Dichlorophenol	Not detected	10		ug/L	2	120-83-2	
2,4-Dimethylphenol	Not detected	5		ug/L	2	105-67-9	
2,4-Dinitrophenol	Not detected	25		ug/L	2	51-28-5	
2,4-Dinitrotoluene	Not detected	5		ug/L	2	121-14-2	
2,6-Dinitrotoluene	Not detected	5		ug/L	2	606-20-2	
4,6-Dinitro-2-methylphenol	Not detected	25		ug/L	2	534-52-1	
Dibenzo(ah)anthracene	Not detected	5		ug/L	2	53-70-3	
Dibenzofuran	Not detected	4		ug/L	2	132-64-9	
Diethyl phthalate	Not detected	5		ug/L	2	84-66-2	
Dimethyl phthalate	Not detected	5		ug/L	2	131-11-3	
bis(2-Ethylhexyl)phthalate	Not detected	5		ug/L	2	117-81-7	
Fluoranthene	Not detected	1		ug/L	2	206-44-0	
Fluorene	Not detected	5		ug/L	2	86-73-7	
Hexachlorocyclopentadiene	Not detected	5		ug/L	2	77-47-4	
Hexachloroethane	Not detected	5		ug/L	2	67-72-1	
Indeno(1,2,3-cd)pyrene	Not detected	5		ug/L	2	193-39-5	
Isophorone	Not detected	5		ug/L	2	78-59-1	
2-Methylnaphthalene	Not detected	5		ug/L	2	91-57-6	
2-Methylphenol (o-Cresol)	Not detected	10		ug/L	2	95-48-7	
2-Nitroaniline	Not detected	25		ug/L	2	88-74-4	
2-Nitrophenol	Not detected	5		ug/L	2	88-75-5	
3-Nitroaniline	Not detected	25		ug/L	2	99-09-2	
4-Nitroaniline	Not detected	25		ug/L	2	100-01-6	
4-Nitrophenol	Not detected	25		ug/L	2	100-02-7	
N-Nitrosodi-n-propylamine	Not detected	10		ug/L	2	621-64-7	
N-Nitrosodiphenylamine	Not detected	5		ug/L	2	86-30-6	
Naphthalene	Not detected	5		ug/L	2	91-20-3	
Nitrobenzene	Not detected	3		ug/L	2	98-95-3	
di-n-Octyl phthalate	Not detected	5		ug/L	2	117-84-0	
2,4,5-Trichlorophenol	Not detected	5		ug/L	2	95-95-4	
2,4,6-Trichlorophenol	Not detected	4		ug/L	2	88-06-2	
3,3'-Dichlorobenzidine	Not detected	10		ug/L	2	91-94-1	
3-, 4-Methylphenol (p,m-Cresol)	Not detected	10		ug/L	2	3/4-CRESOL	
Pentachlorophenol	Not detected	5		ug/L	2	87-86-5	
Phenanthrene	Not detected	2		ug/L	2	85-01-8	
Phenol	Not detected	5		ug/L	2	108-95-2	
Pyrene	Not detected	5		ug/L	2	129-00-0	



Analytical Laboratory Report

Lab Sample ID: S69414.03 (continued)

Sample Tag: MH3-9_121024

TCL Semi-Volatile Organics, Method: SW8270D, Run Date: 12/18/24 20:54, Analyst: PL (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Hexachlorobenzene	Not detected	5		ug/L	2	118-74-1	
Hexachlorobutadiene	Not detected	5		ug/L	2	87-68-3	
bis(2-Chloroisopropyl)ether*	Not detected	5		ug/L	2	108-60-1	
Carbazole	Not detected	5		ug/L	2	86-74-8	

Organics - Volatiles

TCL Volatile Organics 8260 PAL, Method: SW5030C/8260C, Run Date: 12/12/24 03:24, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	30		ug/L	1	76-13-1	
Acetone	Not detected	20		ug/L	1	67-64-1	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
Methyl Acetate	Not detected	10		ug/L	1	79-20-9	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
2-Butanone (MEK)	Not detected	20		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	1		ug/L	1	75-71-8	
Chloromethane	Not detected	1		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	2		ug/L	1	74-83-9	
Chloroethane	Not detected	1		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Chloroform	1	1		ug/L	1	67-66-3	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
Cyclohexane	Not detected	1		ug/L	1	110-82-7	
4-Methyl-2-pentanone (MIBK)	Not detected	10		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Methyl cyclohexane	Not detected	20		ug/L	1	108-87-2	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
Dibromochloromethane	Not detected	1		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	



Analytical Laboratory Report

Lab Sample ID: S69414.03 (continued)

Sample Tag: MH3-9_121024

TCL Volatile Organics 8260 PAL, Method: SW5030C/8260C, Run Date: 12/12/24 03:24, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Isopropylbenzene	Not detected	1		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2-Dibromo-3-chloropropane	Not detected	1		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	2		ug/L	1	120-82-1	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Naphthalene	Not detected	1		ug/L	1	91-20-3	

Merit Laboratories Login Checklist

Lab Set ID:S69414

Client:ARCADIS_NOVI (ARCADIS U.S., Inc.)

Project: RACER Buick City

Submitted:12/10/2024 16:00 Login User: PFD

Attention: Erin Kozak

Address: Arcadis US, Inc.
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: O: 810-225-1901 FAX:

Email:erin.kozak@arcadis.com

Selection	Description	Note
Sample Receiving		
01.	☒ Yes ☐ No ☐ N/A	Samples are received at 4C +/- 2C Thermometer # IR 4.7
02.	☒ Yes ☐ No ☐ N/A	Received on ice/ cooling process begun
03.	☐ Yes ☒ No ☐ N/A	Samples shipped
04.	☐ Yes ☒ No ☐ N/A	Samples left in 24 hr. drop box
05.	☐ Yes ☐ No ☒ N/A	Are there custody seals/tape or is the drop box locked
Chain of Custody		
06.	☒ Yes ☐ No ☐ N/A	COC adequately filled out
07.	☒ Yes ☐ No ☐ N/A	COC signed and relinquished to the lab
08.	☒ Yes ☐ No ☐ N/A	Sample tag on bottles match COC
09.	☒ Yes ☐ No ☐ N/A	Subcontracting needed? Subcontacted to: Eurofins
Preservation		
10.	☒ Yes ☐ No ☐ N/A	Do sample have correct chemical preservation
11.	☐ Yes ☐ No ☒ N/A	Completed pH checks on preserved samples? (no VOAs)
12.	☐ Yes ☒ No ☐ N/A	Did any samples need to be preserved in the lab?
Bottle Conditions		
13.	☒ Yes ☐ No ☐ N/A	All bottles intact
14.	☒ Yes ☐ No ☐ N/A	Appropriate analytical bottles are used
15.	☒ Yes ☐ No ☐ N/A	Merit bottles used
16.	☒ Yes ☐ No ☐ N/A	Sufficient sample volume received
17.	☐ Yes ☒ No ☐ N/A	Samples require laboratory filtration
18.	☒ Yes ☐ No ☐ N/A	Samples submitted within holding time
19.	☐ Yes ☐ No ☒ N/A	Do water VOC, TOX, DO or Alkalinity bottles contain

Corrective action for all exceptions is to call the client and to notify the project manager.

Client Review By: _____ Date: _____

Merit Laboratories Bottle Preservation Check

Lab Set ID: S69414 Submitted: 12/10/2024 16:00

Client: ARCADIS_NOVI (ARCADIS U.S., Inc.)

Project: RACER Buick City

Initial Preservation Check: 12/10/2024 16:22 PFD

Preservation Recheck (E200.8): N/A

Attention: Erin Kozak

Address: Arcadis US, Inc.
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: O: 810-225-1901 FAX:

Email: erin.kozak@arcadis.com

Sample ID	Bottle / Preservation	pH (Orig)	Add ml	pH (New)	Notes
S69414.01	125mL Plastic HNO3	<2			
S69414.01	125mL Plastic HNO3	<2			
S69414.02	125mL Plastic HNO3	4	0.5	<2	Lot#2024010848-Checked 12/11/24
S69414.02	125mL Plastic HNO3	<2			
S69414.03	125mL Plastic HNO3	<2			
S69414.03	125mL Plastic HNO3	<2			

REPORT TO

CHAIN OF CUSTODY RECORD

INVOICE TO

CONTACT NAME			
Arcadis - E. Kozak, M. Maki, M. Humphray, M. Olender			
COMPANY			
Arcadis			
ADDRESS			
2850 Cabot Dr #500			
CITY			STATE
Novi			MI
PHONE NO.			ZIP CODE
248-790-1666			48377
CELL NO.		P.O. NO.	
		30219382-01	
E-MAIL ADDRESS		QUOTE NO.	
micki.maki@arcadis.com			

CONTACT NAME		☒ SAME	
COMPANY			
ADDRESS			
CITY		STATE	ZIP CODE
PHONE NO.		E-MAIL ADDRESS	

PROJECT NO./NAME PACER Buick City	SAMPLER(S) - PLEASE PRINT/SIGN NAME Donnie Richmond / Donald
TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER _____	
DELIVERABLES REQUIRED ☐ LEVEL II ☒ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER _____	

MATRIX	W=WATER	GW=GROUNDWATER	WW=WASTEWATER	S=SOIL	L=LIQUID	SD=SOLID
CODE:	SL=SLUDGE	DW=DRINKING WATER	O=OIL	WP=WIPE	A=AIR	WS=WASTE

Containers & Preservatives[illegible][illegible]

RELINQUISHED BY:	<i>Donald Dickins / Arcadis</i>	☒ Sampler	DATE	TIME
SIGNATURE/ORGANIZATION			12/10/24	1600
RECEIVED BY:	<i>Pf/b</i>		DATE	TIME
SIGNATURE/ORGANIZATION			12/10/24	1600
RELINQUISHED BY:			DATE	TIME
SIGNATURE/ORGANIZATION				
RECEIVED BY:			DATE	TIME
SIGNATURE/ORGANIZATION				

RELINQUISHED BY: SIGNATURE/ORGANIZATION			DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION			DATE	TIME
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	NOTES:	TEMP. ON ARRIVAL
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS		47

ANALYTICAL REPORT

PREPARED FOR

Attn: Lab Results
Merit Laboratories
2680 E Lansing Drive
East Lansing, Michigan 48823

Generated 12/21/2024 6:16:00 AM

JOB DESCRIPTION

Merit Laboratories - S69414.03 LL Hg

JOB NUMBER

190-35955-1

Eurofins Michigan

Job Notes

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

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

Authorization



Generated
12/21/2024 6:16:00 AM

Authorized for release by
Sue Schafer, Project Manager II
Sue.Schafer@et.eurofinsus.com
(810)229-2763



Table of Contents

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

Sample Summary

Client: Merit Laboratories
Project/Site: Merit Laboratories - S69414.03 LL Hg

Job ID: 190-35955-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
190-35955-1	S69414.03	Water	12/10/24 12:30	12/13/24 12:39

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

Case Narrative

Client: Merit Laboratories
Project: Merit Laboratories - S69414.03 LL Hg

Job ID: 190-35955-1

Job ID: 190-35955-1

Eurofins Michigan

Job Narrative 190-35955-1

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 12/13/2024 12:39 PM. 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 4.3°C.

Metals

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

Eurofins Michigan

Client Sample Results

Client: Merit Laboratories
Project/Site: Merit Laboratories - S69414.03 LL Hg

Job ID: 190-35955-1

Client Sample ID: S69414.03
Date Collected: 12/10/24 12:30
Date Received: 12/13/24 12:39

Lab Sample ID: 190-35955-1
Matrix: Water

Method: EPA 1631E - Mercury, Low Level (CVAFS)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Mercury	2.5		0.50	ng/L		12/16/24 14:00	12/17/24 13:17	1	

QC Sample Results

Client: Merit Laboratories
Project/Site: Merit Laboratories - S69414.03 LL Hg

Job ID: 190-35955-1

Method: 1631E - Mercury, Low Level (CVAFS)

Lab Sample ID: MB 240-638903/1-A
Matrix: Water
Analysis Batch: 639194

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 638903

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.50		0.50	ng/L		12/16/24 14:00	12/17/24 12:53	1

Lab Sample ID: LCS 240-638903/4-A
Matrix: Water
Analysis Batch: 639194

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 638903

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	5.00	4.35		ng/L		87	77 - 123

Definitions/Glossary

Client: Merit Laboratories

Job ID: 190-35955-1

Project/Site: Merit Laboratories - S69414.03 LL Hg

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

QC Association Summary

Client: Merit Laboratories
Project/Site: Merit Laboratories - S69414.03 LL Hg

Job ID: 190-35955-1

Metals

Prep Batch: 638903

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
190-35955-1	S69414.03	Total/NA	Water	1631E	
MB 240-638903/1-A	Method Blank	Total/NA	Water	1631E	
LCS 240-638903/4-A	Lab Control Sample	Total/NA	Water	1631E	

Analysis Batch: 639194

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
190-35955-1	S69414.03	Total/NA	Water	1631E	638903
MB 240-638903/1-A	Method Blank	Total/NA	Water	1631E	638903
LCS 240-638903/4-A	Lab Control Sample	Total/NA	Water	1631E	638903

Lab Chronicle

Client: Merit Laboratories
Project/Site: Merit Laboratories - S69414.03 LL Hg

Job ID: 190-35955-1

Client Sample ID: S69414.03

Date Collected: 12/10/24 12:30

Date Received: 12/13/24 12:39

Lab Sample ID: 190-35955-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	1631E			638903	S4FJ	EET CLE	12/16/24 14:00
Total/NA	Analysis	1631E		1	639194	S4FJ	EET CLE	12/17/24 13:17

Client Sample ID: Method Blank

Date Collected: N/A

Date Received: N/A

Lab Sample ID: MB 240-638903/1-A

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	1631E			638903	S4FJ	EET CLE	12/16/24 14:00
Total/NA	Analysis	1631E		1	639194	S4FJ	EET CLE	12/17/24 12:53

Client Sample ID: Lab Control Sample

Date Collected: N/A

Date Received: N/A

Lab Sample ID: LCS 240-638903/4-A

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	1631E			638903	S4FJ	EET CLE	12/16/24 14:00
Total/NA	Analysis	1631E		1	639194	S4FJ	EET CLE	12/17/24 13:07

Laboratory References:

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

Analyst References:

Lab: EET CLE

Batch Type: Prep

S4FJ = Katherine Wise

Batch Type: Analysis

S4FJ = Katherine Wise

Accreditation/Certification Summary

Client: Merit Laboratories

Job ID: 190-35955-1

Project/Site: Merit Laboratories - S69414.03 LL Hg

Laboratory: Eurofins Cleveland

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

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-28-25
Connecticut	State	PH-0806	12-31-26
Georgia	State	4062	02-27-25
Illinois	NELAP	200004	08-31-25
Iowa	State	421	06-01-25
Kentucky (UST)	State	112225	02-27-25
Kentucky (WW)	State	KY98016	12-30-24
Minnesota	NELAP	039-999-348	12-31-25
New Hampshire	NELAP	225024	09-30-25
New Jersey	NELAP	OH001	07-03-25
New York	NELAP	10975	04-02-25
Ohio VAP	State	ORELAP 4062	02-27-25
Oregon	NELAP	4062	02-27-25
Pennsylvania	NELAP	68-00340	08-31-25
Texas	NELAP	T104704517-22-19	08-31-25
USDA	US Federal Programs	P330-18-00281	01-05-27
Virginia	NELAP	460175	09-14-25
West Virginia DEP	State	210	12-31-24
Wisconsin	State	399167560	08-31-25

Method Summary

Client: Merit Laboratories
Project/Site: Merit Laboratories - S69414.03 LL Hg

Job ID: 190-35955-1

Method	Method Description	Protocol	Laboratory
1631E	Mercury, Low Level (CVAFS)	EPA	EET CLE
1631E	Preparation, Mercury, Low Level	EPA	EET CLE

- Protocol References:**
EPA = US Environmental Protection Agency
- Laboratory References:**
EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396



2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 1 OF 1

REPORT TO

CONTACT NAME
Project Management Team

COMPANY
Merit Laboratories

ADDRESS
2680 East Lansing Drive

CITY
East Lansing

PHONE NO.
517-332-0167

E-MAIL ADDRESS
Results@meritlabs.com

CHAIN OF CUSTODY RECORD

CONTACT NAME
Julie Teague

COMPANY
[SAME]

ADDRESS

CITY

STATE
MI

ZIP CODE
48823

P.O. NO.

QUOTE NO.

INVOICE TO

CONTACT NAME
[SAME]

COMPANY

ADDRESS

CITY

STATE

ZIP CODE

E-MAIL ADDRESS

PHONE NO.

PROJECT NO./NAME
S69414

TURNAROUND TIME REQUIRED
☐ 1 DAY ☐ 2 DAYS ☒ 3 DAYS ☐ STANDARD ☐ OTHER

DELIVERABLES REQUIRED
☒ STD ☐ LEVEL I ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE

GW=GROUNDWATER
SL=SLUDGE

WW=WASTEWATER
DW=DRINKING WATER

S=SOIL
O=OIL

L=LIQUID
WP=WPIPE

SD=SOLID
A=AIR

W=WASTE

MATRIX

YEAR
DATE
12/10/24

TIME
1230

IDENTIFICATION-DESCRIPTION
S69414.03

MATRIX

WV

1

1

Containers & Preservatives

H₂SO₄

HNO₃

HCl

NONE

OF BOTTLES

1

1

OTHER

MAOH

MAOH

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations
☐ Detroit ☐ New York
☐ Other

Special Instructions
W=Water

Low-Level Mercury

✓

Barcode

190-35955 Chain of Custody

** Subcontracted to

Eurofins

RELINQUISHED BY
SIGNATURE/ORGANIZATION

RECEIVED BY
SIGNATURE/ORGANIZATION

RELINQUISHED BY
SIGNATURE/ORGANIZATION

RECEIVED BY
SIGNATURE/ORGANIZATION

DATE

DATE

DATE

DATE

TIME

TIME

TIME

TIME

NOTES

TEMP. ON ARRIVAL

SEAL NO.

SEAL NO.

SEAL INTACT
YES ☐ NO ☐

SEAL INTACT
YES ☐ NO ☐

INITIALS

INITIALS

NO

NO

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE





Environment Testing
TestAmerica

☐ SDS or Known Hazard Information Supplied by Client

☐ Discrepancies

☐ Short Hold

☐ Rush ☐ 24 Hr ☐ 2-Day ☐ 3-Day ☐ 5-Day ☐ Other: _____

Receipt Evaluation Performed by: Initials: DT Date: 12/13 Time: 1200

Client ID: Merit Labs

Work Order #: 35955

Cooler / Sample Receipt

After hours receipt: complete gray areas. Place cooler in walk-in, place

form in Receiving box. Date: _____ Time: _____

Method of Shipment:

Walk-In Client Eurofins TA Field/Courier

Other Client / 3rd Party Courier: _____

Fed Ex Tracking #: _____

UPS Tracking #: _____

Other: _____

Shipping Container Type:

☒ Cooler ☐ Box

☐ None ☐ Other: _____

Packing Materials:

☒ Plastic Bags ☐ Foam

☒ Bubble Wrap ☐ Paper

☐ Packing Peanuts ☐ None

☐ Other: _____

Custody Seals Intact:

☐ Yes ☐ No

☒ NA (not used or required)

Cooling Materials:

☒ Ice (Solid) ☐ Ice (Melted)

☐ Blue Ice ☐ None

☐ Other: _____

Bacteriological Samples	Temp Corrected (°C)	Frozen?		Rec'd Within 2 Hrs?		Sample Flagged?	
		Yes	No	Yes	No	Yes	No

Received on same day sampled? Yes No

Additional Sheets Required? Yes No

Receipt Temperatures

Thermometer ID	Observed (°C)	Corrected (°C)	Temp Blank	Sample Temp	Acceptable	Cooler ID	Affected Samples
<u>CP313207</u>	<u>4.3°C</u>	<u>4.3°C</u>	_____	_____	<u>Y</u> <u>N</u>	_____	_____
_____	_____	_____	_____	_____	<u>Y</u> <u>N</u>	_____	_____
_____	_____	_____	_____	_____	<u>Y</u> <u>N</u>	_____	_____

Receipt Questions**	Y	N	NA	"No" answers require additional comment
CoC present and ETA receipt signature, date, and time properly documented?	☒	☐	☐	
Containers and Labels in good condition? (unbroken, not leaking, appropriately filled, labels legible & attached)	☒	☐	☐	
Appropriate containers used and adequate volume provided?	☒	☐	☐	Preserved bottles checked for pH?* Yes No
Number of sample containers match CoC?	☒	☐	☐	pH strip lot # _____
Samples received within hold?	☒	☐	☐	
Samples submitted for GRO and Volatiles analysis (8260, 624, 524) received without headspace?	☒	☐	☐	
Was a Trip Blank received with VOA samples?	☐	☐	☒	
Were the samples free of any questionable physical conformities? (i.e.: field duplicates or multiple bottles of the same sample do not significantly vary in appearance - color, solid proportions, etc.)	☒	☐	☐	
Were the CoC bottle labels and all other items free of all other discrepancies or issues that would need to be addressed with the Project Manager and/or Client?	☒	☐	☐	
**May not be applicable if samples are not for compliance testing				*Excludes FOG, VOAs, TOC Vials, HEM

Client Contact Record

Contact Via: ☐ Phone ☐ Email ☐ Other: _____ Person Contacted: _____ Date/Time: _____

☐ Discrepancy allowance agreement is on record in the client project file

Discussion / Resolution

Any additional documentation and clarification from the client must be noted in the narrative and/or scanned into the CoC directory.

Reviewed by [Signature] Date: 12/13/24

WI-MI-010_020720

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

Eurofins - Cleveland Sample Receipt Form/Narrative
 Barberton Facility

Client Eurofins - Michigan Site Name _____
 Cooler Received on 12/14/24 Opened on 12/14/24 Cooler unpacked by IMartin

FedEx: 1st Grd Exp UPS FAS Waypoint Client Drop Off _____ Other _____
 Receipt After-hours Drop-off Date/Time _____ Storage Location _____

Eurofins Cooler # EC Foam Box _____ Client Cooler Box _____ Other _____
 Packing material used: Rabbit Wrap Foam Plastic Bag None Other _____
 COOLANT Wet Ice Blue Ice Dry Ice Water None _____

1 Cooler temperature upon receipt ☐ See Multiple Cooler Form
 IR GUN # Z1 (CF +0.2 °C) Observed Cooler Temp. 1.6 °C Corrected Cooler Temp 1.8 °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1
 -Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
 -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No NA
 -Were tamper/custody seals intact and uncompromised? Yes No NA
 3 Shippers' packing slip attached to the cooler(s)? Yes No NA
 4. Did custody papers accompany the sample(s)? Yes No NA
 5 Were the custody papers relinquished & signed in the appropriate place? Yes No NA
 6 Was/were the person(s) who collected the samples clearly identified on the COC? Yes No NA
 7 Did all bottles arrive in good condition (Unbroken)? Yes No NA
 8 Could all bottle labels (ID/Date/Time) be reconciled with the COC? Yes No NA
 9 For each sample, does the COC specify preservatives (Y/N), # of containers (C/N), and sample type of grab/comp (C/N)? Yes No NA
 10 Were correct bottle(s) used for the test(s) indicated? Yes No NA
 11 Sufficient quantity received to perform indicated analyses? Yes No NA
 12. Are these work share samples and all listed on the COC? Yes No NA

Tests that are not checked for pH by Receiving:
 VOAs
 Oil and Grease
 TOC

If yes, Questions 13-17 have been checked at the originating laboratory
 13 Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC450408
 14 Were VOAs on the COC? Yes No NA
 15 Were air bubbles >6 mm in any VOA vials? Yes No NA
 16 Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____
 17 Was a LL Hg or Me Hg trip blank present? Yes No NA

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

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page Samples processed by _____

19. SAMPLE CONDITION
 Sample(s) _____ were received after the recommended holding time had expired
 Sample(s) _____ were received in a broken container
 Sample(s) _____ were received with bubble >6 mm in diameter (Nonfy PM)

20. SAMPLE PRESERVATION
 Sample(s) _____ were further preserved in the laboratory
 Time preserved _____ Preservative(s) added/Lot number(s) _____
 VOA Sample Preservation - Date/Time VOAs Frozen _____



Analytical Laboratory Report

Report ID: S69488.01(01)
Generated on 12/19/2024

Report to

Attention: Erin Kozak
Arcadis US, Inc.
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: O: 810-225-1901 FAX:
Email: erin.kozak@arcadis.com

Additional Contacts: Megan Humphrey, Joey Barker, Micki Maki, Madison Olender

Report produced by

Merit Laboratories, Inc.
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Contacts for report questions:
John Lavery (johnlavery@meritlabs.com)
Barbara Ball (bball@meritlabs.com)

Report Summary

Lab Sample ID(s): S69488.01-S69488.05
Project: 30219382.01 / Buick City
Collected Date(s): 12/11/2024
Submitted Date/Time: 12/11/2024 16:45
Sampled by: Donald Richmond
P.O. #: 30219382.01

Table of Contents

- Cover Page (Page 1)
- General Report Notes (Page 2)
- Report Narrative (Page 2)
- Laboratory Accreditations (Page 3)
- Qualifier Descriptions (Page 3)
- Glossary of Abbreviations (Page 3)
- Method Summary (Page 4)
- Sample Summary (Page 5)

Maya Murshak
Technical Director



Analytical Laboratory Report

General Report Notes

Analytical results relate only to the samples tested, in the condition received by the laboratory.

Methods may be modified for improved performance.

Results reported on a dry weight basis where applicable.

'Not detected' indicates that parameter was not found at a level equal to or greater than the reporting limit (RL).

When MDL results are provided, then 'Not detected' indicates that parameter was not found at a level equal to or greater than the MDL.

40 CFR Part 136 Table II Required Containers, Preservation Techniques and Holding Times for the Clean Water Act specify that samples for acrolein and acrylonitrile, and 2-chloroethylvinyl ether need to be preserved at a pH in the range of 4 to 5 or if not preserved, analyzed within 3 days of sampling.

QA/QC corresponding to this analytical report is a separate document with the same Merit ID reference and is available upon request.

Starred (*) analytes are not NY NELAP accredited.

Samples are held by the lab for 30 days from the final report date unless a written request to hold longer is provided by the client.

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Limits for drinking water samples, are listed as the MCL Limits (Maximum Contaminant Level Concentrations)

PFAS requirement: Section 9.3.8 of U.S. EPA Method 537.1 states "If the method analyte(s) found in the Field Sample is present in the FRB at a concentration greater than 1/3 the MRL, then all samples collected with that FRB are invalid and must be recollected and reanalyzed."

Samples submitted without an accompanying FRB may not be acceptable for compliance purposes.

Wisconsin PFAs analysis: MDL = LOD; RL = LOQ. LOD and LOQ are adjusted for dilution.

All accreditations/certifications held by this laboratory are listed on page 3. Not all accreditations/certifications are applicable to this report.

For a specific list of accredited analytes, please feel free to contact the laboratory or visit <https://www.meritlabs.com/certifications>.

Report Narrative

There is no additional narrative for this analytical report

Laboratory Accreditations (For Reference Only)

Authority	Accreditation ID
Michigan DEQ	#9956
DOD ELAP & ISO/IEC 17025:2017	#69699 PJLA Testing
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702
Pennsylvania DEP	#68-05884
Wisconsin DNR	FID# 399147320

Qualifier Descriptions

Qualifier	Description
!	Result is outside of stated limit criteria
B	Compound also found in associated method blank
E	Concentration exceeds calibration range
F	Analysis run outside of holding time
G	Estimated result due to extraction run outside of holding time
H	Sample submitted and run outside of holding time
I	Matrix interference with internal standard
J	Estimated value less than reporting limit, but greater than MDL
L	Elevated reporting limit due to low sample amount
M	Result reported to MDL not RDL
O	Analysis performed by outside laboratory. See attached report.
R	Preliminary result
S	Surrogate recovery outside of control limits
T	No correction for total solids
X	Elevated reporting limit due to matrix interference
Y	Elevated reporting limit due to high target concentration
b	Value detected less than reporting limit, but greater than MDL
e	Reported value estimated due to interference
j	Analyte also found in associated method blank
o	Associated EIS outside of control limits
p	Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.
q	Qualifier ion ratio outside of control limits
x	Preserved from bulk sample

Glossary of Abbreviations

Abbreviation	Description
RL/RDL	Reporting Limit
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
SW	EPA SW 846 (Soil and Wastewater) Methods
E	EPA Methods
SM	Standard Methods
LN	Linear
BR	Branched



Analytical Laboratory Report

Method Summary

Method	Version
N/A	Not Applicable
SW3015A	SW 846 Method 3015A Revision 1 February 2007
SW3510C	SW 846 Method 3510C Revision 3 December 1996
SW5030C/8260C	SW 846 Method 8260C Revision 3 August 2006 / 5030C Revision 3 May 2003
SW6020A	SW 846 Method 6020A Revision 1 February 2007
SW7471B	SW 846 Method 7471B Revision 2 February 2007
SW8270D	SW 846 Method 8270D Revision 4 February 2007



Analytical Laboratory Report

Sample Summary (5 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S69488.01	RFI-12-40_121124	Groundwater	12/11/24 11:05
S69488.02	RFI-23-01R_121124	Groundwater	12/11/24 12:35
S69488.03	RFI-81-12R_121124	Groundwater	12/11/24 14:00
S69488.04	RFI-81-33_121124	Groundwater	12/11/24 15:20
S69488.05	Trip Blank	Liquid	12/11/24 00:01



Analytical Laboratory Report

Lab Sample ID: S69488.01
Sample Tag: RFI-12-40_121124
Collected Date/Time: 12/11/2024 11:05
Matrix: Groundwater
COC Reference: 174585

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	6.9	IR
2	1L Amber	None	Yes	6.9	IR
2	125mL Plastic	HNO3	Yes	6.9	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	12/16/24 13:06	ACK	
Metal Digestion	Completed	SW3015A	12/17/24 09:40	CCM	
Metal Digestion	Completed	SW3015A	12/17/24 09:40	CCM	
BNA Extraction	Completed	SW3510C	12/17/24 10:00	JWR	
Mercury Digestion*	Completed	SW7471B	12/13/24 11:36	CTV	
Mercury Digestion*	Completed	SW7471B	12/13/24 11:36	CTV	

Metals

Method: SW6020A, Run Date: 12/17/24 12:09, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Antimony*	Not detected	0.005		mg/L	5	7440-36-0	
Arsenic	Not detected	0.002		mg/L	5	7440-38-2	
Barium	0.035	0.005		mg/L	5	7440-39-3	
Beryllium	Not detected	0.001		mg/L	5	7440-41-7	
Cadmium	Not detected	0.0005		mg/L	5	7440-43-9	
Chromium	Not detected	0.005		mg/L	5	7440-47-3	
Cobalt	Not detected	0.005		mg/L	5	7440-48-4	
Copper	Not detected	0.005		mg/L	5	7440-50-8	
Lead	Not detected	0.003		mg/L	5	7439-92-1	
Manganese	0.277	0.005		mg/L	5	7439-96-5	
Nickel	Not detected	0.005		mg/L	5	7440-02-0	
Selenium	Not detected	0.005		mg/L	5	7782-49-2	
Silver	Not detected	0.0005		mg/L	5	7440-22-4	
Thallium	Not detected	0.002		mg/L	5	7440-28-0	
Vanadium	Not detected	0.005		mg/L	5	7440-62-2	
Zinc	Not detected	0.005		mg/L	5	7440-66-6	

Method: SW6020A, Run Date: 12/17/24 12:12, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Antimony, Dissolved*	Not detected	0.005		mg/L	5	7440-36-0	
Arsenic, Dissolved	Not detected	0.002		mg/L	5	7440-38-2	
Barium, Dissolved	0.035	0.005		mg/L	5	7440-39-3	
Beryllium, Dissolved	Not detected	0.001		mg/L	5	7440-41-7	
Cadmium, Dissolved	Not detected	0.0005		mg/L	5	7440-43-9	
Chromium, Dissolved	Not detected	0.005		mg/L	5	7440-47-3	
Cobalt, Dissolved	Not detected	0.005		mg/L	5	7440-48-4	
Copper, Dissolved	Not detected	0.005		mg/L	5	7440-50-8	
Lead, Dissolved	Not detected	0.003		mg/L	5	7439-92-1	
Manganese, Dissolved	0.221	0.005		mg/L	5	7439-96-5	
Nickel, Dissolved	Not detected	0.005		mg/L	5	7440-02-0	



Analytical Laboratory Report

Lab Sample ID: S69488.01 (continued)

Sample Tag: RFI-12-40_121124

Method: SW6020A, Run Date: 12/17/24 12:12, Analyst: CCM (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Selenium, Dissolved	Not detected	0.005		mg/L	5	7782-49-2	
Silver, Dissolved	Not detected	0.0005		mg/L	5	7440-22-4	
Thallium, Dissolved	Not detected	0.002		mg/L	5	7440-28-0	
Vanadium, Dissolved	Not detected	0.005		mg/L	5	7440-62-2	
Zinc, Dissolved	Not detected	0.005		mg/L	5	7440-66-6	

Method: SW7471B, Run Date: 12/13/24 15:13, Analyst: CTV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Mercury*	Not detected	0.0002		mg/L	1	7439-97-6	

Method: SW7471B, Run Date: 12/13/24 15:16, Analyst: CTV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Mercury, Dissolved*	Not detected	0.0002		mg/L	1	7439-97-6	

Organics - Semi-Volatiles

TCL Semi-Volatile Organics, Method: SW8270D, Run Date: 12/18/24 22:25, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Benzaldehyde	Not detected	5		ug/L	2	100-52-7	
Acetophenone	Not detected	5		ug/L	2	98-86-2	
Caprolactam	Not detected	10		ug/L	2	105-60-2	
1,1'-Biphenyl	Not detected	5		ug/L	2	92-52-4	
Atrazine*	Not detected	3		ug/L	2	1912-24-9	

TCL Semi-Volatile Organics, Method: SW8270D, Run Date: 12/18/24 22:25, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acenaphthene	Not detected	5		ug/L	2	83-32-9	
Acenaphthylene	Not detected	5		ug/L	2	208-96-8	
Anthracene	Not detected	5		ug/L	2	120-12-7	
4-Bromophenyl phenyl ether	Not detected	5		ug/L	2	101-55-3	
di-n-Butyl phthalate	Not detected	5		ug/L	2	84-74-2	
Benzo(a)anthracene	Not detected	1		ug/L	2	56-55-3	
Benzo(a)pyrene	Not detected	5		ug/L	2	50-32-8	
Benzo(b)fluoranthene	Not detected	1		ug/L	2	205-99-2	
Benzo(ghi)perylene	Not detected	5		ug/L	2	191-24-2	
Benzo(k)fluoranthene	Not detected	5		ug/L	2	207-08-9	
Butyl benzyl phthalate	Not detected	5		ug/L	2	85-68-7	
2-Chloronaphthalene	Not detected	5		ug/L	2	91-58-7	
2-Chlorophenol	Not detected	10		ug/L	2	95-57-8	
4-Chloro-3-methylphenol	Not detected	5		ug/L	2	59-50-7	
4-Chloroaniline	Not detected	10		ug/L	2	106-47-8	
4-Chlorophenyl phenyl ether	Not detected	5		ug/L	2	7005-72-3	
bis(2-Chloroethoxy)methane	Not detected	5		ug/L	2	111-91-1	
bis(2-Chloroethyl)ether	Not detected	1		ug/L	2	111-44-4	
Chrysene	Not detected	1		ug/L	2	218-01-9	
2,4-Dichlorophenol	Not detected	10		ug/L	2	120-83-2	
2,4-Dimethylphenol	Not detected	5		ug/L	2	105-67-9	
2,4-Dinitrophenol	Not detected	25		ug/L	2	51-28-5	
2,4-Dinitrotoluene	Not detected	5		ug/L	2	121-14-2	
2,6-Dinitrotoluene	Not detected	5		ug/L	2	606-20-2	
4,6-Dinitro-2-methylphenol	Not detected	25		ug/L	2	534-52-1	



Analytical Laboratory Report

Lab Sample ID: S69488.01 (continued)

Sample Tag: RFI-12-40_121124

TCL Semi-Volatile Organics, Method: SW8270D, Run Date: 12/18/24 22:25, Analyst: PL (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibenzo(ah)anthracene	Not detected	5		ug/L	2	53-70-3	
Dibenzofuran	Not detected	4		ug/L	2	132-64-9	
Diethyl phthalate	Not detected	5		ug/L	2	84-66-2	
Dimethyl phthalate	Not detected	5		ug/L	2	131-11-3	
bis(2-Ethylhexyl)phthalate	Not detected	5		ug/L	2	117-81-7	
Fluoranthene	Not detected	1		ug/L	2	206-44-0	
Fluorene	Not detected	5		ug/L	2	86-73-7	
Hexachlorocyclopentadiene	Not detected	5		ug/L	2	77-47-4	
Hexachloroethane	Not detected	5		ug/L	2	67-72-1	
Indeno(1,2,3-cd)pyrene	Not detected	5		ug/L	2	193-39-5	
Isophorone	Not detected	5		ug/L	2	78-59-1	
2-Methylnaphthalene	Not detected	5		ug/L	2	91-57-6	
2-Methylphenol (o-Cresol)	Not detected	10		ug/L	2	95-48-7	
2-Nitroaniline	Not detected	25		ug/L	2	88-74-4	
2-Nitrophenol	Not detected	5		ug/L	2	88-75-5	
3-Nitroaniline	Not detected	25		ug/L	2	99-09-2	
4-Nitroaniline	Not detected	25		ug/L	2	100-01-6	
4-Nitrophenol	Not detected	25		ug/L	2	100-02-7	
N-Nitrosodi-n-propylamine	Not detected	10		ug/L	2	621-64-7	
N-Nitrosodiphenylamine	Not detected	5		ug/L	2	86-30-6	
Naphthalene	Not detected	5		ug/L	2	91-20-3	
Nitrobenzene	Not detected	3		ug/L	2	98-95-3	
di-n-Octyl phthalate	Not detected	5		ug/L	2	117-84-0	
2,4,5-Trichlorophenol	Not detected	5		ug/L	2	95-95-4	
2,4,6-Trichlorophenol	Not detected	4		ug/L	2	88-06-2	
3,3'-Dichlorobenzidine	Not detected	10		ug/L	2	91-94-1	
3-, 4-Methylphenol (p,m-Cresol)	Not detected	10		ug/L	2	3/4-CRESOL	
Pentachlorophenol	Not detected	5		ug/L	2	87-86-5	
Phenanthrene	Not detected	2		ug/L	2	85-01-8	
Phenol	Not detected	5		ug/L	2	108-95-2	
Pyrene	Not detected	5		ug/L	2	129-00-0	
Hexachlorobenzene	Not detected	5		ug/L	2	118-74-1	
Hexachlorobutadiene	Not detected	5		ug/L	2	87-68-3	
bis(2-Chloroisopropyl)ether*	Not detected	5		ug/L	2	108-60-1	
Carbazole	Not detected	5		ug/L	2	86-74-8	

Organics - Volatiles

TCL Volatile Organics 8260 PAL, Method: SW5030C/8260C, Run Date: 12/13/24 19:12, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	30		ug/L	1	76-13-1	
Acetone	Not detected	20		ug/L	1	67-64-1	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
Methyl Acetate	Not detected	10		ug/L	1	79-20-9	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
2-Butanone (MEK)	Not detected	20		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	1		ug/L	1	75-71-8	
Chloromethane	Not detected	1		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	2		ug/L	1	74-83-9	
Chloroethane	Not detected	1		ug/L	1	75-00-3	



Analytical Laboratory Report

Lab Sample ID: S69488.01 (continued)

Sample Tag: RFI-12-40_121124

TCL Volatile Organics 8260 PAL, Method: SW5030C/8260C, Run Date: 12/13/24 19:12, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	1	1		ug/L	1	156-60-5	
1,1-Dichloroethane	2	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Chloroform	Not detected	1		ug/L	1	67-66-3	
1,1,1-Trichloroethane	5	1		ug/L	1	71-55-6	
Cyclohexane	Not detected	1		ug/L	1	110-82-7	
4-Methyl-2-pentanone (MIBK)	Not detected	10		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	10	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Methyl cyclohexane	Not detected	20		ug/L	1	108-87-2	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
Dibromochloromethane	Not detected	1		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	1		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2-Dibromo-3-chloropropane	Not detected	1		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	2		ug/L	1	120-82-1	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Naphthalene	Not detected	1		ug/L	1	91-20-3	



Analytical Laboratory Report

Lab Sample ID: S69488.02

Sample Tag: RFI-23-01R_121124

Collected Date/Time: 12/11/2024 12:35

Matrix: Groundwater

COC Reference: 174585

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	6.9	IR
2	1L Amber	None	Yes	6.9	IR
2	125mL Plastic	HNO3	Yes	6.9	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	12/16/24 13:06	ACK	
Metal Digestion	Completed	SW3015A	12/17/24 09:40	CCM	
Metal Digestion	Completed	SW3015A	12/17/24 09:40	CCM	
BNA Extraction	Completed	SW3510C	12/17/24 10:00	JWR	
Mercury Digestion*	Completed	SW7471B	12/13/24 11:36	CTV	
Mercury Digestion*	Completed	SW7471B	12/13/24 11:36	CTV	

Metals

Method: SW6020A, Run Date: 12/17/24 12:16, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Antimony*	Not detected	0.005		mg/L	5	7440-36-0	
Arsenic	0.002	0.002		mg/L	5	7440-38-2	
Barium	0.061	0.005		mg/L	5	7440-39-3	
Beryllium	Not detected	0.001		mg/L	5	7440-41-7	
Cadmium	Not detected	0.0005		mg/L	5	7440-43-9	
Chromium	Not detected	0.005		mg/L	5	7440-47-3	
Cobalt	Not detected	0.005		mg/L	5	7440-48-4	
Copper	Not detected	0.005		mg/L	5	7440-50-8	
Lead	Not detected	0.003		mg/L	5	7439-92-1	
Manganese	0.197	0.005		mg/L	5	7439-96-5	
Nickel	Not detected	0.005		mg/L	5	7440-02-0	
Selenium	Not detected	0.005		mg/L	5	7782-49-2	
Silver	Not detected	0.0005		mg/L	5	7440-22-4	
Thallium	Not detected	0.002		mg/L	5	7440-28-0	
Vanadium	Not detected	0.005		mg/L	5	7440-62-2	
Zinc	Not detected	0.005		mg/L	5	7440-66-6	

Method: SW6020A, Run Date: 12/17/24 12:25, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Antimony, Dissolved*	Not detected	0.005		mg/L	5	7440-36-0	
Arsenic, Dissolved	Not detected	0.002		mg/L	5	7440-38-2	
Barium, Dissolved	0.061	0.005		mg/L	5	7440-39-3	
Beryllium, Dissolved	Not detected	0.001		mg/L	5	7440-41-7	
Cadmium, Dissolved	Not detected	0.0005		mg/L	5	7440-43-9	
Chromium, Dissolved	Not detected	0.005		mg/L	5	7440-47-3	
Cobalt, Dissolved	Not detected	0.005		mg/L	5	7440-48-4	
Copper, Dissolved	Not detected	0.005		mg/L	5	7440-50-8	
Lead, Dissolved	Not detected	0.003		mg/L	5	7439-92-1	
Manganese, Dissolved	0.196	0.005		mg/L	5	7439-96-5	
Nickel, Dissolved	Not detected	0.005		mg/L	5	7440-02-0	



Analytical Laboratory Report

Lab Sample ID: S69488.02 (continued)

Sample Tag: RFI-23-01R_121124

Method: SW6020A, Run Date: 12/17/24 12:25, Analyst: CCM (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Selenium, Dissolved	Not detected	0.005		mg/L	5	7782-49-2	
Silver, Dissolved	Not detected	0.0005		mg/L	5	7440-22-4	
Thallium, Dissolved	Not detected	0.002		mg/L	5	7440-28-0	
Vanadium, Dissolved	Not detected	0.005		mg/L	5	7440-62-2	
Zinc, Dissolved	Not detected	0.005		mg/L	5	7440-66-6	

Method: SW7471B, Run Date: 12/13/24 15:19, Analyst: CTV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Mercury*	Not detected	0.0002		mg/L	1	7439-97-6	

Method: SW7471B, Run Date: 12/13/24 15:23, Analyst: CTV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Mercury, Dissolved*	Not detected	0.0002		mg/L	1	7439-97-6	

Organics - Semi-Volatiles

TCL Semi-Volatile Organics, Method: SW8270D, Run Date: 12/18/24 22:56, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Benzaldehyde	Not detected	5		ug/L	2	100-52-7	
Acetophenone	Not detected	5		ug/L	2	98-86-2	
Caprolactam	Not detected	10		ug/L	2	105-60-2	
1,1'-Biphenyl	Not detected	5		ug/L	2	92-52-4	
Atrazine*	Not detected	3		ug/L	2	1912-24-9	

TCL Semi-Volatile Organics, Method: SW8270D, Run Date: 12/18/24 22:56, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acenaphthene	Not detected	5		ug/L	2	83-32-9	
Acenaphthylene	Not detected	5		ug/L	2	208-96-8	
Anthracene	Not detected	5		ug/L	2	120-12-7	
4-Bromophenyl phenyl ether	Not detected	5		ug/L	2	101-55-3	
di-n-Butyl phthalate	Not detected	5		ug/L	2	84-74-2	
Benzo(a)anthracene	Not detected	1		ug/L	2	56-55-3	
Benzo(a)pyrene	Not detected	5		ug/L	2	50-32-8	
Benzo(b)fluoranthene	Not detected	1		ug/L	2	205-99-2	
Benzo(ghi)perylene	Not detected	5		ug/L	2	191-24-2	
Benzo(k)fluoranthene	Not detected	5		ug/L	2	207-08-9	
Butyl benzyl phthalate	Not detected	5		ug/L	2	85-68-7	
2-Chloronaphthalene	Not detected	5		ug/L	2	91-58-7	
2-Chlorophenol	Not detected	10		ug/L	2	95-57-8	
4-Chloro-3-methylphenol	Not detected	5		ug/L	2	59-50-7	
4-Chloroaniline	Not detected	10		ug/L	2	106-47-8	
4-Chlorophenyl phenyl ether	Not detected	5		ug/L	2	7005-72-3	
bis(2-Chloroethoxy)methane	Not detected	5		ug/L	2	111-91-1	
bis(2-Chloroethyl)ether	Not detected	1		ug/L	2	111-44-4	
Chrysene	Not detected	1		ug/L	2	218-01-9	
2,4-Dichlorophenol	Not detected	10		ug/L	2	120-83-2	
2,4-Dimethylphenol	Not detected	5		ug/L	2	105-67-9	
2,4-Dinitrophenol	Not detected	25		ug/L	2	51-28-5	
2,4-Dinitrotoluene	Not detected	5		ug/L	2	121-14-2	
2,6-Dinitrotoluene	Not detected	5		ug/L	2	606-20-2	
4,6-Dinitro-2-methylphenol	Not detected	25		ug/L	2	534-52-1	



Analytical Laboratory Report

Lab Sample ID: S69488.02 (continued)

Sample Tag: RFI-23-01R_121124

TCL Semi-Volatile Organics, Method: SW8270D, Run Date: 12/18/24 22:56, Analyst: PL (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibenzo(ah)anthracene	Not detected	5		ug/L	2	53-70-3	
Dibenzofuran	Not detected	4		ug/L	2	132-64-9	
Diethyl phthalate	Not detected	5		ug/L	2	84-66-2	
Dimethyl phthalate	Not detected	5		ug/L	2	131-11-3	
bis(2-Ethylhexyl)phthalate	Not detected	5		ug/L	2	117-81-7	
Fluoranthene	Not detected	1		ug/L	2	206-44-0	
Fluorene	Not detected	5		ug/L	2	86-73-7	
Hexachlorocyclopentadiene	Not detected	5		ug/L	2	77-47-4	
Hexachloroethane	Not detected	5		ug/L	2	67-72-1	
Indeno(1,2,3-cd)pyrene	Not detected	5		ug/L	2	193-39-5	
Isophorone	Not detected	5		ug/L	2	78-59-1	
2-Methylnaphthalene	Not detected	5		ug/L	2	91-57-6	
2-Methylphenol (o-Cresol)	Not detected	10		ug/L	2	95-48-7	
2-Nitroaniline	Not detected	25		ug/L	2	88-74-4	
2-Nitrophenol	Not detected	5		ug/L	2	88-75-5	
3-Nitroaniline	Not detected	25		ug/L	2	99-09-2	
4-Nitroaniline	Not detected	25		ug/L	2	100-01-6	
4-Nitrophenol	Not detected	25		ug/L	2	100-02-7	
N-Nitrosodi-n-propylamine	Not detected	10		ug/L	2	621-64-7	
N-Nitrosodiphenylamine	Not detected	5		ug/L	2	86-30-6	
Naphthalene	Not detected	5		ug/L	2	91-20-3	
Nitrobenzene	Not detected	3		ug/L	2	98-95-3	
di-n-Octyl phthalate	Not detected	5		ug/L	2	117-84-0	
2,4,5-Trichlorophenol	Not detected	5		ug/L	2	95-95-4	
2,4,6-Trichlorophenol	Not detected	4		ug/L	2	88-06-2	
3,3'-Dichlorobenzidine	Not detected	10		ug/L	2	91-94-1	
3-, 4-Methylphenol (p,m-Cresol)	Not detected	10		ug/L	2	3/4-CRESOL	
Pentachlorophenol	Not detected	5		ug/L	2	87-86-5	
Phenanthrene	Not detected	2		ug/L	2	85-01-8	
Phenol	Not detected	5		ug/L	2	108-95-2	
Pyrene	Not detected	5		ug/L	2	129-00-0	
Hexachlorobenzene	Not detected	5		ug/L	2	118-74-1	
Hexachlorobutadiene	Not detected	5		ug/L	2	87-68-3	
bis(2-Chloroisopropyl)ether*	Not detected	5		ug/L	2	108-60-1	
Carbazole	Not detected	5		ug/L	2	86-74-8	

Organics - Volatiles

TCL Volatile Organics 8260 PAL, Method: SW5030C/8260C, Run Date: 12/13/24 19:36, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	30		ug/L	1	76-13-1	
Acetone	Not detected	20		ug/L	1	67-64-1	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
Methyl Acetate	Not detected	10		ug/L	1	79-20-9	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
2-Butanone (MEK)	Not detected	20		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	1		ug/L	1	75-71-8	
Chloromethane	Not detected	1		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	2		ug/L	1	74-83-9	
Chloroethane	Not detected	1		ug/L	1	75-00-3	



Analytical Laboratory Report

Lab Sample ID: S69488.02 (continued)

Sample Tag: RFI-23-01R_121124

TCL Volatile Organics 8260 PAL, Method: SW5030C/8260C, Run Date: 12/13/24 19:36, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Chloroform	Not detected	1		ug/L	1	67-66-3	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
Cyclohexane	Not detected	1		ug/L	1	110-82-7	
4-Methyl-2-pentanone (MIBK)	Not detected	10		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Methyl cyclohexane	Not detected	20		ug/L	1	108-87-2	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
Dibromochloromethane	Not detected	1		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	1		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2-Dibromo-3-chloropropane	Not detected	1		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	2		ug/L	1	120-82-1	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Naphthalene	Not detected	1		ug/L	1	91-20-3	



Analytical Laboratory Report

Lab Sample ID: S69488.03
Sample Tag: RFI-81-12R_121124
Collected Date/Time: 12/11/2024 14:00
Matrix: Groundwater
COC Reference: 174585

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	6.9	IR
2	1L Amber	None	Yes	6.9	IR
2	125mL Plastic	HNO3	Yes	6.9	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	12/16/24 13:06	ACK	
Metal Digestion	Completed	SW3015A	12/17/24 09:40	CCM	
Metal Digestion	Completed	SW3015A	12/17/24 09:40	CCM	
BNA Extraction	Completed	SW3510C	12/17/24 10:00	JWR	
Mercury Digestion*	Completed	SW7471B	12/13/24 11:36	CTV	
Mercury Digestion*	Completed	SW7471B	12/13/24 11:36	CTV	

Metals

Method: SW6020A, Run Date: 12/17/24 12:29, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Antimony*	Not detected	0.005		mg/L	5	7440-36-0	
Arsenic	Not detected	0.002		mg/L	5	7440-38-2	
Barium	0.116	0.005		mg/L	5	7440-39-3	
Beryllium	Not detected	0.001		mg/L	5	7440-41-7	
Cadmium	Not detected	0.0005		mg/L	5	7440-43-9	
Chromium	Not detected	0.005		mg/L	5	7440-47-3	
Cobalt	Not detected	0.005		mg/L	5	7440-48-4	
Copper	Not detected	0.005		mg/L	5	7440-50-8	
Lead	Not detected	0.003		mg/L	5	7439-92-1	
Manganese	0.040	0.005		mg/L	5	7439-96-5	
Nickel	Not detected	0.005		mg/L	5	7440-02-0	
Selenium	Not detected	0.005		mg/L	5	7782-49-2	
Silver	Not detected	0.0005		mg/L	5	7440-22-4	
Thallium	Not detected	0.002		mg/L	5	7440-28-0	
Vanadium	Not detected	0.005		mg/L	5	7440-62-2	
Zinc	0.007	0.005		mg/L	5	7440-66-6	

Method: SW6020A, Run Date: 12/17/24 12:32, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Antimony, Dissolved*	Not detected	0.005		mg/L	5	7440-36-0	
Arsenic, Dissolved	Not detected	0.002		mg/L	5	7440-38-2	
Barium, Dissolved	0.113	0.005		mg/L	5	7440-39-3	
Beryllium, Dissolved	Not detected	0.001		mg/L	5	7440-41-7	
Cadmium, Dissolved	Not detected	0.0005		mg/L	5	7440-43-9	
Chromium, Dissolved	Not detected	0.005		mg/L	5	7440-47-3	
Cobalt, Dissolved	Not detected	0.005		mg/L	5	7440-48-4	
Copper, Dissolved	Not detected	0.005		mg/L	5	7440-50-8	
Lead, Dissolved	Not detected	0.003		mg/L	5	7439-92-1	
Manganese, Dissolved	0.027	0.005		mg/L	5	7439-96-5	
Nickel, Dissolved	Not detected	0.005		mg/L	5	7440-02-0	



Analytical Laboratory Report

Lab Sample ID: S69488.03 (continued)

Sample Tag: RFI-81-12R_121124

Method: SW6020A, Run Date: 12/17/24 12:32, Analyst: CCM (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Selenium, Dissolved	Not detected	0.005		mg/L	5	7782-49-2	
Silver, Dissolved	Not detected	0.0005		mg/L	5	7440-22-4	
Thallium, Dissolved	Not detected	0.002		mg/L	5	7440-28-0	
Vanadium, Dissolved	Not detected	0.005		mg/L	5	7440-62-2	
Zinc, Dissolved	0.008	0.005		mg/L	5	7440-66-6	

Method: SW7471B, Run Date: 12/13/24 15:26, Analyst: CTV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Mercury*	Not detected	0.0002		mg/L	1	7439-97-6	

Method: SW7471B, Run Date: 12/13/24 15:36, Analyst: CTV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Mercury, Dissolved*	Not detected	0.0002		mg/L	1	7439-97-6	

Organics - Semi-Volatiles

TCL Semi-Volatile Organics, Method: SW8270D, Run Date: 12/18/24 23:26, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Benzaldehyde	Not detected	5		ug/L	2	100-52-7	
Acetophenone	Not detected	5		ug/L	2	98-86-2	
Caprolactam	Not detected	10		ug/L	2	105-60-2	
1,1'-Biphenyl	Not detected	5		ug/L	2	92-52-4	
Atrazine*	Not detected	3		ug/L	2	1912-24-9	

TCL Semi-Volatile Organics, Method: SW8270D, Run Date: 12/18/24 23:26, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acenaphthene	Not detected	5		ug/L	2	83-32-9	
Acenaphthylene	Not detected	5		ug/L	2	208-96-8	
Anthracene	Not detected	5		ug/L	2	120-12-7	
4-Bromophenyl phenyl ether	Not detected	5		ug/L	2	101-55-3	
di-n-Butyl phthalate	Not detected	5		ug/L	2	84-74-2	
Benzo(a)anthracene	Not detected	1		ug/L	2	56-55-3	
Benzo(a)pyrene	Not detected	5		ug/L	2	50-32-8	
Benzo(b)fluoranthene	Not detected	1		ug/L	2	205-99-2	
Benzo(ghi)perylene	Not detected	5		ug/L	2	191-24-2	
Benzo(k)fluoranthene	Not detected	5		ug/L	2	207-08-9	
Butyl benzyl phthalate	Not detected	5		ug/L	2	85-68-7	
2-Chloronaphthalene	Not detected	5		ug/L	2	91-58-7	
2-Chlorophenol	Not detected	10		ug/L	2	95-57-8	
4-Chloro-3-methylphenol	Not detected	5		ug/L	2	59-50-7	
4-Chloroaniline	Not detected	10		ug/L	2	106-47-8	
4-Chlorophenyl phenyl ether	Not detected	5		ug/L	2	7005-72-3	
bis(2-Chloroethoxy)methane	Not detected	5		ug/L	2	111-91-1	
bis(2-Chloroethyl)ether	Not detected	1		ug/L	2	111-44-4	
Chrysene	Not detected	1		ug/L	2	218-01-9	
2,4-Dichlorophenol	Not detected	10		ug/L	2	120-83-2	
2,4-Dimethylphenol	Not detected	5		ug/L	2	105-67-9	
2,4-Dinitrophenol	Not detected	25		ug/L	2	51-28-5	
2,4-Dinitrotoluene	Not detected	5		ug/L	2	121-14-2	
2,6-Dinitrotoluene	Not detected	5		ug/L	2	606-20-2	
4,6-Dinitro-2-methylphenol	Not detected	25		ug/L	2	534-52-1	



Analytical Laboratory Report

Lab Sample ID: S69488.03 (continued)

Sample Tag: RFI-81-12R_121124

TCL Semi-Volatile Organics, Method: SW8270D, Run Date: 12/18/24 23:26, Analyst: PL (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibenzo(ah)anthracene	Not detected	5		ug/L	2	53-70-3	
Dibenzofuran	Not detected	4		ug/L	2	132-64-9	
Diethyl phthalate	Not detected	5		ug/L	2	84-66-2	
Dimethyl phthalate	Not detected	5		ug/L	2	131-11-3	
bis(2-Ethylhexyl)phthalate	Not detected	5		ug/L	2	117-81-7	
Fluoranthene	Not detected	1		ug/L	2	206-44-0	
Fluorene	Not detected	5		ug/L	2	86-73-7	
Hexachlorocyclopentadiene	Not detected	5		ug/L	2	77-47-4	
Hexachloroethane	Not detected	5		ug/L	2	67-72-1	
Indeno(1,2,3-cd)pyrene	Not detected	5		ug/L	2	193-39-5	
Isophorone	Not detected	5		ug/L	2	78-59-1	
2-Methylnaphthalene	Not detected	5		ug/L	2	91-57-6	
2-Methylphenol (o-Cresol)	Not detected	10		ug/L	2	95-48-7	
2-Nitroaniline	Not detected	25		ug/L	2	88-74-4	
2-Nitrophenol	Not detected	5		ug/L	2	88-75-5	
3-Nitroaniline	Not detected	25		ug/L	2	99-09-2	
4-Nitroaniline	Not detected	25		ug/L	2	100-01-6	
4-Nitrophenol	Not detected	25		ug/L	2	100-02-7	
N-Nitrosodi-n-propylamine	Not detected	10		ug/L	2	621-64-7	
N-Nitrosodiphenylamine	Not detected	5		ug/L	2	86-30-6	
Naphthalene	Not detected	5		ug/L	2	91-20-3	
Nitrobenzene	Not detected	3		ug/L	2	98-95-3	
di-n-Octyl phthalate	Not detected	5		ug/L	2	117-84-0	
2,4,5-Trichlorophenol	Not detected	5		ug/L	2	95-95-4	
2,4,6-Trichlorophenol	Not detected	4		ug/L	2	88-06-2	
3,3'-Dichlorobenzidine	Not detected	10		ug/L	2	91-94-1	
3-, 4-Methylphenol (p,m-Cresol)	Not detected	10		ug/L	2	3/4-CRESOL	
Pentachlorophenol	Not detected	5		ug/L	2	87-86-5	
Phenanthrene	Not detected	2		ug/L	2	85-01-8	
Phenol	Not detected	5		ug/L	2	108-95-2	
Pyrene	Not detected	5		ug/L	2	129-00-0	
Hexachlorobenzene	Not detected	5		ug/L	2	118-74-1	
Hexachlorobutadiene	Not detected	5		ug/L	2	87-68-3	
bis(2-Chloroisopropyl)ether*	Not detected	5		ug/L	2	108-60-1	
Carbazole	Not detected	5		ug/L	2	86-74-8	

Organics - Volatiles

TCL Volatile Organics 8260 PAL, Method: SW5030C/8260C, Run Date: 12/13/24 20:00, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	30		ug/L	1	76-13-1	
Acetone	Not detected	20		ug/L	1	67-64-1	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
Methyl Acetate	Not detected	10		ug/L	1	79-20-9	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
2-Butanone (MEK)	Not detected	20		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	1		ug/L	1	75-71-8	
Chloromethane	Not detected	1		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	2		ug/L	1	74-83-9	
Chloroethane	Not detected	1		ug/L	1	75-00-3	



Analytical Laboratory Report

Lab Sample ID: S69488.03 (continued)

Sample Tag: RFI-81-12R_121124

TCL Volatile Organics 8260 PAL, Method: SW5030C/8260C, Run Date: 12/13/24 20:00, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Chloroform	Not detected	1		ug/L	1	67-66-3	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
Cyclohexane	Not detected	1		ug/L	1	110-82-7	
4-Methyl-2-pentanone (MIBK)	Not detected	10		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Methyl cyclohexane	Not detected	20		ug/L	1	108-87-2	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
Dibromochloromethane	Not detected	1		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	1		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2-Dibromo-3-chloropropane	Not detected	1		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	2		ug/L	1	120-82-1	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Naphthalene	Not detected	1		ug/L	1	91-20-3	



Analytical Laboratory Report

Lab Sample ID: S69488.04
Sample Tag: RFI-81-33_121124
Collected Date/Time: 12/11/2024 15:20
Matrix: Groundwater
COC Reference: 174585

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	6.9	IR
2	1L Amber	None	Yes	6.9	IR
2	125mL Plastic	HNO3	Yes	6.9	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	12/16/24 13:06	ACK	
Metal Digestion	Completed	SW3015A	12/17/24 09:40	CCM	
Metal Digestion	Completed	SW3015A	12/17/24 09:40	CCM	
BNA Extraction	Completed	SW3510C	12/17/24 10:00	JWR	
Mercury Digestion*	Completed	SW7471B	12/13/24 11:36	CTV	
Mercury Digestion*	Completed	SW7471B	12/13/24 11:36	CTV	

Metals

Method: SW6020A, Run Date: 12/17/24 12:35, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Antimony*	Not detected	0.005		mg/L	5	7440-36-0	
Arsenic	0.002	0.002		mg/L	5	7440-38-2	
Barium	0.134	0.005		mg/L	5	7440-39-3	
Beryllium	Not detected	0.001		mg/L	5	7440-41-7	
Cadmium	Not detected	0.0005		mg/L	5	7440-43-9	
Chromium	Not detected	0.005		mg/L	5	7440-47-3	
Cobalt	Not detected	0.005		mg/L	5	7440-48-4	
Copper	Not detected	0.005		mg/L	5	7440-50-8	
Lead	Not detected	0.003		mg/L	5	7439-92-1	
Manganese	0.994	0.005		mg/L	5	7439-96-5	
Nickel	Not detected	0.005		mg/L	5	7440-02-0	
Selenium	Not detected	0.005		mg/L	5	7782-49-2	
Silver	Not detected	0.0005		mg/L	5	7440-22-4	
Thallium	Not detected	0.002		mg/L	5	7440-28-0	
Vanadium	Not detected	0.005		mg/L	5	7440-62-2	
Zinc	Not detected	0.005		mg/L	5	7440-66-6	

Method: SW6020A, Run Date: 12/17/24 12:39, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Antimony, Dissolved*	Not detected	0.005		mg/L	5	7440-36-0	
Arsenic, Dissolved	Not detected	0.002		mg/L	5	7440-38-2	
Barium, Dissolved	0.136	0.005		mg/L	5	7440-39-3	
Beryllium, Dissolved	Not detected	0.001		mg/L	5	7440-41-7	
Cadmium, Dissolved	Not detected	0.0005		mg/L	5	7440-43-9	
Chromium, Dissolved	Not detected	0.005		mg/L	5	7440-47-3	
Cobalt, Dissolved	Not detected	0.005		mg/L	5	7440-48-4	
Copper, Dissolved	Not detected	0.005		mg/L	5	7440-50-8	
Lead, Dissolved	Not detected	0.003		mg/L	5	7439-92-1	
Manganese, Dissolved	1.06	0.005		mg/L	5	7439-96-5	
Nickel, Dissolved	Not detected	0.005		mg/L	5	7440-02-0	



Analytical Laboratory Report

Lab Sample ID: S69488.04 (continued)

Sample Tag: RFI-81-33_121124

Method: SW6020A, Run Date: 12/17/24 12:39, Analyst: CCM (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Selenium, Dissolved	Not detected	0.005		mg/L	5	7782-49-2	
Silver, Dissolved	Not detected	0.0005		mg/L	5	7440-22-4	
Thallium, Dissolved	Not detected	0.002		mg/L	5	7440-28-0	
Vanadium, Dissolved	Not detected	0.005		mg/L	5	7440-62-2	
Zinc, Dissolved	Not detected	0.005		mg/L	5	7440-66-6	

Method: SW7471B, Run Date: 12/13/24 15:39, Analyst: CTV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Mercury*	Not detected	0.0002		mg/L	1	7439-97-6	

Method: SW7471B, Run Date: 12/13/24 15:43, Analyst: CTV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Mercury, Dissolved*	Not detected	0.0002		mg/L	1	7439-97-6	

Organics - Semi-Volatiles

TCL Semi-Volatile Organics, Method: SW8270D, Run Date: 12/18/24 23:57, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Benzaldehyde	Not detected	5		ug/L	2	100-52-7	
Acetophenone	Not detected	5		ug/L	2	98-86-2	
Caprolactam	Not detected	10		ug/L	2	105-60-2	
1,1'-Biphenyl	Not detected	5		ug/L	2	92-52-4	
Atrazine*	Not detected	3		ug/L	2	1912-24-9	

TCL Semi-Volatile Organics, Method: SW8270D, Run Date: 12/18/24 23:57, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acenaphthene	Not detected	5		ug/L	2	83-32-9	
Acenaphthylene	Not detected	5		ug/L	2	208-96-8	
Anthracene	Not detected	5		ug/L	2	120-12-7	
4-Bromophenyl phenyl ether	Not detected	5		ug/L	2	101-55-3	
di-n-Butyl phthalate	Not detected	5		ug/L	2	84-74-2	
Benzo(a)anthracene	Not detected	1		ug/L	2	56-55-3	
Benzo(a)pyrene	Not detected	5		ug/L	2	50-32-8	
Benzo(b)fluoranthene	Not detected	1		ug/L	2	205-99-2	
Benzo(ghi)perylene	Not detected	5		ug/L	2	191-24-2	
Benzo(k)fluoranthene	Not detected	5		ug/L	2	207-08-9	
Butyl benzyl phthalate	Not detected	5		ug/L	2	85-68-7	
2-Chloronaphthalene	Not detected	5		ug/L	2	91-58-7	
2-Chlorophenol	Not detected	10		ug/L	2	95-57-8	
4-Chloro-3-methylphenol	Not detected	5		ug/L	2	59-50-7	
4-Chloroaniline	Not detected	10		ug/L	2	106-47-8	
4-Chlorophenyl phenyl ether	Not detected	5		ug/L	2	7005-72-3	
bis(2-Chloroethoxy)methane	Not detected	5		ug/L	2	111-91-1	
bis(2-Chloroethyl)ether	Not detected	1		ug/L	2	111-44-4	
Chrysene	Not detected	1		ug/L	2	218-01-9	
2,4-Dichlorophenol	Not detected	10		ug/L	2	120-83-2	
2,4-Dimethylphenol	Not detected	5		ug/L	2	105-67-9	
2,4-Dinitrophenol	Not detected	25		ug/L	2	51-28-5	
2,4-Dinitrotoluene	Not detected	5		ug/L	2	121-14-2	
2,6-Dinitrotoluene	Not detected	5		ug/L	2	606-20-2	
4,6-Dinitro-2-methylphenol	Not detected	25		ug/L	2	534-52-1	



Analytical Laboratory Report

Lab Sample ID: S69488.04 (continued)

Sample Tag: RFI-81-33_121124

TCL Semi-Volatile Organics, Method: SW8270D, Run Date: 12/18/24 23:57, Analyst: PL (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibenzo(ah)anthracene	Not detected	5		ug/L	2	53-70-3	
Dibenzofuran	Not detected	4		ug/L	2	132-64-9	
Diethyl phthalate	Not detected	5		ug/L	2	84-66-2	
Dimethyl phthalate	Not detected	5		ug/L	2	131-11-3	
bis(2-Ethylhexyl)phthalate	Not detected	5		ug/L	2	117-81-7	
Fluoranthene	Not detected	1		ug/L	2	206-44-0	
Fluorene	Not detected	5		ug/L	2	86-73-7	
Hexachlorocyclopentadiene	Not detected	5		ug/L	2	77-47-4	
Hexachloroethane	Not detected	5		ug/L	2	67-72-1	
Indeno(1,2,3-cd)pyrene	Not detected	5		ug/L	2	193-39-5	
Isophorone	Not detected	5		ug/L	2	78-59-1	
2-Methylnaphthalene	Not detected	5		ug/L	2	91-57-6	
2-Methylphenol (o-Cresol)	Not detected	10		ug/L	2	95-48-7	
2-Nitroaniline	Not detected	25		ug/L	2	88-74-4	
2-Nitrophenol	Not detected	5		ug/L	2	88-75-5	
3-Nitroaniline	Not detected	25		ug/L	2	99-09-2	
4-Nitroaniline	Not detected	25		ug/L	2	100-01-6	
4-Nitrophenol	Not detected	25		ug/L	2	100-02-7	
N-Nitrosodi-n-propylamine	Not detected	10		ug/L	2	621-64-7	
N-Nitrosodiphenylamine	Not detected	5		ug/L	2	86-30-6	
Naphthalene	Not detected	5		ug/L	2	91-20-3	
Nitrobenzene	Not detected	3		ug/L	2	98-95-3	
di-n-Octyl phthalate	Not detected	5		ug/L	2	117-84-0	
2,4,5-Trichlorophenol	Not detected	5		ug/L	2	95-95-4	
2,4,6-Trichlorophenol	Not detected	4		ug/L	2	88-06-2	
3,3'-Dichlorobenzidine	Not detected	10		ug/L	2	91-94-1	
3-, 4-Methylphenol (p,m-Cresol)	Not detected	10		ug/L	2	3/4-CRESOL	
Pentachlorophenol	Not detected	5		ug/L	2	87-86-5	
Phenanthrene	Not detected	2		ug/L	2	85-01-8	
Phenol	Not detected	5		ug/L	2	108-95-2	
Pyrene	Not detected	5		ug/L	2	129-00-0	
Hexachlorobenzene	Not detected	5		ug/L	2	118-74-1	
Hexachlorobutadiene	Not detected	5		ug/L	2	87-68-3	
bis(2-Chloroisopropyl)ether*	Not detected	5		ug/L	2	108-60-1	
Carbazole	Not detected	5		ug/L	2	86-74-8	

Organics - Volatiles

TCL Volatile Organics 8260 PAL, Method: SW5030C/8260C, Run Date: 12/13/24 20:24, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	30		ug/L	1	76-13-1	
Acetone	Not detected	20		ug/L	1	67-64-1	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
Methyl Acetate	Not detected	10		ug/L	1	79-20-9	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
2-Butanone (MEK)	Not detected	20		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	1		ug/L	1	75-71-8	
Chloromethane	Not detected	1		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	2		ug/L	1	74-83-9	
Chloroethane	Not detected	1		ug/L	1	75-00-3	



Analytical Laboratory Report

Lab Sample ID: S69488.04 (continued)

Sample Tag: RFI-81-33_121124

TCL Volatile Organics 8260 PAL, Method: SW5030C/8260C, Run Date: 12/13/24 20:24, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Chloroform	Not detected	1		ug/L	1	67-66-3	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
Cyclohexane	Not detected	1		ug/L	1	110-82-7	
4-Methyl-2-pentanone (MIBK)	Not detected	10		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Methyl cyclohexane	Not detected	20		ug/L	1	108-87-2	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
Dibromochloromethane	Not detected	1		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	1		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2-Dibromo-3-chloropropane	Not detected	1		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	2		ug/L	1	120-82-1	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Naphthalene	Not detected	1		ug/L	1	91-20-3	



Analytical Laboratory Report

Lab Sample ID: S69488.05
Sample Tag: Trip Blank
Collected Date/Time: 12/11/2024 00:01
Matrix: Liquid
COC Reference: 174585

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40mL Glass	HCL	Yes	6.9	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	12/16/24 13:06	ACK	

Organics - Volatiles

TCL Volatile Organics 8260 PAL, Method: SW5030C/8260C, Run Date: 12/13/24 16:47, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	30		ug/L	1	76-13-1	
Acetone	Not detected	20		ug/L	1	67-64-1	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
Methyl Acetate	Not detected	10		ug/L	1	79-20-9	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
2-Butanone (MEK)	Not detected	20		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	1		ug/L	1	75-71-8	
Chloromethane	Not detected	1		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	2		ug/L	1	74-83-9	
Chloroethane	Not detected	1		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Chloroform	Not detected	1		ug/L	1	67-66-3	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
Cyclohexane	Not detected	1		ug/L	1	110-82-7	
4-Methyl-2-pentanone (MIBK)	Not detected	10		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Methyl cyclohexane	Not detected	20		ug/L	1	108-87-2	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
Dibromochloromethane	Not detected	1		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	



Analytical Laboratory Report

Lab Sample ID: S69488.05 (continued)

Sample Tag: Trip Blank

TCL Volatile Organics 8260 PAL, Method: SW5030C/8260C, Run Date: 12/13/24 16:47, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	1		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2-Dibromo-3-chloropropane	Not detected	1		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	2		ug/L	1	120-82-1	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Naphthalene	Not detected	1		ug/L	1	91-20-3	

Merit Laboratories Login Checklist

Lab Set ID:S69488

Client:ARCADIS_NOVI (ARCADIS U.S., Inc.)

Project: 30219382.01 / Buick City

Submitted: 12/11/2024 16:45 Login User: PFD

Attention: Erin Kozak

Address: Arcadis US, Inc.
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: O: 810-225-1901 FAX:

Email: erin.kozak@arcadis.com

Selection	Description	Note
Sample Receiving		
01.	☒ Yes ☐ No ☐ N/A	Samples are received at 4C +/- 2C Thermometer # IR 6.9
02.	☒ Yes ☐ No ☐ N/A	Received on ice/ cooling process begun
03.	☐ Yes ☒ No ☐ N/A	Samples shipped
04.	☐ Yes ☒ No ☐ N/A	Samples left in 24 hr. drop box
05.	☐ Yes ☐ No ☒ N/A	Are there custody seals/tape or is the drop box locked
Chain of Custody		
06.	☒ Yes ☐ No ☐ N/A	COC adequately filled out
07.	☒ Yes ☐ No ☐ N/A	COC signed and relinquished to the lab
08.	☒ Yes ☐ No ☐ N/A	Sample tag on bottles match COC
09.	☐ Yes ☒ No ☐ N/A	Subcontracting needed? Subcontacted to:
Preservation		
10.	☒ Yes ☐ No ☐ N/A	Do sample have correct chemical preservation
11.	☒ Yes ☐ No ☐ N/A	Completed pH checks on preserved samples? (no VOAs)
12.	☐ Yes ☒ No ☐ N/A	Did any samples need to be preserved in the lab?
Bottle Conditions		
13.	☒ Yes ☐ No ☐ N/A	All bottles intact
14.	☒ Yes ☐ No ☐ N/A	Appropriate analytical bottles are used
15.	☒ Yes ☐ No ☐ N/A	Merit bottles used
16.	☒ Yes ☐ No ☐ N/A	Sufficient sample volume received
17.	☐ Yes ☒ No ☐ N/A	Samples require laboratory filtration
18.	☒ Yes ☐ No ☐ N/A	Samples submitted within holding time
19.	☐ Yes ☐ No ☒ N/A	Do water VOC, TOX, DO or Alkalinity bottles contain

Corrective action for all exceptions is to call the client and to notify the project manager.

Client Review By: _____ Date: _____

Merit Laboratories Bottle Preservation Check

Lab Set ID: S69488 Submitted: 12/11/2024 16:45

Client: ARCADIS_NOVI (ARCADIS U.S., Inc.)

Project: 30219382.01 / Buick City

Initial Preservation Check: 12/11/2024 17:05 PFD

Preservation Recheck (E200.8): N/A

Attention: Erin Kozak

Address: Arcadis US, Inc.
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: O: 810-225-1901 FAX:

Email: erin.kozak@arcadis.com

Sample ID	Bottle / Preservation	pH (Orig)	Add ml	pH (New)	Notes
S69488.01	125mL Plastic HNO3	<2			
S69488.01	125mL Plastic HNO3	<2			
S69488.02	125mL Plastic HNO3	<2			
S69488.02	125mL Plastic HNO3	<2			
S69488.03	125mL Plastic HNO3	<2			
S69488.03	125mL Plastic HNO3	<2			
S69488.04	125mL Plastic HNO3	<2			
S69488.04	125mL Plastic HNO3	<2			



Analytical Laboratory Report

Report ID: S72750.01(01)
Generated on 04/14/2025

Report to

Attention: Madison Olender
Arcadis US, Inc.
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: 248-790-1666 FAX:
Email: Madison.Olender@arcadis.com

Additional Contacts: Megan Humphrey, Micki Maki, Erin Kozak

Report produced by

Merit Laboratories, Inc.
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Contacts for report questions:
John Lavery (johnlavery@meritlabs.com)
Barbara Ball (bball@meritlabs.com)

Report Summary

Lab Sample ID(s): S72750.01-S72750.03
Project: 30219382.00001
Collected Date(s): 03/24/2025 - 03/25/2025
Submitted Date/Time: 03/26/2025 08:30
Sampled by: Donald Richmond
P.O. #: 30219382.00001

Table of Contents

- Cover Page (Page 1)
- General Report Notes (Page 2)
- Report Narrative (Page 2)
- Laboratory Accreditations (Page 3)
- Qualifier Descriptions (Page 3)
- Glossary of Abbreviations (Page 3)
- Method Summary (Page 4)
- Parameter Summary (Page 5)
- Sample Summary (Page 6)

Maya Murshak
Technical Director



Analytical Laboratory Report

General Report Notes

Analytical results relate only to the samples tested, in the condition received by the laboratory.

Methods may be modified for improved performance.

Results reported on a dry weight basis where applicable.

'Not detected' indicates that parameter was not found at a level equal to or greater than the reporting limit (RL).

When MDL results are provided, then 'Not detected' indicates that parameter was not found at a level equal to or greater than the MDL.

40 CFR Part 136 Table II Required Containers, Preservation Techniques and Holding Times for the Clean Water Act specify that samples for acrolein and acrylonitrile, and 2-chloroethylvinyl ether need to be preserved at a pH in the range of 4 to 5 or if not preserved, analyzed within 3 days of sampling.

QA/QC corresponding to this analytical report is a separate document with the same Merit ID reference and is available upon request.

Starred (*) analytes are not NY NELAP accredited.

Samples are held by the lab for 30 days from the final report date unless a written request to hold longer is provided by the client.

Report shall not be reproduced except in full, without the written approval of Merit Laboratories, Inc.

Limits for drinking water samples, are listed as the MCL Limits (Maximum Contaminant Level Concentrations)

PFAS requirement: Section 9.3.8 of U.S. EPA Method 537.1 states "If the method analyte(s) found in the Field Sample is present in the FRB at a concentration greater than 1/3 the MRL, then all samples collected with that FRB are invalid and must be recollected and reanalyzed."

Samples submitted without an accompanying FRB may not be acceptable for compliance purposes.

Wisconsin PFAs analysis: MDL = LOD; RL = LOQ. LOD and LOQ are adjusted for dilution.

All accreditations/certifications held by this laboratory are listed on page 3. Not all accreditations/certifications are applicable to this report.

For a specific list of accredited analytes, please feel free to contact the laboratory or visit <https://www.meritlabs.com/certifications>.

Report Narrative

There is no additional narrative for this analytical report

Laboratory Accreditations (For Reference Only)

Authority	Accreditation ID
Michigan DEQ	#9956
DOD ELAP & ISO/IEC 17025:2017	#69699 PJLA Testing
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702
Pennsylvania DEP	#68-05884
Wisconsin DNR	FID# 399147320

Qualifier Descriptions

Qualifier	Description
!	Result is outside of stated limit criteria
B	Compound also found in associated method blank
E	Concentration exceeds calibration range
F	Analysis run outside of holding time
G	Estimated result due to extraction run outside of holding time
H	Sample submitted and run outside of holding time
I	Matrix interference with internal standard
J	Estimated value less than reporting limit, but greater than MDL
L	Elevated reporting limit due to low sample amount
M	Result reported to MDL not RDL
O	Analysis performed by outside laboratory. See attached report.
R	Preliminary result
S	Surrogate recovery outside of control limits
T	No correction for total solids
X	Elevated reporting limit due to matrix interference
Y	Elevated reporting limit due to high target concentration
b	Value detected less than reporting limit, but greater than MDL
e	Reported value estimated due to interference
j	Analyte also found in associated method blank
o	Associated EIS outside of control limits
p	Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.
q	Qualifier ion ratio outside of control limits
x	Preserved from bulk sample

Glossary of Abbreviations

Abbreviation	Description
RL/RDL	Reporting Limit
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
SW	EPA SW 846 (Soil and Wastewater) Methods
E	EPA Methods
SM	Standard Methods
LN	Linear
BR	Branched



Analytical Laboratory Report

Method Summary

Method	Version
ASTMD7979-19M	ASTM Method D7979 - 19 Modified (Isotopic Dilution)

Parameter Summary

Parameter	Synonym	Cas #
PFBA	Perfluorobutanoic Acid	375-22-4
PFPeA	Perfluoropentanoic Acid	2706-90-3
4:2 FTSA	4:2 Fluorotelomer Sulfonic Acid	757124-72-4
PFHxA	Perfluorohexanoic Acid	307-24-4
PFBS	Perfluorobutane sulfonic Acid	375-73-5
PFHpA	Perfluoroheptanoic Acid	375-85-9
PFPeS	Perfluoropentane Sulfonic Acid	2706-91-4
6:2 FTSA	6:2 Fluorotelomer Sulfonic Acid	27619-97-2
PFOA	Perfluorooctanoic Acid	335-67-1
PFHxS	Perfluorohexane Sulfonic Acid	355-46-4
PFHxS-LN	Perfluorohexane Sulfonic Acid - LN	355-46-4-LN
PFHxS-BR	Perfluorohexane Sulfonic Acid - BR	355-46-4-BR
PFNA	Perfluorononanoic Acid	375-95-1
8:2 FTSA	8:2 Fluorotelomer Sulfonic Acid	39108-34-4
PFHpS	Perfluoroheptane Sulfonic Acid	375-92-8
PFDA	Perfluorodecanoic Acid	335-76-2
N-MeFOSAA	N-methyl perfluorooctanesulfonamidoacetic acid	2355-31-9
EtFOSAA	N-Ethyl Perfluorooctane Sulfonamidoacetic Acid	2991-50-6
PFOS	Perfluorooctane Sulfonic Acid	1763-23-1
PFOS-LN	Perfluorooctane Sulfonic Acid - LN	1763-23-1-LN
PFOS-BR	Perfluorooctane Sulfonic Acid - BR	1763-23-1-BR
PFUnDA	Perfluoroundecanoic Acid	2058-94-8
PFNS	Perfluorononane Sulfonic Acid	68259-12-1
PFDoDA	Perfluorododecanoic Acid	307-55-1
PFDS	Perfluorodecane Sulfonic Acid	335-77-3
PFTTrDA	Perfluorotridecanoic Acid	72629-94-8
FOSA	Perfluorooctane Sulfonamide	754-91-6
PFTeDA	Perfluorotetradecanoic Acid	376-06-7
11Cl-PF3OUdS	11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	763051-92-9
9Cl-PF3ONS	9-chlorohexadecafluoro-3-oxanone1-sulfonic acid	756426-58-1
ADONA	4,8-dioxa-3H-perfluorononanoic acid	919005-14-4
HFPO-DA	Hexafluoropropylene oxide dimer	13252-13-6
FHpPA (7:3 FTCA)	3-Perfluoroheptyl propanoic acid	812-70-4
FPePA (5:3 FTCA)	3-Perfluoropentyl propanoic acid	914637-49-3
FPrPA (3:3 FTCA)	3-Perfluoropropyl propanoic acid	356-02-5
PFBSA	Perfluorobutanesulfonamide	30334-69-1
PFECHS	Perfluoro-4-ethylcyclohexanesulfonate	80988-54-1
PFHxSA	Perfluorohexanesulfonamide	41997-13-1



Analytical Laboratory Report

Sample Summary (3 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S72750.01	RFI-86-14_032425	Groundwater	03/24/25 12:50
S72750.02	RFI-81-12R_032525	Groundwater	03/25/25 10:15
S72750.03	RFI-81-33_032525	Groundwater	03/25/25 11:40



Analytical Laboratory Report

Lab Sample ID: S72750.01

Sample Tag: RFI-86-14_032425

Collected Date/Time: 03/24/2025 12:50

Matrix: Groundwater

COC Reference: 176369

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15mL Centrifuge Tube	None	Yes	0.4	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	11.78/6.48/11	ASTMD7979-19M	03/26/25 11:30	CED	

Organics

34 PFAs, Method: ASTMD7979-19M, Run Date: 03/26/25 22:22, Analyst: CED

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	10		ng/L	2.08	375-22-4	
PFPeA*	4.6	4.2		ng/L	2.08	2706-90-3	
4:2 FTSA*	Not detected	2.1		ng/L	2.08	757124-72-4	
PFHxA*	5.1	2.1		ng/L	2.08	307-24-4	
PFBS*	Not detected	2.1		ng/L	2.08	375-73-5	
PFHpA*	3.3	2.1		ng/L	2.08	375-85-9	
PFPeS*	Not detected	2.1		ng/L	2.08	2706-91-4	
6:2 FTSA*	Not detected	2.1		ng/L	2.08	27619-97-2	
PFOA*	7.6	2.1		ng/L	2.08	335-67-1	
PFHxS*	Not detected	2.1		ng/L	2.08	355-46-4	
PFHxS-LN*	Not detected	2.1		ng/L	2.08	355-46-4-LN	
PFHxS-BR*	Not detected	2.1		ng/L	2.08	355-46-4-BR	
PFNA*	Not detected	2.1		ng/L	2.08	375-95-1	
8:2 FTSA*	Not detected	2.1		ng/L	2.08	39108-34-4	
PFHpS*	Not detected	2.1		ng/L	2.08	375-92-8	
PFDA*	Not detected	2.1		ng/L	2.08	335-76-2	
N-MeFOSAA*	Not detected	2.1		ng/L	2.08	2355-31-9	
EtFOSAA*	Not detected	4.2		ng/L	2.08	2991-50-6	
PFOS*	Not detected	2.1		ng/L	2.08	1763-23-1	
PFOS-LN*	Not detected	2.1		ng/L	2.08	1763-23-1-LN	
PFOS-BR*	Not detected	2.1		ng/L	2.08	1763-23-1-BR	
PFUnDA*	Not detected	2.1		ng/L	2.08	2058-94-8	
PFNS*	Not detected	2.1		ng/L	2.08	68259-12-1	
PFDODA*	Not detected	2.1		ng/L	2.08	307-55-1	
PFDS*	Not detected	2.1		ng/L	2.08	335-77-3	
PFTTrDA*	Not detected	2.1		ng/L	2.08	72629-94-8	
FOSA*	Not detected	2.1		ng/L	2.08	754-91-6	
PFTeDA*	Not detected	4.2		ng/L	2.08	376-06-7	
11Cl-PF3OUdS*	Not detected	2.1		ng/L	2.08	763051-92-9	
9Cl-PF3ONS*	Not detected	2.1		ng/L	2.08	756426-58-1	
ADONA*	Not detected	2.1		ng/L	2.08	919005-14-4	
HFPO-DA*	Not detected	10		ng/L	2.08	13252-13-6	
FHpPA (7:3 FTCA)*	Not detected	10		ng/L	2.08	812-70-4	
FPePA (5:3 FTCA)*	Not detected	10		ng/L	2.08	914637-49-3	
FPrPA (3:3 FTCA)*	Not detected	10		ng/L	2.08	356-02-5	
PFBSA*	Not detected	2.1		ng/L	2.08	30334-69-1	
PFECHS*	Not detected	2.1		ng/L	2.08	80988-54-1	



Analytical Laboratory Report

Lab Sample ID: S72750.01 (continued)

Sample Tag: RFI-86-14_032425

34 PFAs, Method: ASTMD7979-19M, Run Date: 03/26/25 22:22, Analyst: CED (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFHxSA*	Not detected	2.1		ng/L	2.08	41997-13-1	



Analytical Laboratory Report

Lab Sample ID: S72750.02

Sample Tag: RFI-81-12R_032525

Collected Date/Time: 03/25/2025 10:15

Matrix: Groundwater

COC Reference: 176369

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15mL Centrifuge Tube	None	Yes	0.4	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	11.75/6.48/11	ASTMD7979-19M	03/26/25 11:30	CED	

Organics

34 PFAs, Method: ASTMD7979-19M, Run Date: 03/26/25 22:42, Analyst: CED

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	10		ng/L	2.09	375-22-4	
PFPeA*	Not detected	4.2		ng/L	2.09	2706-90-3	
4:2 FTSA*	Not detected	2.1		ng/L	2.09	757124-72-4	
PFHxA*	Not detected	2.1		ng/L	2.09	307-24-4	
PFBS*	Not detected	2.1		ng/L	2.09	375-73-5	
PFHpA*	Not detected	2.1		ng/L	2.09	375-85-9	
PFPeS*	Not detected	2.1		ng/L	2.09	2706-91-4	
6:2 FTSA*	Not detected	2.1		ng/L	2.09	27619-97-2	
PFOA*	3.8	2.1		ng/L	2.09	335-67-1	
PFHxS*	Not detected	2.1		ng/L	2.09	355-46-4	
PFHxS-LN*	Not detected	2.1		ng/L	2.09	355-46-4-LN	
PFHxS-BR*	Not detected	2.1		ng/L	2.09	355-46-4-BR	
PFNA*	Not detected	2.1		ng/L	2.09	375-95-1	
8:2 FTSA*	Not detected	2.1		ng/L	2.09	39108-34-4	
PFHpS*	Not detected	2.1		ng/L	2.09	375-92-8	
PFDA*	Not detected	2.1		ng/L	2.09	335-76-2	
N-MeFOSAA*	Not detected	2.1		ng/L	2.09	2355-31-9	
EtFOSAA*	Not detected	4.2		ng/L	2.09	2991-50-6	
PFOS*	13	2.1		ng/L	2.09	1763-23-1	
PFOS-LN*	9.0	2.1		ng/L	2.09	1763-23-1-LN	
PFOS-BR*	2.3	2.1		ng/L	2.09	1763-23-1-BR	
PFUnDA*	Not detected	2.1		ng/L	2.09	2058-94-8	
PFNS*	Not detected	2.1		ng/L	2.09	68259-12-1	
PFDODA*	Not detected	2.1		ng/L	2.09	307-55-1	
PFDS*	Not detected	2.1		ng/L	2.09	335-77-3	
PFTTrDA*	Not detected	2.1		ng/L	2.09	72629-94-8	
FOSA*	Not detected	2.1		ng/L	2.09	754-91-6	
PFTeDA*	Not detected	4.2		ng/L	2.09	376-06-7	
11Cl-PF3OUdS*	Not detected	2.1		ng/L	2.09	763051-92-9	
9Cl-PF3ONS*	Not detected	2.1		ng/L	2.09	756426-58-1	
ADONA*	Not detected	2.1		ng/L	2.09	919005-14-4	
HFPO-DA*	Not detected	10		ng/L	2.09	13252-13-6	
FHpPA (7:3 FTCA)*	Not detected	10		ng/L	2.09	812-70-4	
FPePA (5:3 FTCA)*	Not detected	10		ng/L	2.09	914637-49-3	
FPrPA (3:3 FTCA)*	Not detected	10		ng/L	2.09	356-02-5	
PFBSA*	Not detected	2.1		ng/L	2.09	30334-69-1	
PFECHS*	Not detected	2.1		ng/L	2.09	80988-54-1	



Analytical Laboratory Report

Lab Sample ID: S72750.02 (continued)

Sample Tag: RFI-81-12R_032525

34 PFAs, Method: ASTMD7979-19M, Run Date: 03/26/25 22:42, Analyst: CED (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFHxSA*	Not detected	2.1		ng/L	2.09	41997-13-1	



Analytical Laboratory Report

Lab Sample ID: S72750.03

Sample Tag: RFI-81-33_032525

Collected Date/Time: 03/25/2025 11:40

Matrix: Groundwater

COC Reference: 176369

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15mL Centrifuge Tube	None	Yes	0.4	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.00/6.48/11	ASTMD7979-19M	03/26/25 11:30	CED	

Organics

34 PFAs, Method: ASTMD7979-19M, Run Date: 04/02/25 15:30, Analyst: CED

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	18	10.0		ng/L	1.99	375-22-4	
PFPeA*	5.3	4.0		ng/L	1.99	2706-90-3	
4:2 FTSA*	Not detected	2.0		ng/L	1.99	757124-72-4	
PFHxA*	Not detected	2.0		ng/L	1.99	307-24-4	
PFBS*	Not detected	2.0		ng/L	1.99	375-73-5	
PFHpA*	Not detected	2.0		ng/L	1.99	375-85-9	
PFPeS*	Not detected	2.0		ng/L	1.99	2706-91-4	
6:2 FTSA*	Not detected	2.0		ng/L	1.99	27619-97-2	
PFOA*	Not detected	2.0		ng/L	1.99	335-67-1	
PFHxS*	2.4	2.0		ng/L	1.99	355-46-4	
PFHxS-LN*	Not detected	2.0		ng/L	1.99	355-46-4-LN	
PFHxS-BR*	Not detected	2.0		ng/L	1.99	355-46-4-BR	
PFNA*	Not detected	2.0		ng/L	1.99	375-95-1	
8:2 FTSA*	Not detected	2.0		ng/L	1.99	39108-34-4	
PFHpS*	Not detected	2.0		ng/L	1.99	375-92-8	
PFDA*	Not detected	2.0		ng/L	1.99	335-76-2	
N-MeFOSAA*	Not detected	2.0		ng/L	1.99	2355-31-9	
EtFOSAA*	Not detected	4.0		ng/L	1.99	2991-50-6	
PFOS*	Not detected	2.0		ng/L	1.99	1763-23-1	
PFOS-LN*	Not detected	2.0		ng/L	1.99	1763-23-1-LN	
PFOS-BR*	Not detected	2.0		ng/L	1.99	1763-23-1-BR	
PFUnDA*	Not detected	2.0		ng/L	1.99	2058-94-8	
PFNS*	Not detected	2.0		ng/L	1.99	68259-12-1	
PFDODA*	Not detected	2.0		ng/L	1.99	307-55-1	
PFDS*	Not detected	2.0		ng/L	1.99	335-77-3	
PFTTrDA*	Not detected	2.0		ng/L	1.99	72629-94-8	
FOSA*	Not detected	2.0		ng/L	1.99	754-91-6	
PFTeDA*	Not detected	4.0		ng/L	1.99	376-06-7	
11Cl-PF3OUdS*	Not detected	2.0		ng/L	1.99	763051-92-9	
9Cl-PF3ONS*	Not detected	2.0		ng/L	1.99	756426-58-1	
ADONA*	Not detected	2.0		ng/L	1.99	919005-14-4	
HFPO-DA*	Not detected	10.0		ng/L	1.99	13252-13-6	
FHpPA (7:3 FTCA)*	Not detected	10.0		ng/L	1.99	812-70-4	
FPePA (5:3 FTCA)*	Not detected	10.0		ng/L	1.99	914637-49-3	
FPrPA (3:3 FTCA)*	Not detected	10.0		ng/L	1.99	356-02-5	
PFBSA*	Not detected	2.0		ng/L	1.99	30334-69-1	
PFECHS*	Not detected	2.0		ng/L	1.99	80988-54-1	



Analytical Laboratory Report

Lab Sample ID: S72750.03 (continued)

Sample Tag: RFI-81-33_032525

34 PFAs, Method: ASTMD7979-19M, Run Date: 04/02/25 15:30, Analyst: CED (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFHxSA*	Not detected	2.0		ng/L	1.99	41997-13-1	

Merit Laboratories Login Checklist

Lab Set ID:S72750

Client:ARCADIS_NOVI (ARCADIS U.S., Inc.)

Project: 30219382.00001

Submitted:03/26/2025 08:30 Login User: MMC

Attention: Madison Olender

Address: Arcadis US, Inc.
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: 248-790-1666

FAX:

Email: Madison.Olender@arcadis.com

Selection	Description	Note
Sample Receiving		
01.	☐ Yes ☒ No ☐ N/A	Samples are received at 4C +/- 2C Thermometer # IR 0.4
02.	☒ Yes ☐ No ☐ N/A	Received on ice/ cooling process begun
03.	☐ Yes ☒ No ☐ N/A	Samples shipped
04.	☐ Yes ☒ No ☐ N/A	Samples left in 24 hr. drop box
05.	☐ Yes ☐ No ☒ N/A	Are there custody seals/tape or is the drop box locked
Chain of Custody		
06.	☒ Yes ☐ No ☐ N/A	COC adequately filled out
07.	☒ Yes ☐ No ☐ N/A	COC signed and relinquished to the lab
08.	☒ Yes ☐ No ☐ N/A	Sample tag on bottles match COC
09.	☐ Yes ☒ No ☐ N/A	Subcontracting needed? Subcontracted to:
Preservation		
10.	☒ Yes ☐ No ☐ N/A	Do sample have correct chemical preservation
11.	☐ Yes ☐ No ☒ N/A	Completed pH checks on preserved samples? (no VOAs)
12.	☐ Yes ☒ No ☐ N/A	Did any samples need to be preserved in the lab?
Bottle Conditions		
13.	☒ Yes ☐ No ☐ N/A	All bottles intact
14.	☒ Yes ☐ No ☐ N/A	Appropriate analytical bottles are used
15.	☒ Yes ☐ No ☐ N/A	Merit bottles used
16.	☒ Yes ☐ No ☐ N/A	Sufficient sample volume received
17.	☐ Yes ☒ No ☐ N/A	Samples require laboratory filtration
18.	☒ Yes ☐ No ☐ N/A	Samples submitted within holding time
19.	☐ Yes ☐ No ☒ N/A	Do water VOC, TOX, DO or Alkalinity bottles contain

Corrective action for all exceptions is to call the client and to notify the project manager.

Client Review By: _____ Date: _____

REPORT TO

CHAIN OF CUSTODY RECORD

INVOICE TO

CONTACT NAME Madison Olender			
COMPANY Arcadis			
ADDRESS 28550 Cabot Dr. Suite 500			
CITY Novi		STATE MI	ZIP CODE 48377
PHONE NO. 248 790 1666		CELL NO.	P.O. NO.
E-MAIL ADDRESS Madison.Olender@arcadis.com		QUOTE NO.	

CONTACT NAME		☒ SAME	
COMPANY			
ADDRESS			
CITY		STATE	ZIP CODE
PHONE NO.	E-MAIL ADDRESS		

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

PROJECT NO./NAME 3021 9382.00001	SAMPLER(S) - PLEASE PRINT/SIGN NAME Donald Richmond / Donald Richms
TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER _____	
DELIVERABLES REQUIRED ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER _____	

MATRIX CODE:	W=WATER	GW=GROUNDWATER	WW=WASTEWATER	S=SOIL	L=LIQUID	SD=SOLID	# Containers & Preservatives
	SL=SLUDGE	DW=DRINKING WATER	O=OIL	WP=WIPE	A=AIR	WS=WASTE	

[illegible][illegible]

RELINQUISHED BY:	☒ Sampler	DATE	TIME
SIGNATURE/ORGANIZATION	<i>Donald P. Arcadis</i>	3/26/25	0830
RECEIVED BY:		DATE	TIME
SIGNATURE/ORGANIZATION	<i>M. Orlato</i>	3/26/25	0830
RELINQUISHED BY:		DATE	TIME
SIGNATURE/ORGANIZATION			
RECEIVED BY:		DATE	TIME
SIGNATURE/ORGANIZATION			

RELINQUISHED BY:			DATE	TIME
SIGNATURE/ORGANIZATION				
RECEIVED BY:			DATE	TIME
SIGNATURE/ORGANIZATION				
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	NOTES:	TEMP. ON ARRIVAL <u>0.4</u>
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS		

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE



Analytical Laboratory Report

Report ID: S72749.01(01)
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Report Summary

Lab Sample ID(s): S72749.01-S72749.02
Project: 30219382.00001
Collected Date(s): 03/25/2025
Submitted Date/Time: 03/26/2025 08:30
Sampled by: Donald Richmond
P.O. #: 30219382.00001

Table of Contents

- Cover Page (Page 1)
- General Report Notes (Page 2)
- Report Narrative (Page 2)
- Laboratory Accreditations (Page 3)
- Qualifier Descriptions (Page 3)
- Glossary of Abbreviations (Page 3)
- Method Summary (Page 4)
- Sample Summary (Page 5)

Maya Murshak
Technical Director



Analytical Laboratory Report

General Report Notes

Analytical results relate only to the samples tested, in the condition received by the laboratory.

Methods may be modified for improved performance.

Results reported on a dry weight basis where applicable.

'Not detected' indicates that parameter was not found at a level equal to or greater than the reporting limit (RL).

When MDL results are provided, then 'Not detected' indicates that parameter was not found at a level equal to or greater than the MDL.

40 CFR Part 136 Table II Required Containers, Preservation Techniques and Holding Times for the Clean Water Act specify that samples for acrolein and acrylonitrile, and 2-chloroethylvinyl ether need to be preserved at a pH in the range of 4 to 5 or if not preserved, analyzed within 3 days of sampling.

QA/QC corresponding to this analytical report is a separate document with the same Merit ID reference and is available upon request.

Starred (*) analytes are not NY NELAP accredited.

Samples are held by the lab for 30 days from the final report date unless a written request to hold longer is provided by the client.

Report shall not be reproduced except in full, without the written approval of Merit Laboratories, Inc.

Limits for drinking water samples, are listed as the MCL Limits (Maximum Contaminant Level Concentrations)

PFAS requirement: Section 9.3.8 of U.S. EPA Method 537.1 states "If the method analyte(s) found in the Field Sample is present in the FRB at a concentration greater than 1/3 the MRL, then all samples collected with that FRB are invalid and must be recollected and reanalyzed."

Samples submitted without an accompanying FRB may not be acceptable for compliance purposes.

Wisconsin PFAs analysis: MDL = LOD; RL = LOQ. LOD and LOQ are adjusted for dilution.

All accreditations/certifications held by this laboratory are listed on page 3. Not all accreditations/certifications are applicable to this report.

For a specific list of accredited analytes, please feel free to contact the laboratory or visit <https://www.meritlabs.com/certifications>.

Report Narrative

There is no additional narrative for this analytical report

Laboratory Accreditations (For Reference Only)

Authority	Accreditation ID
Michigan DEQ	#9956
DOD ELAP & ISO/IEC 17025:2017	#69699 PJLA Testing
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702
Pennsylvania DEP	#68-05884
Wisconsin DNR	FID# 399147320

Qualifier Descriptions

Qualifier	Description
!	Result is outside of stated limit criteria
B	Compound also found in associated method blank
E	Concentration exceeds calibration range
F	Analysis run outside of holding time
G	Estimated result due to extraction run outside of holding time
H	Sample submitted and run outside of holding time
I	Matrix interference with internal standard
J	Estimated value less than reporting limit, but greater than MDL
L	Elevated reporting limit due to low sample amount
M	Result reported to MDL not RDL
O	Analysis performed by outside laboratory. See attached report.
R	Preliminary result
S	Surrogate recovery outside of control limits
T	No correction for total solids
X	Elevated reporting limit due to matrix interference
Y	Elevated reporting limit due to high target concentration
b	Value detected less than reporting limit, but greater than MDL
e	Reported value estimated due to interference
j	Analyte also found in associated method blank
o	Associated EIS outside of control limits
p	Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.
q	Qualifier ion ratio outside of control limits
x	Preserved from bulk sample

Glossary of Abbreviations

Abbreviation	Description
RL/RDL	Reporting Limit
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
SW	EPA SW 846 (Soil and Wastewater) Methods
E	EPA Methods
SM	Standard Methods
LN	Linear
BR	Branched



Analytical Laboratory Report

Method Summary

Method	Version
N/A	Not Applicable
SW3015A	SW 846 Method 3015A Revision 1 February 2007
SW3510C	SW 846 Method 3510C Revision 3 December 1996
SW5030C/8260C	SW 846 Method 8260C Revision 3 August 2006 / 5030C Revision 3 May 2003
SW6020A	SW 846 Method 6020A Revision 1 February 2007
SW7471B	SW 846 Method 7471B Revision 2 February 2007
SW8270D	SW 846 Method 8270D Revision 4 February 2007



Analytical Laboratory Report

Sample Summary (2 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S72749.01	RFI-81-12R_032525	Groundwater	03/25/25 10:15
S72749.02	RFI-81-33_032525	Groundwater	03/25/25 11:40



Analytical Laboratory Report

Lab Sample ID: S72749.01

Sample Tag: RFI-81-12R_032525

Collected Date/Time: 03/25/2025 10:15

Matrix: Groundwater

COC Reference: 176364

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	0.4	IR
2	1L Amber	None	Yes	0.4	IR
1	125mL Plastic	HNO3	Yes	0.4	IR
1	125mL Plastic	None	Yes	0.4	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	03/28/25 11:55	BDO	
Metal Digestion	Completed	SW3015A	04/01/25 10:40	CCM	
Metal Digestion	Completed	SW3015A	04/01/25 10:40	CCM	f
BNA Extraction	Completed	SW3510C	03/28/25 11:00	DJS	
Mercury Digestion*	Completed	SW7471B	03/28/25 12:15	CTV	
Mercury Digestion*	Completed	SW7471B	03/28/25 12:15	CTV	f

Metals

Method: SW6020A, Run Date: 04/01/25 12:08, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Antimony*	Not detected	0.005		mg/L	5	7440-36-0	
Arsenic	Not detected	0.002		mg/L	5	7440-38-2	
Barium	0.089	0.005		mg/L	5	7440-39-3	
Beryllium	Not detected	0.001		mg/L	5	7440-41-7	
Cadmium	Not detected	0.0005		mg/L	5	7440-43-9	
Chromium	Not detected	0.005		mg/L	5	7440-47-3	
Cobalt	Not detected	0.005		mg/L	5	7440-48-4	
Copper	Not detected	0.005		mg/L	5	7440-50-8	
Lead	Not detected	0.003		mg/L	5	7439-92-1	
Manganese	0.007	0.005		mg/L	5	7439-96-5	
Nickel	Not detected	0.005		mg/L	5	7440-02-0	
Selenium	0.014	0.005		mg/L	5	7782-49-2	
Silver	Not detected	0.0005		mg/L	5	7440-22-4	
Thallium	Not detected	0.002		mg/L	5	7440-28-0	
Vanadium	Not detected	0.005		mg/L	5	7440-62-2	
Zinc	0.008	0.005		mg/L	5	7440-66-6	

Method: SW6020A, Run Date: 04/01/25 12:15, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Antimony, Dissolved*	Not detected	0.005		mg/L	5	7440-36-0	f
Arsenic, Dissolved	Not detected	0.002		mg/L	5	7440-38-2	f
Barium, Dissolved	0.084	0.005		mg/L	5	7440-39-3	f
Beryllium, Dissolved	Not detected	0.001		mg/L	5	7440-41-7	f
Cadmium, Dissolved	Not detected	0.0005		mg/L	5	7440-43-9	f
Chromium, Dissolved	Not detected	0.005		mg/L	5	7440-47-3	f
Cobalt, Dissolved	Not detected	0.005		mg/L	5	7440-48-4	f
Copper, Dissolved	Not detected	0.005		mg/L	5	7440-50-8	f
Lead, Dissolved	Not detected	0.003		mg/L	5	7439-92-1	f

f-Filtered and preserved in lab



Analytical Laboratory Report

Lab Sample ID: S72749.01 (continued)

Sample Tag: RFI-81-12R_032525

Method: SW6020A, Run Date: 04/01/25 12:15, Analyst: CCM (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Manganese, Dissolved	Not detected	0.005		mg/L	5	7439-96-5	f
Nickel, Dissolved	Not detected	0.005		mg/L	5	7440-02-0	f
Selenium, Dissolved	0.013	0.005		mg/L	5	7782-49-2	f
Silver, Dissolved	Not detected	0.0005		mg/L	5	7440-22-4	f
Thallium, Dissolved	Not detected	0.002		mg/L	5	7440-28-0	f
Vanadium, Dissolved	Not detected	0.005		mg/L	5	7440-62-2	f
Zinc, Dissolved	0.009	0.005		mg/L	5	7440-66-6	f

Method: SW7471B, Run Date: 03/28/25 16:34, Analyst: CTV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Mercury*	Not detected	0.0002		mg/L	1	7439-97-6	

Method: SW7471B, Run Date: 03/28/25 16:38, Analyst: CTV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Mercury, Dissolved*	Not detected	0.0002		mg/L	1	7439-97-6	f

Organics - Semi-Volatiles

TCL Semi-Volatile Organics, Method: SW8270D, Run Date: 03/31/25 22:42, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Benzaldehyde	Not detected	5		ug/L	2	100-52-7	
Acetophenone	Not detected	5		ug/L	2	98-86-2	
Caprolactam	Not detected	10		ug/L	2	105-60-2	
1,1'-Biphenyl	Not detected	5		ug/L	2	92-52-4	
Atrazine*	Not detected	3		ug/L	2	1912-24-9	

TCL Semi-Volatile Organics, Method: SW8270D, Run Date: 03/31/25 22:42, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acenaphthene	Not detected	5		ug/L	2	83-32-9	
Acenaphthylene	Not detected	5		ug/L	2	208-96-8	
Anthracene	Not detected	5		ug/L	2	120-12-7	
4-Bromophenyl phenyl ether	Not detected	5		ug/L	2	101-55-3	
di-n-Butyl phthalate	Not detected	5		ug/L	2	84-74-2	
Benzo(a)anthracene	Not detected	1		ug/L	2	56-55-3	
Benzo(a)pyrene	Not detected	5		ug/L	2	50-32-8	
Benzo(b)fluoranthene	Not detected	1		ug/L	2	205-99-2	
Benzo(ghi)perylene	Not detected	5		ug/L	2	191-24-2	
Benzo(k)fluoranthene	Not detected	5		ug/L	2	207-08-9	
Butyl benzyl phthalate	Not detected	5		ug/L	2	85-68-7	
2-Chloronaphthalene	Not detected	5		ug/L	2	91-58-7	
2-Chlorophenol	Not detected	10		ug/L	2	95-57-8	
4-Chloro-3-methylphenol	Not detected	5		ug/L	2	59-50-7	
4-Chloroaniline	Not detected	10		ug/L	2	106-47-8	
4-Chlorophenyl phenyl ether	Not detected	5		ug/L	2	7005-72-3	
bis(2-Chloroethoxy)methane	Not detected	5		ug/L	2	111-91-1	
bis(2-Chloroethyl)ether	Not detected	1		ug/L	2	111-44-4	
Chrysene	Not detected	1		ug/L	2	218-01-9	
2,4-Dichlorophenol	Not detected	10		ug/L	2	120-83-2	
2,4-Dimethylphenol	Not detected	5		ug/L	2	105-67-9	
2,4-Dinitrophenol	Not detected	25		ug/L	2	51-28-5	

f-Filtered and preserved in lab



Analytical Laboratory Report

Lab Sample ID: S72749.01 (continued)

Sample Tag: RFI-81-12R_032525

TCL Semi-Volatile Organics, Method: SW8270D, Run Date: 03/31/25 22:42, Analyst: PL (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
2,4-Dinitrotoluene	Not detected	5		ug/L	2	121-14-2	
2,6-Dinitrotoluene	Not detected	5		ug/L	2	606-20-2	
4,6-Dinitro-2-methylphenol	Not detected	25		ug/L	2	534-52-1	
Dibenzo(ah)anthracene	Not detected	5		ug/L	2	53-70-3	
Dibenzofuran	Not detected	4		ug/L	2	132-64-9	
Diethyl phthalate	Not detected	5		ug/L	2	84-66-2	
Dimethyl phthalate	Not detected	5		ug/L	2	131-11-3	
bis(2-Ethylhexyl)phthalate	Not detected	5		ug/L	2	117-81-7	
Fluoranthene	Not detected	1		ug/L	2	206-44-0	
Fluorene	Not detected	5		ug/L	2	86-73-7	
Hexachlorocyclopentadiene	Not detected	5		ug/L	2	77-47-4	
Hexachloroethane	Not detected	5		ug/L	2	67-72-1	
Indeno(1,2,3-cd)pyrene	Not detected	5		ug/L	2	193-39-5	
Isophorone	Not detected	5		ug/L	2	78-59-1	
2-Methylnaphthalene	Not detected	5		ug/L	2	91-57-6	
2-Methylphenol (o-Cresol)	Not detected	10		ug/L	2	95-48-7	
2-Nitroaniline	Not detected	25		ug/L	2	88-74-4	
2-Nitrophenol	Not detected	5		ug/L	2	88-75-5	
3-Nitroaniline	Not detected	25		ug/L	2	99-09-2	
4-Nitroaniline	Not detected	25		ug/L	2	100-01-6	
4-Nitrophenol	Not detected	25		ug/L	2	100-02-7	
N-Nitrosodi-n-propylamine	Not detected	10		ug/L	2	621-64-7	
N-Nitrosodiphenylamine	Not detected	5		ug/L	2	86-30-6	
Naphthalene	Not detected	5		ug/L	2	91-20-3	
Nitrobenzene	Not detected	3		ug/L	2	98-95-3	
di-n-Octyl phthalate	Not detected	5		ug/L	2	117-84-0	
2,4,5-Trichlorophenol	Not detected	5		ug/L	2	95-95-4	
2,4,6-Trichlorophenol	Not detected	4		ug/L	2	88-06-2	
3,3'-Dichlorobenzidine	Not detected	10		ug/L	2	91-94-1	
3-, 4-Methylphenol (p,m-Cresol)	Not detected	10		ug/L	2	3/4-CRESOL	
Pentachlorophenol	Not detected	5		ug/L	2	87-86-5	
Phenanthrene	Not detected	2		ug/L	2	85-01-8	
Phenol	Not detected	5		ug/L	2	108-95-2	
Pyrene	Not detected	5		ug/L	2	129-00-0	
Hexachlorobenzene	Not detected	5		ug/L	2	118-74-1	
Hexachlorobutadiene	Not detected	5		ug/L	2	87-68-3	
bis(2-Chloroisopropyl)ether*	Not detected	5		ug/L	2	108-60-1	
Carbazole	Not detected	5		ug/L	2	86-74-8	

Organics - Volatiles

TCL Volatile Organics 8260 PAL, Method: SW5030C/8260C, Run Date: 03/28/25 14:42, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	30		ug/L	1	76-13-1	
Acetone	Not detected	20		ug/L	1	67-64-1	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
Methyl Acetate	Not detected	10		ug/L	1	79-20-9	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
2-Butanone (MEK)	Not detected	20		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	1		ug/L	1	75-71-8	
Chloromethane	Not detected	1		ug/L	1	74-87-3	



Analytical Laboratory Report

Lab Sample ID: S72749.01 (continued)

Sample Tag: RFI-81-12R_032525

TCL Volatile Organics 8260 PAL, Method: SW5030C/8260C, Run Date: 03/28/25 14:42, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	2		ug/L	1	74-83-9	
Chloroethane	Not detected	1		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Chloroform	Not detected	1		ug/L	1	67-66-3	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
Cyclohexane	Not detected	1		ug/L	1	110-82-7	
4-Methyl-2-pentanone (MIBK)	Not detected	10		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Methyl cyclohexane	Not detected	20		ug/L	1	108-87-2	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
Dibromochloromethane	Not detected	1		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	1		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2-Dibromo-3-chloropropane	Not detected	1		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	2		ug/L	1	120-82-1	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Naphthalene	Not detected	1		ug/L	1	91-20-3	



Analytical Laboratory Report

Lab Sample ID: S72749.02

Sample Tag: RFI-81-33_032525

Collected Date/Time: 03/25/2025 11:40

Matrix: Groundwater

COC Reference: 176364

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	0.4	IR
2	1L Amber	None	Yes	0.4	IR
1	125mL Plastic	HNO3	Yes	0.4	IR
1	125mL Plastic	None	Yes	0.4	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	03/28/25 11:55	BDO	
Metal Digestion	Completed	SW3015A	04/01/25 10:40	CCM	
Metal Digestion	Completed	SW3015A	04/01/25 10:40	CCM	f
BNA Extraction	Completed	SW3510C	03/28/25 11:00	DJS	
Mercury Digestion*	Completed	SW7471B	03/28/25 12:15	CTV	
Mercury Digestion*	Completed	SW7471B	03/28/25 12:15	CTV	f

Metals

Method: SW6020A, Run Date: 04/01/25 12:20, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Antimony*	Not detected	0.005		mg/L	5	7440-36-0	
Arsenic	Not detected	0.002		mg/L	5	7440-38-2	
Barium	0.143	0.005		mg/L	5	7440-39-3	
Beryllium	Not detected	0.001		mg/L	5	7440-41-7	
Cadmium	Not detected	0.0005		mg/L	5	7440-43-9	
Chromium	Not detected	0.005		mg/L	5	7440-47-3	
Cobalt	Not detected	0.005		mg/L	5	7440-48-4	
Copper	Not detected	0.005		mg/L	5	7440-50-8	
Lead	Not detected	0.003		mg/L	5	7439-92-1	
Manganese	0.897	0.005		mg/L	5	7439-96-5	
Nickel	Not detected	0.005		mg/L	5	7440-02-0	
Selenium	Not detected	0.005		mg/L	5	7782-49-2	
Silver	Not detected	0.0005		mg/L	5	7440-22-4	
Thallium	Not detected	0.002		mg/L	5	7440-28-0	
Vanadium	Not detected	0.005		mg/L	5	7440-62-2	
Zinc	Not detected	0.005		mg/L	5	7440-66-6	

Method: SW6020A, Run Date: 04/01/25 12:23, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Antimony, Dissolved*	Not detected	0.005		mg/L	5	7440-36-0	f
Arsenic, Dissolved	Not detected	0.002		mg/L	5	7440-38-2	f
Barium, Dissolved	0.134	0.005		mg/L	5	7440-39-3	f
Beryllium, Dissolved	Not detected	0.001		mg/L	5	7440-41-7	f
Cadmium, Dissolved	Not detected	0.0005		mg/L	5	7440-43-9	f
Chromium, Dissolved	Not detected	0.005		mg/L	5	7440-47-3	f
Cobalt, Dissolved	Not detected	0.005		mg/L	5	7440-48-4	f
Copper, Dissolved	Not detected	0.005		mg/L	5	7440-50-8	f
Lead, Dissolved	Not detected	0.003		mg/L	5	7439-92-1	f

f-Filtered and preserved in lab



Analytical Laboratory Report

Lab Sample ID: S72749.02 (continued)

Sample Tag: RFI-81-33_032525

Method: SW6020A, Run Date: 04/01/25 12:23, Analyst: CCM (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Manganese, Dissolved	0.835	0.005		mg/L	5	7439-96-5	f
Nickel, Dissolved	Not detected	0.005		mg/L	5	7440-02-0	f
Selenium, Dissolved	Not detected	0.005		mg/L	5	7782-49-2	f
Silver, Dissolved	Not detected	0.0005		mg/L	5	7440-22-4	f
Thallium, Dissolved	Not detected	0.002		mg/L	5	7440-28-0	f
Vanadium, Dissolved	Not detected	0.005		mg/L	5	7440-62-2	f
Zinc, Dissolved	Not detected	0.005		mg/L	5	7440-66-6	f

Method: SW7471B, Run Date: 03/28/25 16:41, Analyst: CTV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Mercury*	Not detected	0.0002		mg/L	1	7439-97-6	

Method: SW7471B, Run Date: 03/28/25 16:44, Analyst: CTV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Mercury, Dissolved*	Not detected	0.0002		mg/L	1	7439-97-6	f

Organics - Semi-Volatiles

TCL Semi-Volatile Organics, Method: SW8270D, Run Date: 03/31/25 23:12, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Benzaldehyde	Not detected	5		ug/L	2	100-52-7	
Acetophenone	Not detected	5		ug/L	2	98-86-2	
Caprolactam	Not detected	10		ug/L	2	105-60-2	
1,1'-Biphenyl	Not detected	5		ug/L	2	92-52-4	
Atrazine*	Not detected	3		ug/L	2	1912-24-9	

TCL Semi-Volatile Organics, Method: SW8270D, Run Date: 03/31/25 23:12, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acenaphthene	Not detected	5		ug/L	2	83-32-9	
Acenaphthylene	Not detected	5		ug/L	2	208-96-8	
Anthracene	Not detected	5		ug/L	2	120-12-7	
4-Bromophenyl phenyl ether	Not detected	5		ug/L	2	101-55-3	
di-n-Butyl phthalate	Not detected	5		ug/L	2	84-74-2	
Benzo(a)anthracene	Not detected	1		ug/L	2	56-55-3	
Benzo(a)pyrene	Not detected	5		ug/L	2	50-32-8	
Benzo(b)fluoranthene	Not detected	1		ug/L	2	205-99-2	
Benzo(ghi)perylene	Not detected	5		ug/L	2	191-24-2	
Benzo(k)fluoranthene	Not detected	5		ug/L	2	207-08-9	
Butyl benzyl phthalate	Not detected	5		ug/L	2	85-68-7	
2-Chloronaphthalene	Not detected	5		ug/L	2	91-58-7	
2-Chlorophenol	Not detected	10		ug/L	2	95-57-8	
4-Chloro-3-methylphenol	Not detected	5		ug/L	2	59-50-7	
4-Chloroaniline	Not detected	10		ug/L	2	106-47-8	
4-Chlorophenyl phenyl ether	Not detected	5		ug/L	2	7005-72-3	
bis(2-Chloroethoxy)methane	Not detected	5		ug/L	2	111-91-1	
bis(2-Chloroethyl)ether	Not detected	1		ug/L	2	111-44-4	
Chrysene	Not detected	1		ug/L	2	218-01-9	
2,4-Dichlorophenol	Not detected	10		ug/L	2	120-83-2	
2,4-Dimethylphenol	Not detected	5		ug/L	2	105-67-9	
2,4-Dinitrophenol	Not detected	25		ug/L	2	51-28-5	

f-Filtered and preserved in lab



Analytical Laboratory Report

Lab Sample ID: S72749.02 (continued)

Sample Tag: RFI-81-33_032525

TCL Semi-Volatile Organics, Method: SW8270D, Run Date: 03/31/25 23:12, Analyst: PL (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
2,4-Dinitrotoluene	Not detected	5		ug/L	2	121-14-2	
2,6-Dinitrotoluene	Not detected	5		ug/L	2	606-20-2	
4,6-Dinitro-2-methylphenol	Not detected	25		ug/L	2	534-52-1	
Dibenzo(ah)anthracene	Not detected	5		ug/L	2	53-70-3	
Dibenzofuran	Not detected	4		ug/L	2	132-64-9	
Diethyl phthalate	Not detected	5		ug/L	2	84-66-2	
Dimethyl phthalate	Not detected	5		ug/L	2	131-11-3	
bis(2-Ethylhexyl)phthalate	Not detected	5		ug/L	2	117-81-7	
Fluoranthene	Not detected	1		ug/L	2	206-44-0	
Fluorene	Not detected	5		ug/L	2	86-73-7	
Hexachlorocyclopentadiene	Not detected	5		ug/L	2	77-47-4	
Hexachloroethane	Not detected	5		ug/L	2	67-72-1	
Indeno(1,2,3-cd)pyrene	Not detected	5		ug/L	2	193-39-5	
Isophorone	Not detected	5		ug/L	2	78-59-1	
2-Methylnaphthalene	Not detected	5		ug/L	2	91-57-6	
2-Methylphenol (o-Cresol)	Not detected	10		ug/L	2	95-48-7	
2-Nitroaniline	Not detected	25		ug/L	2	88-74-4	
2-Nitrophenol	Not detected	5		ug/L	2	88-75-5	
3-Nitroaniline	Not detected	25		ug/L	2	99-09-2	
4-Nitroaniline	Not detected	25		ug/L	2	100-01-6	
4-Nitrophenol	Not detected	25		ug/L	2	100-02-7	
N-Nitrosodi-n-propylamine	Not detected	10		ug/L	2	621-64-7	
N-Nitrosodiphenylamine	Not detected	5		ug/L	2	86-30-6	
Naphthalene	Not detected	5		ug/L	2	91-20-3	
Nitrobenzene	Not detected	3		ug/L	2	98-95-3	
di-n-Octyl phthalate	Not detected	5		ug/L	2	117-84-0	
2,4,5-Trichlorophenol	Not detected	5		ug/L	2	95-95-4	
2,4,6-Trichlorophenol	Not detected	4		ug/L	2	88-06-2	
3,3'-Dichlorobenzidine	Not detected	10		ug/L	2	91-94-1	
3-, 4-Methylphenol (p,m-Cresol)	Not detected	10		ug/L	2	3/4-CRESOL	
Pentachlorophenol	Not detected	5		ug/L	2	87-86-5	
Phenanthrene	Not detected	2		ug/L	2	85-01-8	
Phenol	Not detected	5		ug/L	2	108-95-2	
Pyrene	Not detected	5		ug/L	2	129-00-0	
Hexachlorobenzene	Not detected	5		ug/L	2	118-74-1	
Hexachlorobutadiene	Not detected	5		ug/L	2	87-68-3	
bis(2-Chloroisopropyl)ether*	Not detected	5		ug/L	2	108-60-1	
Carbazole	Not detected	5		ug/L	2	86-74-8	

Organics - Volatiles

TCL Volatile Organics 8260 PAL, Method: SW5030C/8260C, Run Date: 03/28/25 01:38, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	30		ug/L	1	76-13-1	
Acetone	Not detected	20		ug/L	1	67-64-1	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
Methyl Acetate	Not detected	10		ug/L	1	79-20-9	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
2-Butanone (MEK)	Not detected	20		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	1		ug/L	1	75-71-8	
Chloromethane	Not detected	1		ug/L	1	74-87-3	



Analytical Laboratory Report

Lab Sample ID: S72749.02 (continued)

Sample Tag: RFI-81-33_032525

TCL Volatile Organics 8260 PAL, Method: SW5030C/8260C, Run Date: 03/28/25 01:38, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	2		ug/L	1	74-83-9	
Chloroethane	Not detected	1		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Chloroform	Not detected	1		ug/L	1	67-66-3	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
Cyclohexane	Not detected	1		ug/L	1	110-82-7	
4-Methyl-2-pentanone (MIBK)	Not detected	10		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Methyl cyclohexane	Not detected	20		ug/L	1	108-87-2	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
Dibromochloromethane	Not detected	1		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	1		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2-Dibromo-3-chloropropane	Not detected	1		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	2		ug/L	1	120-82-1	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Naphthalene	Not detected	1		ug/L	1	91-20-3	

Merit Laboratories Login Checklist

Lab Set ID:S72749

Client:ARCADIS_NOVI (ARCADIS U.S., Inc.)

Project: 30219382.00001

Submitted:03/26/2025 08:30 Login User: MMC

Attention: Madison Olender
Address: Arcadis US, Inc.
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: 248-790-1666 FAX:
Email: Madison.Olender@arcadis.com

Selection	Description	Note
Sample Receiving		
01.	☐ Yes ☒ No ☐ N/A	Samples are received at 4C +/- 2C Thermometer # IR 0.4
02.	☒ Yes ☐ No ☐ N/A	Received on ice/ cooling process begun
03.	☐ Yes ☒ No ☐ N/A	Samples shipped
04.	☐ Yes ☒ No ☐ N/A	Samples left in 24 hr. drop box
05.	☐ Yes ☐ No ☒ N/A	Are there custody seals/tape or is the drop box locked
Chain of Custody		
06.	☒ Yes ☐ No ☐ N/A	COC adequately filled out
07.	☒ Yes ☐ No ☐ N/A	COC signed and relinquished to the lab
08.	☒ Yes ☐ No ☐ N/A	Sample tag on bottles match COC
09.	☐ Yes ☒ No ☐ N/A	Subcontracting needed? Subcontacted to:
Preservation		
10.	☒ Yes ☐ No ☐ N/A	Do sample have correct chemical preservation
11.	☒ Yes ☐ No ☐ N/A	Completed pH checks on preserved samples? (no VOAs)
12.	☒ Yes ☐ No ☐ N/A	Did any samples need to be preserved in the lab? Diss Metals
Bottle Conditions		
13.	☒ Yes ☐ No ☐ N/A	All bottles intact
14.	☒ Yes ☐ No ☐ N/A	Appropriate analytical bottles are used
15.	☒ Yes ☐ No ☐ N/A	Merit bottles used
16.	☒ Yes ☐ No ☐ N/A	Sufficient sample volume received
17.	☒ Yes ☐ No ☐ N/A	Samples require laboratory filtration Diss Metals
18.	☒ Yes ☐ No ☐ N/A	Samples submitted within holding time
19.	☐ Yes ☒ No ☐ N/A	Do water VOC, TOX, DO or Alkalinity bottles contain

Corrective action for all exceptions is to call the client and to notify the project manager.

Client Review By: _____ Date: _____

Merit Laboratories Bottle Preservation Check

Lab Set ID: S72749 Submitted: 03/26/2025 08:30

Client: ARCADIS_NOVI (ARCADIS U.S., Inc.)

Project: 30219382.00001

Initial Preservation Check: 03/26/2025 08:48 MMC

Preservation Recheck (E200.8): N/A

Attention: Madison Olender

Address: Arcadis US, Inc.
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: 248-790-1666

FAX:

Email: Madison.Olender@arcadis.com

Sample ID	Bottle / Preservation	pH (Orig)	Add ml	pH (New)	Notes
S72749.01	125mL Plastic HNO3	<2			
S72749.02	125mL Plastic HNO3	<2			

REPORT TO

CONTACT NAME Madison Olender			
COMPANY Arcadis			
ADDRESS 28550 Cabot Dr. Suite 500			
CITY Novi		STATE MI	ZIP CODE 48377
PHONE NO. 248 790 1666		CELL NO.	P.O. NO.
E-MAIL ADDRESS Madison.Olender@arcadis.com		QUOTE NO.	

CHAIN OF CUSTODY RECORD

CONTACT NAME		☒ SAME	
COMPANY			
ADDRESS			
CITY		STATE	ZIP CODE
PHONE NO.	E-MAIL ADDRESS		

INVOICE TO

PROJECT NO./NAME 30219382.00001	SAMPLER(S) - PLEASE PRINT/SIGN NAME Donald Richmond / Donald Richm
TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER	
DELIVERABLES REQUIRED ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER	

7. ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications

☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations

☐ Detroit ☐ New York☐ Other _____

Special Instructions

Filter methods in Lab

MATRIX W=WATER GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID
CODE: SL=SLUDGE DW=DRINKING WATER O=OIL WP=WPE A=AIR WS=WASTE

Containers & Preservatives

[illegible]

RELINQUISHED BY:	☒ Sampler	DATE	TIME
SIGNATURE/ORGANIZATION	<i>Donald Dickson / Arcadis</i>	3/26/25	0830
RECEIVED BY:		DATE	TIME
SIGNATURE/ORGANIZATION	<i>M. Culcott</i>	3/26/25	0830
RELINQUISHED BY:		DATE	TIME
SIGNATURE/ORGANIZATION			
RECEIVED BY:		DATE	TIME
SIGNATURE/ORGANIZATION			

RELINQUISHED BY:				DATE	TIME
SIGNATURE/ORGANIZATION					
RECEIVED BY:				DATE	TIME
SIGNATURE/ORGANIZATION					
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	NOTES:	TEMP. ON ARRIVAL	
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS			0.4



Analytical Laboratory Report

Report ID: S72872.01(01)
Generated on 04/15/2025

Report to

Attention: Madison Olender
Arcadis US, Inc.
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: 248-790-1666 FAX:
Email: Madison.Olender@arcadis.com

Additional Contacts: Megan Humphrey, Micki Maki, Erin Kozak

Report produced by

Merit Laboratories, Inc.
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Contacts for report questions:
John Lavery (johnlavery@meritlabs.com)
Barbara Ball (bball@meritlabs.com)

Report Summary

Lab Sample ID(s): S72872.01-S72872.05
Project: 30219382.00001 / Buick City
Collected Date(s): 03/26/2025 - 03/27/2025
Submitted Date/Time: 03/28/2025 10:15
Sampled by: Donald Richmond
P.O. #: 30219382.00001

Table of Contents

- Cover Page (Page 1)
- General Report Notes (Page 2)
- Report Narrative (Page 2)
- Laboratory Accreditations (Page 3)
- Qualifier Descriptions (Page 3)
- Glossary of Abbreviations (Page 3)
- Method Summary (Page 4)
- Parameter Summary (Page 5)
- Sample Summary (Page 6)

Maya Murshak
Technical Director



Analytical Laboratory Report

General Report Notes

Analytical results relate only to the samples tested, in the condition received by the laboratory.

Methods may be modified for improved performance.

Results reported on a dry weight basis where applicable.

'Not detected' indicates that parameter was not found at a level equal to or greater than the reporting limit (RL).

When MDL results are provided, then 'Not detected' indicates that parameter was not found at a level equal to or greater than the MDL.

40 CFR Part 136 Table II Required Containers, Preservation Techniques and Holding Times for the Clean Water Act specify that samples for acrolein and acrylonitrile, and 2-chloroethylvinyl ether need to be preserved at a pH in the range of 4 to 5 or if not preserved, analyzed within 3 days of sampling.

QA/QC corresponding to this analytical report is a separate document with the same Merit ID reference and is available upon request.

Starred (*) analytes are not NY NELAP accredited.

Samples are held by the lab for 30 days from the final report date unless a written request to hold longer is provided by the client.

Report shall not be reproduced except in full, without the written approval of Merit Laboratories, Inc.

Limits for drinking water samples, are listed as the MCL Limits (Maximum Contaminant Level Concentrations)

PFAS requirement: Section 9.3.8 of U.S. EPA Method 537.1 states "If the method analyte(s) found in the Field Sample is present in the FRB at a concentration greater than 1/3 the MRL, then all samples collected with that FRB are invalid and must be recollected and reanalyzed."

Samples submitted without an accompanying FRB may not be acceptable for compliance purposes.

Wisconsin PFAs analysis: MDL = LOD; RL = LOQ. LOD and LOQ are adjusted for dilution.

All accreditations/certifications held by this laboratory are listed on page 3. Not all accreditations/certifications are applicable to this report.

For a specific list of accredited analytes, please feel free to contact the laboratory or visit <https://www.meritlabs.com/certifications>.

Report Narrative

There is no additional narrative for this analytical report

Laboratory Accreditations (For Reference Only)

Authority	Accreditation ID
Michigan DEQ	#9956
DOD ELAP & ISO/IEC 17025:2017	#69699 PJLA Testing
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702
Pennsylvania DEP	#68-05884
Wisconsin DNR	FID# 399147320

Qualifier Descriptions

Qualifier	Description
!	Result is outside of stated limit criteria
B	Compound also found in associated method blank
E	Concentration exceeds calibration range
F	Analysis run outside of holding time
G	Estimated result due to extraction run outside of holding time
H	Sample submitted and run outside of holding time
I	Matrix interference with internal standard
J	Estimated value less than reporting limit, but greater than MDL
L	Elevated reporting limit due to low sample amount
M	Result reported to MDL not RDL
O	Analysis performed by outside laboratory. See attached report.
R	Preliminary result
S	Surrogate recovery outside of control limits
T	No correction for total solids
X	Elevated reporting limit due to matrix interference
Y	Elevated reporting limit due to high target concentration
b	Value detected less than reporting limit, but greater than MDL
e	Reported value estimated due to interference
j	Analyte also found in associated method blank
o	Associated EIS outside of control limits
p	Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.
q	Qualifier ion ratio outside of control limits
x	Preserved from bulk sample

Glossary of Abbreviations

Abbreviation	Description
RL/RDL	Reporting Limit
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
SW	EPA SW 846 (Soil and Wastewater) Methods
E	EPA Methods
SM	Standard Methods
LN	Linear
BR	Branched



Analytical Laboratory Report

Method Summary

Method	Version
ASTMD7979-19M	ASTM Method D7979 - 19 Modified (Isotopic Dilution)

Parameter Summary

Parameter	Synonym	Cas #
PFBA	Perfluorobutanoic Acid	375-22-4
PFPeA	Perfluoropentanoic Acid	2706-90-3
4:2 FTSA	4:2 Fluorotelomer Sulfonic Acid	757124-72-4
PFHxA	Perfluorohexanoic Acid	307-24-4
PFBS	Perfluorobutane sulfonic Acid	375-73-5
PFHpA	Perfluoroheptanoic Acid	375-85-9
PFPeS	Perfluoropentane Sulfonic Acid	2706-91-4
6:2 FTSA	6:2 Fluorotelomer Sulfonic Acid	27619-97-2
PFOA	Perfluorooctanoic Acid	335-67-1
PFHxS	Perfluorohexane Sulfonic Acid	355-46-4
PFHxS-LN	Perfluorohexane Sulfonic Acid - LN	355-46-4-LN
PFHxS-BR	Perfluorohexane Sulfonic Acid - BR	355-46-4-BR
PFNA	Perfluorononanoic Acid	375-95-1
8:2 FTSA	8:2 Fluorotelomer Sulfonic Acid	39108-34-4
PFHpS	Perfluoroheptane Sulfonic Acid	375-92-8
PFDA	Perfluorodecanoic Acid	335-76-2
N-MeFOSAA	N-methyl perfluorooctanesulfonamidoacetic acid	2355-31-9
EtFOSAA	N-Ethyl Perfluorooctane Sulfonamidoacetic Acid	2991-50-6
PFOS	Perfluorooctane Sulfonic Acid	1763-23-1
PFOS-LN	Perfluorooctane Sulfonic Acid - LN	1763-23-1-LN
PFOS-BR	Perfluorooctane Sulfonic Acid - BR	1763-23-1-BR
PFUnDA	Perfluoroundecanoic Acid	2058-94-8
PFNS	Perfluorononane Sulfonic Acid	68259-12-1
PFDODA	Perfluorododecanoic Acid	307-55-1
PFDS	Perfluorodecane Sulfonic Acid	335-77-3
PFTTrDA	Perfluorotridecanoic Acid	72629-94-8
FOSA	Perfluorooctane Sulfonamide	754-91-6
PFTeDA	Perfluorotetradecanoic Acid	376-06-7
11CI-PF3OUdS	11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	763051-92-9
9CI-PF3ONS	9-chlorohexadecafluoro-3-oxanone1-sulfonic acid	756426-58-1
ADONA	4,8-dioxa-3H-perfluorononanoic acid	919005-14-4
HFPO-DA	Hexafluoropropylene oxide dimer	13252-13-6
FHpPA (7:3 FTCA)	3-Perfluoroheptyl propanoic acid	812-70-4
FPePA (5:3 FTCA)	3-Perfluoropentyl propanoic acid	914637-49-3
FPrPA (3:3 FTCA)	3-Perfluoropropyl propanoic acid	356-02-5
PFBSA	Perfluorobutanesulfonamide	30334-69-1
PFECHS	Perfluoro-4-ethylcyclohexanesulfonate	80988-54-1
PFHxSA	Perfluorohexanesulfonamide	41997-13-1



Analytical Laboratory Report

Sample Summary (5 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S72872.01	RFI-12-40_032625	Groundwater	03/26/25 10:25
S72872.02	RFI-23-01R_032625	Groundwater	03/26/25 11:30
S72872.03	RFI-23-02R_032625	Groundwater	03/26/25 12:40
S72872.04	MH3-9_032725	Groundwater	03/27/25 10:45
S72872.05	West P-Trap_032725	Groundwater	03/27/25 12:30



Analytical Laboratory Report

Lab Sample ID: S72872.01

Sample Tag: RFI-12-40_032625

Collected Date/Time: 03/26/2025 10:25

Matrix: Groundwater

COC Reference: 177410

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15mL Centrifuge Tube	None	Yes	4.2	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	11.72/6.48/11	ASTMD7979-19M	04/01/25 11:00	CED	

Organics

34 PFAs, Method: ASTMD7979-19M, Run Date: 04/02/25 14:47, Analyst: CED

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	11		ng/L	2.1	375-22-4	
PFPeA*	Not detected	4.2		ng/L	2.1	2706-90-3	
4:2 FTSA*	Not detected	2.1		ng/L	2.1	757124-72-4	
PFHxA*	Not detected	2.1		ng/L	2.1	307-24-4	
PFBS*	Not detected	2.1		ng/L	2.1	375-73-5	
PFHpA*	Not detected	2.1		ng/L	2.1	375-85-9	
PFPeS*	Not detected	2.1		ng/L	2.1	2706-91-4	
6:2 FTSA*	Not detected	2.1		ng/L	2.1	27619-97-2	
PFOA*	2.7	2.1		ng/L	2.1	335-67-1	
PFHxS*	3.8	2.1		ng/L	2.1	355-46-4	
PFHxS-LN*	Not detected	2.1		ng/L	2.1	355-46-4-LN	
PFHxS-BR*	Not detected	2.1		ng/L	2.1	355-46-4-BR	
PFNA*	Not detected	2.1		ng/L	2.1	375-95-1	
8:2 FTSA*	Not detected	2.1		ng/L	2.1	39108-34-4	
PFHpS*	Not detected	2.1		ng/L	2.1	375-92-8	
PFDA*	Not detected	2.1		ng/L	2.1	335-76-2	
N-MeFOSAA*	Not detected	2.1		ng/L	2.1	2355-31-9	
EtFOSAA*	Not detected	4.2		ng/L	2.1	2991-50-6	
PFOS*	8.0	2.1		ng/L	2.1	1763-23-1	
PFOS-LN*	4.2	2.1		ng/L	2.1	1763-23-1-LN	
PFOS-BR*	3.5	2.1		ng/L	2.1	1763-23-1-BR	
PFUnDA*	Not detected	2.1		ng/L	2.1	2058-94-8	
PFNS*	Not detected	2.1		ng/L	2.1	68259-12-1	
PFDODA*	Not detected	2.1		ng/L	2.1	307-55-1	
PFDS*	Not detected	2.1		ng/L	2.1	335-77-3	
PFTTrDA*	Not detected	2.1		ng/L	2.1	72629-94-8	
FOSA*	Not detected	2.1		ng/L	2.1	754-91-6	
PFTeDA*	Not detected	4.2		ng/L	2.1	376-06-7	
11Cl-PF3OUdS*	Not detected	2.1		ng/L	2.1	763051-92-9	
9Cl-PF3ONS*	Not detected	2.1		ng/L	2.1	756426-58-1	
ADONA*	Not detected	2.1		ng/L	2.1	919005-14-4	
HFPO-DA*	Not detected	11		ng/L	2.1	13252-13-6	
FHpPA (7:3 FTCA)*	Not detected	11		ng/L	2.1	812-70-4	
FPePA (5:3 FTCA)*	Not detected	11		ng/L	2.1	914637-49-3	
FPrPA (3:3 FTCA)*	Not detected	11		ng/L	2.1	356-02-5	
PFBSA*	Not detected	2.1		ng/L	2.1	30334-69-1	
PFECHS*	Not detected	2.1		ng/L	2.1	80988-54-1	



Analytical Laboratory Report

Lab Sample ID: S72872.01 (continued)

Sample Tag: RFI-12-40_032625

34 PFAs, Method: ASTMD7979-19M, Run Date: 04/02/25 14:47, Analyst: CED (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFHxSA*	Not detected	2.1		ng/L	2.1	41997-13-1	



Analytical Laboratory Report

Lab Sample ID: S72872.02

Sample Tag: RFI-23-01R_032625

Collected Date/Time: 03/26/2025 11:30

Matrix: Groundwater

COC Reference: 177410

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15mL Centrifuge Tube	None	Yes	4.2	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	11.84/6.48/11	ASTMD7979-19M	04/01/25 11:00	CED	

Organics

34 PFAs, Method: ASTMD7979-19M, Run Date: 04/02/25 15:27, Analyst: CED

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	10		ng/L	2.05	375-22-4	
PFPeA*	Not detected	4.1		ng/L	2.05	2706-90-3	
4:2 FTSA*	Not detected	2.1		ng/L	2.05	757124-72-4	
PFHxA*	Not detected	2.1		ng/L	2.05	307-24-4	
PFBS*	Not detected	2.1		ng/L	2.05	375-73-5	
PFHpA*	2.2	2.1		ng/L	2.05	375-85-9	
PFPeS*	Not detected	2.1		ng/L	2.05	2706-91-4	
6:2 FTSA*	Not detected	2.1		ng/L	2.05	27619-97-2	
PFOA*	6.9	2.1		ng/L	2.05	335-67-1	
PFHxS*	Not detected	2.1		ng/L	2.05	355-46-4	
PFHxS-LN*	Not detected	2.1		ng/L	2.05	355-46-4-LN	
PFHxS-BR*	Not detected	2.1		ng/L	2.05	355-46-4-BR	
PFNA*	8.2	2.1		ng/L	2.05	375-95-1	
8:2 FTSA*	Not detected	2.1		ng/L	2.05	39108-34-4	
PFHpS*	Not detected	2.1		ng/L	2.05	375-92-8	
PFDA*	7.0	2.1		ng/L	2.05	335-76-2	
N-MeFOSAA*	Not detected	2.1		ng/L	2.05	2355-31-9	
EtFOSAA*	Not detected	4.1		ng/L	2.05	2991-50-6	
PFOS*	14	2.1		ng/L	2.05	1763-23-1	
PFOS-LN*	9.7	2.1		ng/L	2.05	1763-23-1-LN	
PFOS-BR*	3.8	2.1		ng/L	2.05	1763-23-1-BR	
PFUnDA*	Not detected	2.1		ng/L	2.05	2058-94-8	
PFNS*	Not detected	2.1		ng/L	2.05	68259-12-1	
PFDODA*	Not detected	2.1		ng/L	2.05	307-55-1	
PFDS*	Not detected	2.1		ng/L	2.05	335-77-3	
PFTTrDA*	Not detected	2.1		ng/L	2.05	72629-94-8	
FOSA*	Not detected	2.1		ng/L	2.05	754-91-6	
PFTeDA*	Not detected	4.1		ng/L	2.05	376-06-7	
11Cl-PF3OUdS*	Not detected	2.1		ng/L	2.05	763051-92-9	
9Cl-PF3ONS*	Not detected	2.1		ng/L	2.05	756426-58-1	
ADONA*	Not detected	2.1		ng/L	2.05	919005-14-4	
HFPO-DA*	Not detected	10		ng/L	2.05	13252-13-6	
FHpPA (7:3 FTCA)*	Not detected	10		ng/L	2.05	812-70-4	
FPePA (5:3 FTCA)*	Not detected	10		ng/L	2.05	914637-49-3	
FPrPA (3:3 FTCA)*	Not detected	10		ng/L	2.05	356-02-5	
PFBSA*	Not detected	2.1		ng/L	2.05	30334-69-1	
PFECHS*	Not detected	2.1		ng/L	2.05	80988-54-1	



Analytical Laboratory Report

Lab Sample ID: S72872.02 (continued)

Sample Tag: RFI-23-01R_032625

34 PFAs, Method: ASTMD7979-19M, Run Date: 04/02/25 15:27, Analyst: CED (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFHxSA*	Not detected	2.1		ng/L	2.05	41997-13-1	



Analytical Laboratory Report

Lab Sample ID: S72872.03

Sample Tag: RFI-23-02R_032625

Collected Date/Time: 03/26/2025 12:40

Matrix: Groundwater

COC Reference: 177410

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15mL Centrifuge Tube	None	Yes	4.2	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	11.87/6.48/11	ASTMD7979-19M	04/01/25 11:00	CED	

Organics

34 PFAs, Method: ASTMD7979-19M, Run Date: 04/02/25 16:08, Analyst: CED

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	10		ng/L	2.04	375-22-4	
PFPeA*	Not detected	4.1		ng/L	2.04	2706-90-3	
4:2 FTSA*	Not detected	2.0		ng/L	2.04	757124-72-4	
PFHxA*	2.8	2.0		ng/L	2.04	307-24-4	
PFBS*	Not detected	2.0		ng/L	2.04	375-73-5	
PFHpA*	Not detected	2.0		ng/L	2.04	375-85-9	
PFPeS*	2.1	2.0		ng/L	2.04	2706-91-4	
6:2 FTSA*	Not detected	2.0		ng/L	2.04	27619-97-2	
PFOA*	3.4	2.0		ng/L	2.04	335-67-1	
PFHxS*	23	2.0		ng/L	2.04	355-46-4	
PFHxS-LN*	18	2.0		ng/L	2.04	355-46-4-LN	
PFHxS-BR*	4.3	2.0		ng/L	2.04	355-46-4-BR	
PFNA*	Not detected	2.0		ng/L	2.04	375-95-1	
8:2 FTSA*	Not detected	2.0		ng/L	2.04	39108-34-4	
PFHpS*	Not detected	2.0		ng/L	2.04	375-92-8	
PFDA*	Not detected	2.0		ng/L	2.04	335-76-2	
N-MeFOSAA*	Not detected	2.0		ng/L	2.04	2355-31-9	
EtFOSAA*	Not detected	4.1		ng/L	2.04	2991-50-6	
PFOS*	11	2.0		ng/L	2.04	1763-23-1	
PFOS-LN*	5.2	2.0		ng/L	2.04	1763-23-1-LN	
PFOS-BR*	6.0	2.0		ng/L	2.04	1763-23-1-BR	
PFUnDA*	Not detected	2.0		ng/L	2.04	2058-94-8	
PFNS*	Not detected	2.0		ng/L	2.04	68259-12-1	
PFDODA*	Not detected	2.0		ng/L	2.04	307-55-1	
PFDS*	Not detected	2.0		ng/L	2.04	335-77-3	
PFTTrDA*	Not detected	2.0		ng/L	2.04	72629-94-8	
FOSA*	Not detected	2.0		ng/L	2.04	754-91-6	
PFTeDA*	Not detected	4.1		ng/L	2.04	376-06-7	
11Cl-PF3OUdS*	Not detected	2.0		ng/L	2.04	763051-92-9	
9Cl-PF3ONS*	Not detected	2.0		ng/L	2.04	756426-58-1	
ADONA*	Not detected	2.0		ng/L	2.04	919005-14-4	
HFPO-DA*	Not detected	10		ng/L	2.04	13252-13-6	
FHpPA (7:3 FTCA)*	Not detected	10		ng/L	2.04	812-70-4	
FPePA (5:3 FTCA)*	Not detected	10		ng/L	2.04	914637-49-3	
FPrPA (3:3 FTCA)*	Not detected	10		ng/L	2.04	356-02-5	
PFBSA*	Not detected	2.0		ng/L	2.04	30334-69-1	
PFECHS*	Not detected	2.0		ng/L	2.04	80988-54-1	



Analytical Laboratory Report

Lab Sample ID: S72872.03 (continued)

Sample Tag: RFI-23-02R_032625

34 PFAs, Method: ASTMD7979-19M, Run Date: 04/02/25 16:08, Analyst: CED (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFHxSA*	Not detected	2.0		ng/L	2.04	41997-13-1	



Analytical Laboratory Report

Lab Sample ID: S72872.04

Sample Tag: MH3-9_032725

Collected Date/Time: 03/27/2025 10:45

Matrix: Groundwater

COC Reference: 177410

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15mL Centrifuge Tube	None	Yes	4.2	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.04/6.48/11	ASTMD7979-19M	04/01/25 11:00	CED	

Organics

34 PFAs, Method: ASTMD7979-19M, Run Date: 04/02/25 16:48, Analyst: CED

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	9.9		ng/L	1.98	375-22-4	
PFPeA*	Not detected	4.0		ng/L	1.98	2706-90-3	
4:2 FTSA*	Not detected	2.0		ng/L	1.98	757124-72-4	
PFHxA*	2.1	2.0		ng/L	1.98	307-24-4	
PFBS*	Not detected	2.0		ng/L	1.98	375-73-5	
PFHpA*	Not detected	2.0		ng/L	1.98	375-85-9	
PFPeS*	Not detected	2.0		ng/L	1.98	2706-91-4	
6:2 FTSA*	Not detected	2.0		ng/L	1.98	27619-97-2	
PFOA*	2.3	2.0		ng/L	1.98	335-67-1	
PFHxS*	3.0	2.0		ng/L	1.98	355-46-4	
PFHxS-LN*	2.0	2.0		ng/L	1.98	355-46-4-LN	
PFHxS-BR*	Not detected	2.0		ng/L	1.98	355-46-4-BR	
PFNA*	Not detected	2.0		ng/L	1.98	375-95-1	
8:2 FTSA*	Not detected	2.0		ng/L	1.98	39108-34-4	
PFHpS*	Not detected	2.0		ng/L	1.98	375-92-8	
PFDA*	Not detected	2.0		ng/L	1.98	335-76-2	
N-MeFOSAA*	Not detected	2.0		ng/L	1.98	2355-31-9	
EtFOSAA*	Not detected	4.0		ng/L	1.98	2991-50-6	
PFOS*	4.4	2.0		ng/L	1.98	1763-23-1	
PFOS-LN*	2.2	2.0		ng/L	1.98	1763-23-1-LN	
PFOS-BR*	Not detected	2.0		ng/L	1.98	1763-23-1-BR	
PFUnDA*	Not detected	2.0		ng/L	1.98	2058-94-8	
PFNS*	Not detected	2.0		ng/L	1.98	68259-12-1	
PFDODA*	Not detected	2.0		ng/L	1.98	307-55-1	
PFDS*	Not detected	2.0		ng/L	1.98	335-77-3	
PFTTrDA*	Not detected	2.0		ng/L	1.98	72629-94-8	
FOSA*	Not detected	2.0		ng/L	1.98	754-91-6	
PFTeDA*	Not detected	4.0		ng/L	1.98	376-06-7	
11Cl-PF3OUdS*	Not detected	2.0		ng/L	1.98	763051-92-9	
9Cl-PF3ONS*	Not detected	2.0		ng/L	1.98	756426-58-1	
ADONA*	Not detected	2.0		ng/L	1.98	919005-14-4	
HFPO-DA*	Not detected	9.9		ng/L	1.98	13252-13-6	
FHpPA (7:3 FTCA)*	Not detected	9.9		ng/L	1.98	812-70-4	
FPePA (5:3 FTCA)*	Not detected	9.9		ng/L	1.98	914637-49-3	
FPrPA (3:3 FTCA)*	Not detected	9.9		ng/L	1.98	356-02-5	
PFBSA*	Not detected	2.0		ng/L	1.98	30334-69-1	
PFECHS*	2.8	2.0		ng/L	1.98	80988-54-1	



Analytical Laboratory Report

Lab Sample ID: S72872.04 (continued)

Sample Tag: MH3-9_032725

34 PFAs, Method: ASTMD7979-19M, Run Date: 04/02/25 16:48, Analyst: CED (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFHxSA*	Not detected	2.0		ng/L	1.98	41997-13-1	



Analytical Laboratory Report

Lab Sample ID: S72872.05

Sample Tag: West P-Trap_032725

Collected Date/Time: 03/27/2025 12:30

Matrix: Groundwater

COC Reference: 177410

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15mL Centrifuge Tube	None	Yes	4.2	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	11.94/6.48/11	ASTMD7979-19M	04/01/25 11:00	CED	

Organics

34 PFAs, Method: ASTMD7979-19M, Run Date: 04/02/25 17:08, Analyst: CED

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	10		ng/L	2.01	375-22-4	
PFPeA*	Not detected	4.0		ng/L	2.01	2706-90-3	
4:2 FTSA*	Not detected	2.0		ng/L	2.01	757124-72-4	
PFHxA*	2.7	2.0		ng/L	2.01	307-24-4	
PFBS*	2.1	2.0		ng/L	2.01	375-73-5	
PFHpA*	Not detected	2.0		ng/L	2.01	375-85-9	
PFPeS*	Not detected	2.0		ng/L	2.01	2706-91-4	
6:2 FTSA*	Not detected	2.0		ng/L	2.01	27619-97-2	
PFOA*	8.2	2.0		ng/L	2.01	335-67-1	
PFHxS*	12	2.0		ng/L	2.01	355-46-4	
PFHxS-LN*	9.2	2.0		ng/L	2.01	355-46-4-LN	
PFHxS-BR*	2.1	2.0		ng/L	2.01	355-46-4-BR	
PFNA*	Not detected	2.0		ng/L	2.01	375-95-1	
8:2 FTSA*	Not detected	2.0		ng/L	2.01	39108-34-4	
PFHpS*	Not detected	2.0		ng/L	2.01	375-92-8	
PFDA*	Not detected	2.0		ng/L	2.01	335-76-2	
N-MeFOSAA*	Not detected	2.0		ng/L	2.01	2355-31-9	
EtFOSAA*	Not detected	4.0		ng/L	2.01	2991-50-6	
PFOS*	55	2.0		ng/L	2.01	1763-23-1	
PFOS-LN*	31	2.0		ng/L	2.01	1763-23-1-LN	
PFOS-BR*	23	2.0		ng/L	2.01	1763-23-1-BR	
PFUnDA*	Not detected	2.0		ng/L	2.01	2058-94-8	
PFNS*	Not detected	2.0		ng/L	2.01	68259-12-1	
PFDODA*	Not detected	2.0		ng/L	2.01	307-55-1	
PFDS*	Not detected	2.0		ng/L	2.01	335-77-3	
PFTTrDA*	Not detected	2.0		ng/L	2.01	72629-94-8	
FOSA*	Not detected	2.0		ng/L	2.01	754-91-6	
PFTeDA*	Not detected	4.0		ng/L	2.01	376-06-7	
11Cl-PF3OUdS*	Not detected	2.0		ng/L	2.01	763051-92-9	
9Cl-PF3ONS*	Not detected	2.0		ng/L	2.01	756426-58-1	
ADONA*	Not detected	2.0		ng/L	2.01	919005-14-4	
HFPO-DA*	Not detected	10		ng/L	2.01	13252-13-6	
FHpPA (7:3 FTCA)*	Not detected	10		ng/L	2.01	812-70-4	
FPePA (5:3 FTCA)*	Not detected	10		ng/L	2.01	914637-49-3	
FPrPA (3:3 FTCA)*	Not detected	10		ng/L	2.01	356-02-5	
PFBSA*	Not detected	2.0		ng/L	2.01	30334-69-1	
PFECHS*	Not detected	2.0		ng/L	2.01	80988-54-1	



Analytical Laboratory Report

Lab Sample ID: S72872.05 (continued)

Sample Tag: West P-Trap_032725

34 PFAs, Method: ASTMD7979-19M, Run Date: 04/02/25 17:08, Analyst: CED (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFHxSA*	Not detected	2.0		ng/L	2.01	41997-13-1	

Merit Laboratories Login Checklist

Lab Set ID:S72872

Client:ARCADIS_NOVI (ARCADIS U.S., Inc.)

Project: 30219382.00001 / Buick City

Submitted:03/28/2025 10:15 Login User: MMC

Attention: Madison Olender
Address: Arcadis US, Inc.
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: 248-790-1666 FAX:
Email: Madison.Olender@arcadis.com

Selection	Description	Note
Sample Receiving		
01.	☒ Yes ☐ No ☐ N/A	Samples are received at 4C +/- 2C Thermometer # IR 4.2
02.	☒ Yes ☐ No ☐ N/A	Received on ice/ cooling process begun
03.	☐ Yes ☒ No ☐ N/A	Samples shipped
04.	☐ Yes ☒ No ☐ N/A	Samples left in 24 hr. drop box
05.	☐ Yes ☐ No ☒ N/A	Are there custody seals/tape or is the drop box locked
Chain of Custody		
06.	☒ Yes ☐ No ☐ N/A	COC adequately filled out
07.	☒ Yes ☐ No ☐ N/A	COC signed and relinquished to the lab
08.	☒ Yes ☐ No ☐ N/A	Sample tag on bottles match COC
09.	☐ Yes ☒ No ☐ N/A	Subcontracting needed? Subcontacted to:
Preservation		
10.	☒ Yes ☐ No ☐ N/A	Do sample have correct chemical preservation
11.	☐ Yes ☐ No ☒ N/A	Completed pH checks on preserved samples? (no VOAs)
12.	☐ Yes ☒ No ☐ N/A	Did any samples need to be preserved in the lab?
Bottle Conditions		
13.	☒ Yes ☐ No ☐ N/A	All bottles intact
14.	☒ Yes ☐ No ☐ N/A	Appropriate analytical bottles are used
15.	☒ Yes ☐ No ☐ N/A	Merit bottles used
16.	☒ Yes ☐ No ☐ N/A	Sufficient sample volume received
17.	☐ Yes ☒ No ☐ N/A	Samples require laboratory filtration
18.	☒ Yes ☐ No ☐ N/A	Samples submitted within holding time
19.	☐ Yes ☐ No ☒ N/A	Do water VOC, TOX, DO or Alkalinity bottles contain

Corrective action for all exceptions is to call the client and to notify the project manager.

Client Review By: _____ Date: _____

177410



Analytical Laboratory Report

Report ID: S72871.01(01)
Generated on 04/03/2025

Report to
Attention: Madison Olender
Arcadis US, Inc.
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: 248-790-1666 FAX:
Email: Madison.Olender@arcadis.com

Additional Contacts: Megan Humphrey, Micki Maki, Erin Kozak

Report produced by
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John Lavery (johnlavery@meritlabs.com)
Barbara Ball (bball@meritlabs.com)

Report Summary
Lab Sample ID(s): S72871.01-S72871.05
Project: 30219382.00001
Collected Date(s): 03/26/2025 - 03/27/2025
Submitted Date/Time: 03/28/2025 10:15
Sampled by: Donald Richmond
P.O. #: 30219382.00001

Table of Contents

- Cover Page (Page 1)
- General Report Notes (Page 2)
- Report Narrative (Page 2)
- Laboratory Accreditations (Page 3)
- Qualifier Descriptions (Page 3)
- Glossary of Abbreviations (Page 3)
- Method Summary (Page 4)
- Sample Summary (Page 5)


Maya Murshak
Technical Director



Analytical Laboratory Report

General Report Notes

Analytical results relate only to the samples tested, in the condition received by the laboratory.

Methods may be modified for improved performance.

Results reported on a dry weight basis where applicable.

'Not detected' indicates that parameter was not found at a level equal to or greater than the reporting limit (RL).

When MDL results are provided, then 'Not detected' indicates that parameter was not found at a level equal to or greater than the MDL.

40 CFR Part 136 Table II Required Containers, Preservation Techniques and Holding Times for the Clean Water Act specify that samples for acrolein and acrylonitrile, and 2-chloroethylvinyl ether need to be preserved at a pH in the range of 4 to 5 or if not preserved, analyzed within 3 days of sampling.

QA/QC corresponding to this analytical report is a separate document with the same Merit ID reference and is available upon request.

Starred (*) analytes are not NY NELAP accredited.

Samples are held by the lab for 30 days from the final report date unless a written request to hold longer is provided by the client.

Report shall not be reproduced except in full, without the written approval of Merit Laboratories, Inc.

Limits for drinking water samples, are listed as the MCL Limits (Maximum Contaminant Level Concentrations)

PFAS requirement: Section 9.3.8 of U.S. EPA Method 537.1 states "If the method analyte(s) found in the Field Sample is present in the FRB at a concentration greater than 1/3 the MRL, then all samples collected with that FRB are invalid and must be recollected and reanalyzed."

Samples submitted without an accompanying FRB may not be acceptable for compliance purposes.

Wisconsin PFAs analysis: MDL = LOD; RL = LOQ. LOD and LOQ are adjusted for dilution.

All accreditations/certifications held by this laboratory are listed on page 3. Not all accreditations/certifications are applicable to this report.

For a specific list of accredited analytes, please feel free to contact the laboratory or visit <https://www.meritlabs.com/certifications>.

Report Narrative

There is no additional narrative for this analytical report

Laboratory Accreditations (For Reference Only)

Authority	Accreditation ID
Michigan DEQ	#9956
DOD ELAP & ISO/IEC 17025:2017	#69699 PJLA Testing
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702
Pennsylvania DEP	#68-05884
Wisconsin DNR	FID# 399147320

Qualifier Descriptions

Qualifier	Description
!	Result is outside of stated limit criteria
B	Compound also found in associated method blank
E	Concentration exceeds calibration range
F	Analysis run outside of holding time
G	Estimated result due to extraction run outside of holding time
H	Sample submitted and run outside of holding time
I	Matrix interference with internal standard
J	Estimated value less than reporting limit, but greater than MDL
L	Elevated reporting limit due to low sample amount
M	Result reported to MDL not RDL
O	Analysis performed by outside laboratory. See attached report.
R	Preliminary result
S	Surrogate recovery outside of control limits
T	No correction for total solids
X	Elevated reporting limit due to matrix interference
Y	Elevated reporting limit due to high target concentration
b	Value detected less than reporting limit, but greater than MDL
e	Reported value estimated due to interference
j	Analyte also found in associated method blank
o	Associated EIS outside of control limits
p	Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.
q	Qualifier ion ratio outside of control limits
x	Preserved from bulk sample

Glossary of Abbreviations

Abbreviation	Description
RL/RDL	Reporting Limit
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
SW	EPA SW 846 (Soil and Wastewater) Methods
E	EPA Methods
SM	Standard Methods
LN	Linear
BR	Branched



Analytical Laboratory Report

Method Summary

Method	Version
E1631E	EPA Method 1631 Revision E
E608.3	EPA Method 608.3 December 2016
N/A	Not Applicable
SW3015A	SW 846 Method 3015A Revision 1 February 2007
SW3510C	SW 846 Method 3510C Revision 3 December 1996
SW5030C/8260C	SW 846 Method 8260C Revision 3 August 2006 / 5030C Revision 3 May 2003
SW6020A	SW 846 Method 6020A Revision 1 February 2007
SW7471B	SW 846 Method 7471B Revision 2 February 2007
SW8270D	SW 846 Method 8270D Revision 4 February 2007



Analytical Laboratory Report

Sample Summary (5 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S72871.01	RFI-12-40_032625	Groundwater	03/26/25 10:25
S72871.02	RFI-23-01R_032625	Groundwater	03/26/25 11:30
S72871.03	MH3-9_032725	Groundwater	03/27/25 10:45
S72871.04	West P-Trap_032725	Groundwater	03/27/25 12:30
S72871.05	Equipment Blank_032725	Water	03/27/25 11:00



Analytical Laboratory Report

Lab Sample ID: S72871.01

Sample Tag: RFI-12-40_032625

Collected Date/Time: 03/26/2025 10:25

Matrix: Groundwater

COC Reference: 177409

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	4.2	IR
2	1L Amber	None	Yes	4.2	IR
1	125mL Plastic	HNO3	Yes	4.2	IR
1	125mL Plastic	None	Yes	4.2	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/01/25 10:00	NDK	
Metal Digestion	Completed	SW3015A	04/01/25 10:40	CCM	
Metal Digestion	Completed	SW3015A	04/01/25 10:40	CCM	f
BNA Extraction	Completed	SW3510C	04/01/25 15:15	DJS	
Mercury Digestion*	Completed	SW7471B	04/02/25 11:32	CTV	
Mercury Digestion*	Completed	SW7471B	04/03/25 11:30	CTV	f

Metals

Method: SW6020A, Run Date: 04/01/25 12:26, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Antimony*	Not detected	0.005		mg/L	5	7440-36-0	
Arsenic	Not detected	0.002		mg/L	5	7440-38-2	
Barium	0.034	0.005		mg/L	5	7440-39-3	
Beryllium	Not detected	0.001		mg/L	5	7440-41-7	
Cadmium	Not detected	0.0005		mg/L	5	7440-43-9	
Chromium	Not detected	0.005		mg/L	5	7440-47-3	
Cobalt	Not detected	0.005		mg/L	5	7440-48-4	
Copper	Not detected	0.005		mg/L	5	7440-50-8	
Lead	Not detected	0.003		mg/L	5	7439-92-1	
Manganese	0.171	0.005		mg/L	5	7439-96-5	
Nickel	Not detected	0.005		mg/L	5	7440-02-0	
Selenium	Not detected	0.005		mg/L	5	7782-49-2	
Silver	Not detected	0.0005		mg/L	5	7440-22-4	
Thallium	Not detected	0.002		mg/L	5	7440-28-0	
Vanadium	Not detected	0.005		mg/L	5	7440-62-2	
Zinc	Not detected	0.005		mg/L	5	7440-66-6	

Method: SW6020A, Run Date: 04/01/25 12:30, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Antimony, Dissolved*	Not detected	0.005		mg/L	5	7440-36-0	f
Arsenic, Dissolved	Not detected	0.002		mg/L	5	7440-38-2	f
Barium, Dissolved	0.033	0.005		mg/L	5	7440-39-3	f
Beryllium, Dissolved	Not detected	0.001		mg/L	5	7440-41-7	f
Cadmium, Dissolved	Not detected	0.0005		mg/L	5	7440-43-9	f
Chromium, Dissolved	Not detected	0.005		mg/L	5	7440-47-3	f
Cobalt, Dissolved	Not detected	0.005		mg/L	5	7440-48-4	f
Copper, Dissolved	Not detected	0.005		mg/L	5	7440-50-8	f
Lead, Dissolved	Not detected	0.003		mg/L	5	7439-92-1	f

f-Filtered and preserved in lab



Analytical Laboratory Report

Lab Sample ID: S72871.01 (continued)

Sample Tag: RFI-12-40_032625

Method: SW6020A, Run Date: 04/01/25 12:30, Analyst: CCM (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Manganese, Dissolved	0.126	0.005		mg/L	5	7439-96-5	f
Nickel, Dissolved	Not detected	0.005		mg/L	5	7440-02-0	f
Selenium, Dissolved	Not detected	0.005		mg/L	5	7782-49-2	f
Silver, Dissolved	Not detected	0.0005		mg/L	5	7440-22-4	f
Thallium, Dissolved	Not detected	0.002		mg/L	5	7440-28-0	f
Vanadium, Dissolved	Not detected	0.005		mg/L	5	7440-62-2	f
Zinc, Dissolved	0.005	0.005		mg/L	5	7440-66-6	f

Method: SW7471B, Run Date: 04/02/25 15:14, Analyst: CTV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Mercury*	Not detected	0.0002		mg/L	1	7439-97-6	

Method: SW7471B, Run Date: 04/03/25 15:08, Analyst: CTV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Mercury, Dissolved*	Not detected	0.0002		mg/L	1	7439-97-6	f

Organics - Semi-Volatiles

TCL Semi-Volatile Organics, Method: SW8270D, Run Date: 04/02/25 17:44, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Benzaldehyde	Not detected	5		ug/L	2	100-52-7	
Acetophenone	Not detected	5		ug/L	2	98-86-2	
Caprolactam	Not detected	10		ug/L	2	105-60-2	
1,1'-Biphenyl	Not detected	5		ug/L	2	92-52-4	
Atrazine*	Not detected	3		ug/L	2	1912-24-9	

TCL Semi-Volatile Organics, Method: SW8270D, Run Date: 04/02/25 17:44, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acenaphthene	Not detected	5		ug/L	2	83-32-9	
Acenaphthylene	Not detected	5		ug/L	2	208-96-8	
Anthracene	Not detected	5		ug/L	2	120-12-7	
4-Bromophenyl phenyl ether	Not detected	5		ug/L	2	101-55-3	
di-n-Butyl phthalate	Not detected	5		ug/L	2	84-74-2	
Benzo(a)anthracene	Not detected	1		ug/L	2	56-55-3	
Benzo(a)pyrene	Not detected	5		ug/L	2	50-32-8	
Benzo(b)fluoranthene	Not detected	1		ug/L	2	205-99-2	
Benzo(ghi)perylene	Not detected	5		ug/L	2	191-24-2	
Benzo(k)fluoranthene	Not detected	5		ug/L	2	207-08-9	
Butyl benzyl phthalate	Not detected	5		ug/L	2	85-68-7	
2-Chloronaphthalene	Not detected	5		ug/L	2	91-58-7	
2-Chlorophenol	Not detected	10		ug/L	2	95-57-8	
4-Chloro-3-methylphenol	Not detected	5		ug/L	2	59-50-7	
4-Chloroaniline	Not detected	10		ug/L	2	106-47-8	
4-Chlorophenyl phenyl ether	Not detected	5		ug/L	2	7005-72-3	
bis(2-Chloroethoxy)methane	Not detected	5		ug/L	2	111-91-1	
bis(2-Chloroethyl)ether	Not detected	1		ug/L	2	111-44-4	
Chrysene	Not detected	1		ug/L	2	218-01-9	
2,4-Dichlorophenol	Not detected	10		ug/L	2	120-83-2	
2,4-Dimethylphenol	Not detected	5		ug/L	2	105-67-9	
2,4-Dinitrophenol	Not detected	25		ug/L	2	51-28-5	

f-Filtered and preserved in lab



Analytical Laboratory Report

Lab Sample ID: S72871.01 (continued)

Sample Tag: RFI-12-40_032625

TCL Semi-Volatile Organics, Method: SW8270D, Run Date: 04/02/25 17:44, Analyst: PL (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
2,4-Dinitrotoluene	Not detected	5		ug/L	2	121-14-2	
2,6-Dinitrotoluene	Not detected	5		ug/L	2	606-20-2	
4,6-Dinitro-2-methylphenol	Not detected	25		ug/L	2	534-52-1	
Dibenzo(ah)anthracene	Not detected	5		ug/L	2	53-70-3	
Dibenzofuran	Not detected	4		ug/L	2	132-64-9	
Diethyl phthalate	Not detected	5		ug/L	2	84-66-2	
Dimethyl phthalate	Not detected	5		ug/L	2	131-11-3	
bis(2-Ethylhexyl)phthalate	Not detected	5		ug/L	2	117-81-7	
Fluoranthene	Not detected	1		ug/L	2	206-44-0	
Fluorene	Not detected	5		ug/L	2	86-73-7	
Hexachlorocyclopentadiene	Not detected	5		ug/L	2	77-47-4	
Hexachloroethane	Not detected	5		ug/L	2	67-72-1	
Indeno(1,2,3-cd)pyrene	Not detected	5		ug/L	2	193-39-5	
Isophorone	Not detected	5		ug/L	2	78-59-1	
2-Methylnaphthalene	Not detected	5		ug/L	2	91-57-6	
2-Methylphenol (o-Cresol)	Not detected	10		ug/L	2	95-48-7	
2-Nitroaniline	Not detected	25		ug/L	2	88-74-4	
2-Nitrophenol	Not detected	5		ug/L	2	88-75-5	
3-Nitroaniline	Not detected	25		ug/L	2	99-09-2	
4-Nitroaniline	Not detected	25		ug/L	2	100-01-6	
4-Nitrophenol	Not detected	25		ug/L	2	100-02-7	
N-Nitrosodi-n-propylamine	Not detected	10		ug/L	2	621-64-7	
N-Nitrosodiphenylamine	Not detected	5		ug/L	2	86-30-6	
Naphthalene	Not detected	5		ug/L	2	91-20-3	
Nitrobenzene	Not detected	3		ug/L	2	98-95-3	
di-n-Octyl phthalate	Not detected	5		ug/L	2	117-84-0	
2,4,5-Trichlorophenol	Not detected	5		ug/L	2	95-95-4	
2,4,6-Trichlorophenol	Not detected	4		ug/L	2	88-06-2	
3,3'-Dichlorobenzidine	Not detected	10		ug/L	2	91-94-1	
3-, 4-Methylphenol (p,m-Cresol)	Not detected	10		ug/L	2	3/4-CRESOL	
Pentachlorophenol	Not detected	5		ug/L	2	87-86-5	
Phenanthrene	Not detected	2		ug/L	2	85-01-8	
Phenol	Not detected	5		ug/L	2	108-95-2	
Pyrene	Not detected	5		ug/L	2	129-00-0	
Hexachlorobenzene	Not detected	5		ug/L	2	118-74-1	
Hexachlorobutadiene	Not detected	5		ug/L	2	87-68-3	
bis(2-Chloroisopropyl)ether*	Not detected	5		ug/L	2	108-60-1	
Carbazole	Not detected	5		ug/L	2	86-74-8	

Organics - Volatiles

TCL Volatile Organics 8260 PAL, Method: SW5030C/8260C, Run Date: 03/31/25 15:36, Analyst: ACK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	30		ug/L	1	76-13-1	
Acetone	Not detected	20		ug/L	1	67-64-1	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
Methyl Acetate	Not detected	10		ug/L	1	79-20-9	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
2-Butanone (MEK)	Not detected	20		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	1		ug/L	1	75-71-8	
Chloromethane	Not detected	1		ug/L	1	74-87-3	



Analytical Laboratory Report

Lab Sample ID: S72871.01 (continued)

Sample Tag: RFI-12-40_032625

TCL Volatile Organics 8260 PAL, Method: SW5030C/8260C, Run Date: 03/31/25 15:36, Analyst: ACK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	2		ug/L	1	74-83-9	
Chloroethane	Not detected	1		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	2	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Chloroform	Not detected	1		ug/L	1	67-66-3	
1,1,1-Trichloroethane	4	1		ug/L	1	71-55-6	
Cyclohexane	Not detected	1		ug/L	1	110-82-7	
4-Methyl-2-pentanone (MIBK)	Not detected	10		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	8	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Methyl cyclohexane	Not detected	20		ug/L	1	108-87-2	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
Dibromochloromethane	Not detected	1		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	1		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2-Dibromo-3-chloropropane	Not detected	1		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	2		ug/L	1	120-82-1	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Naphthalene	Not detected	1		ug/L	1	91-20-3	



Analytical Laboratory Report

Lab Sample ID: S72871.02

Sample Tag: RFI-23-01R_032625

Collected Date/Time: 03/26/2025 11:30

Matrix: Groundwater

COC Reference: 177409

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	4.2	IR
2	1L Amber	None	Yes	4.2	IR
1	125mL Plastic	HNO3	Yes	4.2	IR
1	125mL Plastic	None	Yes	4.2	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/01/25 10:00	NDK	
Metal Digestion	Completed	SW3015A	04/01/25 10:40	CCM	
Metal Digestion	Completed	SW3015A	04/01/25 10:40	CCM	f
BNA Extraction	Completed	SW3510C	04/01/25 15:15	DJS	
Mercury Digestion*	Completed	SW7471B	04/02/25 11:32	CTV	
Mercury Digestion*	Completed	SW7471B	04/03/25 11:30	CTV	f

Metals

Method: SW6020A, Run Date: 04/01/25 12:33, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Antimony*	Not detected	0.005		mg/L	5	7440-36-0	
Arsenic	Not detected	0.002		mg/L	5	7440-38-2	
Barium	0.069	0.005		mg/L	5	7440-39-3	
Beryllium	Not detected	0.001		mg/L	5	7440-41-7	
Cadmium	Not detected	0.0005		mg/L	5	7440-43-9	
Chromium	Not detected	0.005		mg/L	5	7440-47-3	
Cobalt	Not detected	0.005		mg/L	5	7440-48-4	
Copper	Not detected	0.005		mg/L	5	7440-50-8	
Lead	Not detected	0.003		mg/L	5	7439-92-1	
Manganese	0.023	0.005		mg/L	5	7439-96-5	
Nickel	Not detected	0.005		mg/L	5	7440-02-0	
Selenium	Not detected	0.005		mg/L	5	7782-49-2	
Silver	Not detected	0.0005		mg/L	5	7440-22-4	
Thallium	Not detected	0.002		mg/L	5	7440-28-0	
Vanadium	Not detected	0.005		mg/L	5	7440-62-2	
Zinc	Not detected	0.005		mg/L	5	7440-66-6	

Method: SW6020A, Run Date: 04/01/25 12:37, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Antimony, Dissolved*	Not detected	0.005		mg/L	5	7440-36-0	f
Arsenic, Dissolved	Not detected	0.002		mg/L	5	7440-38-2	f
Barium, Dissolved	0.067	0.005		mg/L	5	7440-39-3	f
Beryllium, Dissolved	Not detected	0.001		mg/L	5	7440-41-7	f
Cadmium, Dissolved	Not detected	0.0005		mg/L	5	7440-43-9	f
Chromium, Dissolved	Not detected	0.005		mg/L	5	7440-47-3	f
Cobalt, Dissolved	Not detected	0.005		mg/L	5	7440-48-4	f
Copper, Dissolved	Not detected	0.005		mg/L	5	7440-50-8	f
Lead, Dissolved	Not detected	0.003		mg/L	5	7439-92-1	f

f-Filtered and preserved in lab



Analytical Laboratory Report

Lab Sample ID: S72871.02 (continued)

Sample Tag: RFI-23-01R_032625

Method: SW6020A, Run Date: 04/01/25 12:37, Analyst: CCM (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Manganese, Dissolved	Not detected	0.005		mg/L	5	7439-96-5	f
Nickel, Dissolved	Not detected	0.005		mg/L	5	7440-02-0	f
Selenium, Dissolved	Not detected	0.005		mg/L	5	7782-49-2	f
Silver, Dissolved	Not detected	0.0005		mg/L	5	7440-22-4	f
Thallium, Dissolved	Not detected	0.002		mg/L	5	7440-28-0	f
Vanadium, Dissolved	Not detected	0.005		mg/L	5	7440-62-2	f
Zinc, Dissolved	Not detected	0.005		mg/L	5	7440-66-6	f

Method: SW7471B, Run Date: 04/02/25 15:24, Analyst: CTV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Mercury*	Not detected	0.0002		mg/L	1	7439-97-6	

Method: SW7471B, Run Date: 04/03/25 15:11, Analyst: CTV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Mercury, Dissolved*	Not detected	0.0002		mg/L	1	7439-97-6	f

Organics - Semi-Volatiles

TCL Semi-Volatile Organics, Method: SW8270D, Run Date: 04/02/25 18:15, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Benzaldehyde	Not detected	5		ug/L	2	100-52-7	
Acetophenone	Not detected	5		ug/L	2	98-86-2	
Caprolactam	Not detected	10		ug/L	2	105-60-2	
1,1'-Biphenyl	Not detected	5		ug/L	2	92-52-4	
Atrazine*	Not detected	3		ug/L	2	1912-24-9	

TCL Semi-Volatile Organics, Method: SW8270D, Run Date: 04/02/25 18:15, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acenaphthene	Not detected	5		ug/L	2	83-32-9	
Acenaphthylene	Not detected	5		ug/L	2	208-96-8	
Anthracene	Not detected	5		ug/L	2	120-12-7	
4-Bromophenyl phenyl ether	Not detected	5		ug/L	2	101-55-3	
di-n-Butyl phthalate	Not detected	5		ug/L	2	84-74-2	
Benzo(a)anthracene	Not detected	1		ug/L	2	56-55-3	
Benzo(a)pyrene	Not detected	5		ug/L	2	50-32-8	
Benzo(b)fluoranthene	Not detected	1		ug/L	2	205-99-2	
Benzo(ghi)perylene	Not detected	5		ug/L	2	191-24-2	
Benzo(k)fluoranthene	Not detected	5		ug/L	2	207-08-9	
Butyl benzyl phthalate	Not detected	5		ug/L	2	85-68-7	
2-Chloronaphthalene	Not detected	5		ug/L	2	91-58-7	
2-Chlorophenol	Not detected	10		ug/L	2	95-57-8	
4-Chloro-3-methylphenol	Not detected	5		ug/L	2	59-50-7	
4-Chloroaniline	Not detected	10		ug/L	2	106-47-8	
4-Chlorophenyl phenyl ether	Not detected	5		ug/L	2	7005-72-3	
bis(2-Chloroethoxy)methane	Not detected	5		ug/L	2	111-91-1	
bis(2-Chloroethyl)ether	Not detected	1		ug/L	2	111-44-4	
Chrysene	Not detected	1		ug/L	2	218-01-9	
2,4-Dichlorophenol	Not detected	10		ug/L	2	120-83-2	
2,4-Dimethylphenol	Not detected	5		ug/L	2	105-67-9	
2,4-Dinitrophenol	Not detected	25		ug/L	2	51-28-5	

f-Filtered and preserved in lab



Analytical Laboratory Report

Lab Sample ID: S72871.02 (continued)

Sample Tag: RFI-23-01R_032625

TCL Semi-Volatile Organics, Method: SW8270D, Run Date: 04/02/25 18:15, Analyst: PL (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
2,4-Dinitrotoluene	Not detected	5		ug/L	2	121-14-2	
2,6-Dinitrotoluene	Not detected	5		ug/L	2	606-20-2	
4,6-Dinitro-2-methylphenol	Not detected	25		ug/L	2	534-52-1	
Dibenzo(ah)anthracene	Not detected	5		ug/L	2	53-70-3	
Dibenzofuran	Not detected	4		ug/L	2	132-64-9	
Diethyl phthalate	Not detected	5		ug/L	2	84-66-2	
Dimethyl phthalate	Not detected	5		ug/L	2	131-11-3	
bis(2-Ethylhexyl)phthalate	Not detected	5		ug/L	2	117-81-7	
Fluoranthene	Not detected	1		ug/L	2	206-44-0	
Fluorene	Not detected	5		ug/L	2	86-73-7	
Hexachlorocyclopentadiene	Not detected	5		ug/L	2	77-47-4	
Hexachloroethane	Not detected	5		ug/L	2	67-72-1	
Indeno(1,2,3-cd)pyrene	Not detected	5		ug/L	2	193-39-5	
Isophorone	Not detected	5		ug/L	2	78-59-1	
2-Methylnaphthalene	Not detected	5		ug/L	2	91-57-6	
2-Methylphenol (o-Cresol)	Not detected	10		ug/L	2	95-48-7	
2-Nitroaniline	Not detected	25		ug/L	2	88-74-4	
2-Nitrophenol	Not detected	5		ug/L	2	88-75-5	
3-Nitroaniline	Not detected	25		ug/L	2	99-09-2	
4-Nitroaniline	Not detected	25		ug/L	2	100-01-6	
4-Nitrophenol	Not detected	25		ug/L	2	100-02-7	
N-Nitrosodi-n-propylamine	Not detected	10		ug/L	2	621-64-7	
N-Nitrosodiphenylamine	Not detected	5		ug/L	2	86-30-6	
Naphthalene	Not detected	5		ug/L	2	91-20-3	
Nitrobenzene	Not detected	3		ug/L	2	98-95-3	
di-n-Octyl phthalate	Not detected	5		ug/L	2	117-84-0	
2,4,5-Trichlorophenol	Not detected	5		ug/L	2	95-95-4	
2,4,6-Trichlorophenol	Not detected	4		ug/L	2	88-06-2	
3,3'-Dichlorobenzidine	Not detected	10		ug/L	2	91-94-1	
3-, 4-Methylphenol (p,m-Cresol)	Not detected	10		ug/L	2	3/4-CRESOL	
Pentachlorophenol	Not detected	5		ug/L	2	87-86-5	
Phenanthrene	Not detected	2		ug/L	2	85-01-8	
Phenol	Not detected	5		ug/L	2	108-95-2	
Pyrene	Not detected	5		ug/L	2	129-00-0	
Hexachlorobenzene	Not detected	5		ug/L	2	118-74-1	
Hexachlorobutadiene	Not detected	5		ug/L	2	87-68-3	
bis(2-Chloroisopropyl)ether*	Not detected	5		ug/L	2	108-60-1	
Carbazole	Not detected	5		ug/L	2	86-74-8	

Organics - Volatiles

TCL Volatile Organics 8260 PAL, Method: SW5030C/8260C, Run Date: 03/31/25 16:00, Analyst: ACK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	30		ug/L	1	76-13-1	
Acetone	Not detected	20		ug/L	1	67-64-1	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
Methyl Acetate	Not detected	10		ug/L	1	79-20-9	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
2-Butanone (MEK)	Not detected	20		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	1		ug/L	1	75-71-8	
Chloromethane	Not detected	1		ug/L	1	74-87-3	

Lab Sample ID: S72871.02 (continued)

Sample Tag: RFI-23-01R_032625

TCL Volatile Organics 8260 PAL, Method: SW5030C/8260C, Run Date: 03/31/25 16:00, Analyst: ACK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	2		ug/L	1	74-83-9	
Chloroethane	Not detected	1		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Chloroform	Not detected	1		ug/L	1	67-66-3	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
Cyclohexane	Not detected	1		ug/L	1	110-82-7	
4-Methyl-2-pentanone (MIBK)	Not detected	10		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	2	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Methyl cyclohexane	Not detected	20		ug/L	1	108-87-2	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
Dibromochloromethane	Not detected	1		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	1		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2-Dibromo-3-chloropropane	Not detected	1		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	2		ug/L	1	120-82-1	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Naphthalene	Not detected	1		ug/L	1	91-20-3	



Analytical Laboratory Report

Lab Sample ID: S72871.03

Sample Tag: MH3-9_032725

Collected Date/Time: 03/27/2025 10:45

Matrix: Groundwater

COC Reference: 177409

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	4.2	IR
4	1L Amber	None	Yes	4.2	IR
1	125mL Plastic	HNO3	Yes	4.2	IR
1	125mL Plastic	None	Yes	4.2	IR
1	LLHg Kit	None	Yes	4.2	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/01/25 10:00	NDK	
Metal Digestion	Completed	SW3015A	04/01/25 10:40	CCM	
Metal Digestion	Completed	SW3015A	04/01/25 10:40	CCM	f
BNA Extraction	Completed	SW3510C	04/01/25 15:15	DJS	
Extraction, PCB*	Completed	E608.3	04/02/25 11:15	DJS	
Mercury Digestion*	Completed	SW7471B	04/02/25 11:32	CTV	
Mercury Digestion*	Completed	SW7471B	04/03/25 11:30	CTV	f

Metals

Method: SW6020A, Run Date: 04/01/25 12:50, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Antimony*	Not detected	0.005		mg/L	5	7440-36-0	
Arsenic	Not detected	0.002		mg/L	5	7440-38-2	
Barium	0.046	0.005		mg/L	5	7440-39-3	
Beryllium	Not detected	0.001		mg/L	5	7440-41-7	
Cadmium	Not detected	0.0005		mg/L	5	7440-43-9	
Chromium	Not detected	0.005		mg/L	5	7440-47-3	
Cobalt	Not detected	0.005		mg/L	5	7440-48-4	
Copper	Not detected	0.005		mg/L	5	7440-50-8	
Lead	Not detected	0.003		mg/L	5	7439-92-1	
Manganese	0.080	0.005		mg/L	5	7439-96-5	
Nickel	Not detected	0.005		mg/L	5	7440-02-0	
Selenium	Not detected	0.005		mg/L	5	7782-49-2	
Silver	Not detected	0.0005		mg/L	5	7440-22-4	
Thallium	Not detected	0.002		mg/L	5	7440-28-0	
Vanadium	Not detected	0.005		mg/L	5	7440-62-2	
Zinc	Not detected	0.005		mg/L	5	7440-66-6	

Method: SW6020A, Run Date: 04/01/25 12:54, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Antimony, Dissolved*	Not detected	0.005		mg/L	5	7440-36-0	f
Arsenic, Dissolved	Not detected	0.002		mg/L	5	7440-38-2	f
Barium, Dissolved	0.044	0.005		mg/L	5	7440-39-3	f
Beryllium, Dissolved	Not detected	0.001		mg/L	5	7440-41-7	f
Cadmium, Dissolved	Not detected	0.0005		mg/L	5	7440-43-9	f
Chromium, Dissolved	Not detected	0.005		mg/L	5	7440-47-3	f
Cobalt, Dissolved	Not detected	0.005		mg/L	5	7440-48-4	f

f-Filtered and preserved in lab



Analytical Laboratory Report

Lab Sample ID: S72871.03 (continued)

Sample Tag: MH3-9_032725

Method: SW6020A, Run Date: 04/01/25 12:54, Analyst: CCM (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Copper, Dissolved	Not detected	0.005		mg/L	5	7440-50-8	f
Lead, Dissolved	Not detected	0.003		mg/L	5	7439-92-1	f
Manganese, Dissolved	0.075	0.005		mg/L	5	7439-96-5	f
Nickel, Dissolved	Not detected	0.005		mg/L	5	7440-02-0	f
Selenium, Dissolved	Not detected	0.005		mg/L	5	7782-49-2	f
Silver, Dissolved	Not detected	0.0005		mg/L	5	7440-22-4	f
Thallium, Dissolved	Not detected	0.002		mg/L	5	7440-28-0	f
Vanadium, Dissolved	Not detected	0.005		mg/L	5	7440-62-2	f
Zinc, Dissolved	Not detected	0.005		mg/L	5	7440-66-6	f

Method: SW7471B, Run Date: 04/02/25 15:28, Analyst: CTV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Mercury*	Not detected	0.0002		mg/L	1	7439-97-6	

Method: SW7471B, Run Date: 04/03/25 15:14, Analyst: CTV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Mercury, Dissolved*	Not detected	0.0002		mg/L	1	7439-97-6	f

Method: E1631E, Run Date: 04/02/25 11:59, Analyst: EF

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Mercury, Low Level*	Completed	0.20		ng/L	1	7439-97-6	O

Organics - PCBs/Pesticides

PCB, Method: E608.3, Run Date: 04/03/25 11:59, Analyst: JANB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PCB-1016	Not detected	0.1		ug/L	1	12674-11-2	
PCB-1221	Not detected	0.1		ug/L	1	11104-28-2	
PCB-1232	Not detected	0.1		ug/L	1	11141-16-5	
PCB-1242	Not detected	0.1		ug/L	1	53469-21-9	
PCB-1248	Not detected	0.1		ug/L	1	12672-29-6	
PCB-1254	Not detected	0.1		ug/L	1	11097-69-1	
PCB-1260	Not detected	0.1		ug/L	1	11096-82-5	
PCB, Total*	Not detected	0.1		ug/L	1	1336-36-3	

Organics - Semi-Volatiles

TCL Semi-Volatile Organics, Method: SW8270D, Run Date: 04/02/25 18:46, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Benzaldehyde	Not detected	5		ug/L	2	100-52-7	
Acetophenone	Not detected	5		ug/L	2	98-86-2	
Caprolactam	Not detected	10		ug/L	2	105-60-2	
1,1'-Biphenyl	Not detected	5		ug/L	2	92-52-4	
Atrazine*	Not detected	3		ug/L	2	1912-24-9	

TCL Semi-Volatile Organics, Method: SW8270D, Run Date: 04/02/25 18:46, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acenaphthene	Not detected	5		ug/L	2	83-32-9	
Acenaphthylene	Not detected	5		ug/L	2	208-96-8	
Anthracene	Not detected	5		ug/L	2	120-12-7	

f-Filtered and preserved in lab

O-Analysis performed by outside laboratory. See attached report.

Lab Sample ID: S72871.03 (continued)

Sample Tag: MH3-9_032725

TCL Semi-Volatile Organics, Method: SW8270D, Run Date: 04/02/25 18:46, Analyst: PL (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
4-Bromophenyl phenyl ether	Not detected	5		ug/L	2	101-55-3	
di-n-Butyl phthalate	Not detected	5		ug/L	2	84-74-2	
Benzo(a)anthracene	Not detected	1		ug/L	2	56-55-3	
Benzo(a)pyrene	Not detected	5		ug/L	2	50-32-8	
Benzo(b)fluoranthene	Not detected	1		ug/L	2	205-99-2	
Benzo(ghi)perylene	Not detected	5		ug/L	2	191-24-2	
Benzo(k)fluoranthene	Not detected	5		ug/L	2	207-08-9	
Butyl benzyl phthalate	Not detected	5		ug/L	2	85-68-7	
2-Chloronaphthalene	Not detected	5		ug/L	2	91-58-7	
2-Chlorophenol	Not detected	10		ug/L	2	95-57-8	
4-Chloro-3-methylphenol	Not detected	5		ug/L	2	59-50-7	
4-Chloroaniline	Not detected	10		ug/L	2	106-47-8	
4-Chlorophenyl phenyl ether	Not detected	5		ug/L	2	7005-72-3	
bis(2-Chloroethoxy)methane	Not detected	5		ug/L	2	111-91-1	
bis(2-Chloroethyl)ether	Not detected	1		ug/L	2	111-44-4	
Chrysene	Not detected	1		ug/L	2	218-01-9	
2,4-Dichlorophenol	Not detected	10		ug/L	2	120-83-2	
2,4-Dimethylphenol	Not detected	5		ug/L	2	105-67-9	
2,4-Dinitrophenol	Not detected	25		ug/L	2	51-28-5	
2,4-Dinitrotoluene	Not detected	5		ug/L	2	121-14-2	
2,6-Dinitrotoluene	Not detected	5		ug/L	2	606-20-2	
4,6-Dinitro-2-methylphenol	Not detected	25		ug/L	2	534-52-1	
Dibenzo(ah)anthracene	Not detected	5		ug/L	2	53-70-3	
Dibenzofuran	Not detected	4		ug/L	2	132-64-9	
Diethyl phthalate	Not detected	5		ug/L	2	84-66-2	
Dimethyl phthalate	Not detected	5		ug/L	2	131-11-3	
bis(2-Ethylhexyl)phthalate	Not detected	5		ug/L	2	117-81-7	
Fluoranthene	Not detected	1		ug/L	2	206-44-0	
Fluorene	Not detected	5		ug/L	2	86-73-7	
Hexachlorocyclopentadiene	Not detected	5		ug/L	2	77-47-4	
Hexachloroethane	Not detected	5		ug/L	2	67-72-1	
Indeno(1,2,3-cd)pyrene	Not detected	5		ug/L	2	193-39-5	
Isophorone	Not detected	5		ug/L	2	78-59-1	
2-Methylnaphthalene	Not detected	5		ug/L	2	91-57-6	
2-Methylphenol (o-Cresol)	Not detected	10		ug/L	2	95-48-7	
2-Nitroaniline	Not detected	25		ug/L	2	88-74-4	
2-Nitrophenol	Not detected	5		ug/L	2	88-75-5	
3-Nitroaniline	Not detected	25		ug/L	2	99-09-2	
4-Nitroaniline	Not detected	25		ug/L	2	100-01-6	
4-Nitrophenol	Not detected	25		ug/L	2	100-02-7	
N-Nitrosodi-n-propylamine	Not detected	10		ug/L	2	621-64-7	
N-Nitrosodiphenylamine	Not detected	5		ug/L	2	86-30-6	
Naphthalene	Not detected	5		ug/L	2	91-20-3	
Nitrobenzene	Not detected	3		ug/L	2	98-95-3	
di-n-Octyl phthalate	Not detected	5		ug/L	2	117-84-0	
2,4,5-Trichlorophenol	Not detected	5		ug/L	2	95-95-4	
2,4,6-Trichlorophenol	Not detected	4		ug/L	2	88-06-2	
3,3'-Dichlorobenzidine	Not detected	10		ug/L	2	91-94-1	
3-, 4-Methylphenol (p,m-Cresol)	Not detected	10		ug/L	2	3/4-CRESOL	
Pentachlorophenol	Not detected	5		ug/L	2	87-86-5	



Analytical Laboratory Report

Lab Sample ID: S72871.03 (continued)

Sample Tag: MH3-9_032725

TCL Semi-Volatile Organics, Method: SW8270D, Run Date: 04/02/25 18:46, Analyst: PL (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Phenanthrene	Not detected	2		ug/L	2	85-01-8	
Phenol	Not detected	5		ug/L	2	108-95-2	
Pyrene	Not detected	5		ug/L	2	129-00-0	
Hexachlorobenzene	Not detected	5		ug/L	2	118-74-1	
Hexachlorobutadiene	Not detected	5		ug/L	2	87-68-3	
bis(2-Chloroisopropyl)ether*	Not detected	5		ug/L	2	108-60-1	
Carbazole	Not detected	5		ug/L	2	86-74-8	

Organics - Volatiles

TCL Volatile Organics 8260 PAL, Method: SW5030C/8260C, Run Date: 03/31/25 16:47, Analyst: ACK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	30		ug/L	1	76-13-1	
Acetone	Not detected	20		ug/L	1	67-64-1	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
Methyl Acetate	Not detected	10		ug/L	1	79-20-9	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
2-Butanone (MEK)	Not detected	20		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	1		ug/L	1	75-71-8	
Chloromethane	Not detected	1		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	2		ug/L	1	74-83-9	
Chloroethane	Not detected	1		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Chloroform	Not detected	1		ug/L	1	67-66-3	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
Cyclohexane	Not detected	1		ug/L	1	110-82-7	
4-Methyl-2-pentanone (MIBK)	Not detected	10		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Methyl cyclohexane	Not detected	20		ug/L	1	108-87-2	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
Dibromochloromethane	Not detected	1		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	



Analytical Laboratory Report

Lab Sample ID: S72871.03 (continued)

Sample Tag: MH3-9_032725

TCL Volatile Organics 8260 PAL, Method: SW5030C/8260C, Run Date: 03/31/25 16:47, Analyst: ACK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
p,m-Xylene	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	1		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2-Dibromo-3-chloropropane	Not detected	1		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	2		ug/L	1	120-82-1	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Naphthalene	Not detected	1		ug/L	1	91-20-3	



Analytical Laboratory Report

Lab Sample ID: S72871.04

Sample Tag: West P-Trap_032725

Collected Date/Time: 03/27/2025 12:30

Matrix: Groundwater

COC Reference: 177409

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	4.2	IR
2	1L Amber	None	Yes	4.2	IR
1	125mL Plastic	HNO3	Yes	4.2	IR
1	125mL Plastic	None	Yes	4.2	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/01/25 10:00	NDK	
Metal Digestion	Completed	SW3015A	04/01/25 10:40	CCM	
Metal Digestion	Completed	SW3015A	04/01/25 10:40	CCM	f
BNA Extraction	Completed	SW3510C	04/01/25 15:15	DJS	
Mercury Digestion*	Completed	SW7471B	04/02/25 11:32	CTV	
Mercury Digestion*	Completed	SW7471B	04/03/25 11:30	CTV	f

Metals

Method: SW6020A, Run Date: 04/01/25 12:58, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Antimony*	Not detected	0.005		mg/L	5	7440-36-0	
Arsenic	0.003	0.002		mg/L	5	7440-38-2	
Barium	0.076	0.005		mg/L	5	7440-39-3	
Beryllium	Not detected	0.001		mg/L	5	7440-41-7	
Cadmium	Not detected	0.0005		mg/L	5	7440-43-9	
Chromium	Not detected	0.005		mg/L	5	7440-47-3	
Cobalt	Not detected	0.005		mg/L	5	7440-48-4	
Copper	Not detected	0.005		mg/L	5	7440-50-8	
Lead	Not detected	0.003		mg/L	5	7439-92-1	
Manganese	0.679	0.005		mg/L	5	7439-96-5	
Nickel	Not detected	0.005		mg/L	5	7440-02-0	
Selenium	Not detected	0.005		mg/L	5	7782-49-2	
Silver	Not detected	0.0005		mg/L	5	7440-22-4	
Thallium	Not detected	0.002		mg/L	5	7440-28-0	
Vanadium	Not detected	0.005		mg/L	5	7440-62-2	
Zinc	0.012	0.005		mg/L	5	7440-66-6	

Method: SW6020A, Run Date: 04/01/25 13:01, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Antimony, Dissolved*	Not detected	0.005		mg/L	5	7440-36-0	f
Arsenic, Dissolved	Not detected	0.002		mg/L	5	7440-38-2	f
Barium, Dissolved	0.070	0.005		mg/L	5	7440-39-3	f
Beryllium, Dissolved	Not detected	0.001		mg/L	5	7440-41-7	f
Cadmium, Dissolved	Not detected	0.0005		mg/L	5	7440-43-9	f
Chromium, Dissolved	Not detected	0.005		mg/L	5	7440-47-3	f
Cobalt, Dissolved	Not detected	0.005		mg/L	5	7440-48-4	f
Copper, Dissolved	Not detected	0.005		mg/L	5	7440-50-8	f
Lead, Dissolved	Not detected	0.003		mg/L	5	7439-92-1	f

f-Filtered and preserved in lab



Analytical Laboratory Report

Lab Sample ID: S72871.04 (continued)

Sample Tag: West P-Trap_032725

Method: SW6020A, Run Date: 04/01/25 13:01, Analyst: CCM (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Manganese, Dissolved	0.650	0.005		mg/L	5	7439-96-5	f
Nickel, Dissolved	Not detected	0.005		mg/L	5	7440-02-0	f
Selenium, Dissolved	Not detected	0.005		mg/L	5	7782-49-2	f
Silver, Dissolved	Not detected	0.0005		mg/L	5	7440-22-4	f
Thallium, Dissolved	Not detected	0.002		mg/L	5	7440-28-0	f
Vanadium, Dissolved	Not detected	0.005		mg/L	5	7440-62-2	f
Zinc, Dissolved	Not detected	0.005		mg/L	5	7440-66-6	f

Method: SW7471B, Run Date: 04/02/25 15:31, Analyst: CTV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Mercury*	Not detected	0.0002		mg/L	1	7439-97-6	

Method: SW7471B, Run Date: 04/03/25 15:17, Analyst: CTV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Mercury, Dissolved*	Not detected	0.0002		mg/L	1	7439-97-6	f

Organics - Semi-Volatiles

TCL Semi-Volatile Organics, Method: SW8270D, Run Date: 04/02/25 19:17, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Benzaldehyde	Not detected	5		ug/L	2	100-52-7	
Acetophenone	Not detected	5		ug/L	2	98-86-2	
Caprolactam	Not detected	10		ug/L	2	105-60-2	
1,1'-Biphenyl	Not detected	5		ug/L	2	92-52-4	
Atrazine*	Not detected	3		ug/L	2	1912-24-9	

TCL Semi-Volatile Organics, Method: SW8270D, Run Date: 04/02/25 19:17, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acenaphthene	Not detected	5		ug/L	2	83-32-9	
Acenaphthylene	Not detected	5		ug/L	2	208-96-8	
Anthracene	Not detected	5		ug/L	2	120-12-7	
4-Bromophenyl phenyl ether	Not detected	5		ug/L	2	101-55-3	
di-n-Butyl phthalate	Not detected	5		ug/L	2	84-74-2	
Benzo(a)anthracene	Not detected	1		ug/L	2	56-55-3	
Benzo(a)pyrene	Not detected	5		ug/L	2	50-32-8	
Benzo(b)fluoranthene	Not detected	1		ug/L	2	205-99-2	
Benzo(ghi)perylene	Not detected	5		ug/L	2	191-24-2	
Benzo(k)fluoranthene	Not detected	5		ug/L	2	207-08-9	
Butyl benzyl phthalate	Not detected	5		ug/L	2	85-68-7	
2-Chloronaphthalene	Not detected	5		ug/L	2	91-58-7	
2-Chlorophenol	Not detected	10		ug/L	2	95-57-8	
4-Chloro-3-methylphenol	Not detected	5		ug/L	2	59-50-7	
4-Chloroaniline	Not detected	10		ug/L	2	106-47-8	
4-Chlorophenyl phenyl ether	Not detected	5		ug/L	2	7005-72-3	
bis(2-Chloroethoxy)methane	Not detected	5		ug/L	2	111-91-1	
bis(2-Chloroethyl)ether	Not detected	1		ug/L	2	111-44-4	
Chrysene	Not detected	1		ug/L	2	218-01-9	
2,4-Dichlorophenol	Not detected	10		ug/L	2	120-83-2	
2,4-Dimethylphenol	Not detected	5		ug/L	2	105-67-9	
2,4-Dinitrophenol	Not detected	25		ug/L	2	51-28-5	

f-Filtered and preserved in lab



Analytical Laboratory Report

Lab Sample ID: S72871.04 (continued)

Sample Tag: West P-Trap_032725

TCL Semi-Volatile Organics, Method: SW8270D, Run Date: 04/02/25 19:17, Analyst: PL (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
2,4-Dinitrotoluene	Not detected	5		ug/L	2	121-14-2	
2,6-Dinitrotoluene	Not detected	5		ug/L	2	606-20-2	
4,6-Dinitro-2-methylphenol	Not detected	25		ug/L	2	534-52-1	
Dibenzo(ah)anthracene	Not detected	5		ug/L	2	53-70-3	
Dibenzofuran	Not detected	4		ug/L	2	132-64-9	
Diethyl phthalate	Not detected	5		ug/L	2	84-66-2	
Dimethyl phthalate	Not detected	5		ug/L	2	131-11-3	
bis(2-Ethylhexyl)phthalate	Not detected	5		ug/L	2	117-81-7	
Fluoranthene	Not detected	1		ug/L	2	206-44-0	
Fluorene	Not detected	5		ug/L	2	86-73-7	
Hexachlorocyclopentadiene	Not detected	5		ug/L	2	77-47-4	
Hexachloroethane	Not detected	5		ug/L	2	67-72-1	
Indeno(1,2,3-cd)pyrene	Not detected	5		ug/L	2	193-39-5	
Isophorone	Not detected	5		ug/L	2	78-59-1	
2-Methylnaphthalene	Not detected	5		ug/L	2	91-57-6	
2-Methylphenol (o-Cresol)	Not detected	10		ug/L	2	95-48-7	
2-Nitroaniline	Not detected	25		ug/L	2	88-74-4	
2-Nitrophenol	Not detected	5		ug/L	2	88-75-5	
3-Nitroaniline	Not detected	25		ug/L	2	99-09-2	
4-Nitroaniline	Not detected	25		ug/L	2	100-01-6	
4-Nitrophenol	Not detected	25		ug/L	2	100-02-7	
N-Nitrosodi-n-propylamine	Not detected	10		ug/L	2	621-64-7	
N-Nitrosodiphenylamine	Not detected	5		ug/L	2	86-30-6	
Naphthalene	Not detected	5		ug/L	2	91-20-3	
Nitrobenzene	Not detected	3		ug/L	2	98-95-3	
di-n-Octyl phthalate	Not detected	5		ug/L	2	117-84-0	
2,4,5-Trichlorophenol	Not detected	5		ug/L	2	95-95-4	
2,4,6-Trichlorophenol	Not detected	4		ug/L	2	88-06-2	
3,3'-Dichlorobenzidine	Not detected	10		ug/L	2	91-94-1	
3-, 4-Methylphenol (p,m-Cresol)	Not detected	10		ug/L	2	3/4-CRESOL	
Pentachlorophenol	Not detected	5		ug/L	2	87-86-5	
Phenanthrene	Not detected	2		ug/L	2	85-01-8	
Phenol	Not detected	5		ug/L	2	108-95-2	
Pyrene	Not detected	5		ug/L	2	129-00-0	
Hexachlorobenzene	Not detected	5		ug/L	2	118-74-1	
Hexachlorobutadiene	Not detected	5		ug/L	2	87-68-3	
bis(2-Chloroisopropyl)ether*	Not detected	5		ug/L	2	108-60-1	
Carbazole	Not detected	5		ug/L	2	86-74-8	

Organics - Volatiles

TCL Volatile Organics 8260 PAL, Method: SW5030C/8260C, Run Date: 03/31/25 17:11, Analyst: ACK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	30		ug/L	1	76-13-1	
Acetone	Not detected	20		ug/L	1	67-64-1	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
Methyl Acetate	Not detected	10		ug/L	1	79-20-9	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
2-Butanone (MEK)	Not detected	20		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	1		ug/L	1	75-71-8	
Chloromethane	Not detected	1		ug/L	1	74-87-3	

Lab Sample ID: S72871.04 (continued)

Sample Tag: West P-Trap_032725

TCL Volatile Organics 8260 PAL, Method: SW5030C/8260C, Run Date: 03/31/25 17:11, Analyst: ACK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	2		ug/L	1	74-83-9	
Chloroethane	Not detected	1		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	5	1		ug/L	1	156-59-2	
Chloroform	Not detected	1		ug/L	1	67-66-3	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
Cyclohexane	Not detected	1		ug/L	1	110-82-7	
4-Methyl-2-pentanone (MIBK)	Not detected	10		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	2	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Methyl cyclohexane	Not detected	20		ug/L	1	108-87-2	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
Dibromochloromethane	Not detected	1		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	1		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2-Dibromo-3-chloropropane	Not detected	1		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	2		ug/L	1	120-82-1	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Naphthalene	Not detected	1		ug/L	1	91-20-3	



Analytical Laboratory Report

Lab Sample ID: S72871.05
Sample Tag: Equipment Blank_032725
Collected Date/Time: 03/27/2025 11:00
Matrix: Water
COC Reference: 177409

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	LLHg Kit	None	Yes	4.2	IR

Metals

Method: E1631E, Run Date: 04/02/25 12:03, Analyst: EF

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Mercury, Low Level*	Completed	0.20		ng/L	1	7439-97-6	O

O-Analysis performed by outside laboratory. See attached report.

Merit Laboratories Login Checklist

Lab Set ID:S72871

Client:ARCADIS_NOVI (ARCADIS U.S., Inc.)

Project: 30219382.00001

Submitted:03/28/2025 10:15 Login User: MMC

Attention: Madison Olender
Address: Arcadis US, Inc.
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: 248-790-1666 FAX:
Email: Madison.Olender@arcadis.com

Selection	Description	Note
Sample Receiving		
01.	☒ Yes ☐ No ☐ N/A	Samples are received at 4C +/- 2C Thermometer # IR 4.2
02.	☒ Yes ☐ No ☐ N/A	Received on ice/ cooling process begun
03.	☐ Yes ☒ No ☐ N/A	Samples shipped
04.	☐ Yes ☒ No ☐ N/A	Samples left in 24 hr. drop box
05.	☐ Yes ☐ No ☒ N/A	Are there custody seals/tape or is the drop box locked
Chain of Custody		
06.	☒ Yes ☐ No ☐ N/A	COC adequately filled out
07.	☒ Yes ☐ No ☐ N/A	COC signed and relinquished to the lab
08.	☒ Yes ☐ No ☐ N/A	Sample tag on bottles match COC
09.	☒ Yes ☐ No ☐ N/A	Subcontracting needed? Subcontacted to: Eurofins
Preservation		
10.	☒ Yes ☐ No ☐ N/A	Do sample have correct chemical preservation
11.	☒ Yes ☐ No ☐ N/A	Completed pH checks on preserved samples? (no VOAs)
12.	☒ Yes ☐ No ☐ N/A	Did any samples need to be preserved in the lab? Diss Metals
Bottle Conditions		
13.	☒ Yes ☐ No ☐ N/A	All bottles intact
14.	☒ Yes ☐ No ☐ N/A	Appropriate analytical bottles are used
15.	☒ Yes ☐ No ☐ N/A	Merit bottles used
16.	☒ Yes ☐ No ☐ N/A	Sufficient sample volume received
17.	☒ Yes ☐ No ☐ N/A	Samples require laboratory filtration Diss Metals
18.	☒ Yes ☐ No ☐ N/A	Samples submitted within holding time
19.	☐ Yes ☒ No ☐ N/A	Do water VOC, TOX, DO or Alkalinity bottles contain

Corrective action for all exceptions is to call the client and to notify the project manager.

Client Review By: _____ Date: _____

Merit Laboratories Bottle Preservation Check

Lab Set ID: S72871 Submitted: 03/28/2025 10:15

Client: ARCADIS_NOVI (ARCADIS U.S., Inc.)

Project: 30219382.00001

Initial Preservation Check: 03/28/2025 13:33 MMC

Preservation Recheck (E200.8): N/A

Attention: Madison Olender

Address: Arcadis US, Inc.
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: 248-790-1666

FAX:

Email: Madison.Olender@arcadis.com

Sample ID	Bottle / Preservation	pH (Orig)	Add ml	pH (New)	Notes
S72871.01	125mL Plastic HNO3	<2			
S72871.02	125mL Plastic HNO3	<2			
S72871.03	125mL Plastic HNO3	<2			
S72871.04	125mL Plastic HNO3	<2			



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C.O.C. PAGE # _____ OF _____

177409

REPORT TO

CHAIN OF CUSTODY RECORD

INVOICE TO

CONTACT NAME <i>Madison Olender</i>		CONTACT NAME ☒ SAME	
COMPANY <i>Arcadis</i>		COMPANY	
ADDRESS <i>28550 Cabot Dr. Suite 500</i>		ADDRESS	
CITY <i>Novi</i>	STATE <i>MI</i>	ZIP CODE <i>48377</i>	CITY
PHONE NO. <i>248 790 1666</i>	CELL NO.	P.O. NO.	E-MAIL ADDRESS
E-MAIL ADDRESS <i>Madison.Olender@arcadis.com</i>		QUOTE NO.	

PROJECT NO./NAME <i>3021 9382.00001</i>	SAMPLER(S) - PLEASE PRINT/SIGN NAME <i>Donald Richmond / Donald Richmond</i>
TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER	
DELIVERABLES REQUIRED ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER	

MATRIX W=WATER GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID CODE: SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR WS=WASTE	# Containers & Preservatives	Certifications ☐ OHIO VAP ☐ Drinking Water ☐ DoD ☐ NPDES Project Locations ☐ Detroit ☐ New York ☐ Other
--	------------------------------	---

72871.01	3/26/25	1025	RFI-12-40-032625	GV	7	X	X	X									Lab Filtered Samples
02	3/26/25	1130	RFI-23-01R-032625	GV	7	X	X	X									
	3/26/25		RFI-23-02R														
03	3/27/25	1045	MH 3-9-032725	GW	9	X	X	X					X	X	X		
04	3/27/25	1230	West P-Trap-032725	GW	11	X	X	X					X	X	X		
05	3/27/25	1100	Equipment Blank-032725	W	2	X									X		

RELINQUISHED BY: SIGNATURE/ORGANIZATION <i>Donald Richmond / Arcadis</i>	DATE <i>3/28/25</i>	TIME <i>1015</i>	RELINQUISHED BY: SIGNATURE/ORGANIZATION	DATE	TIME		
RECEIVED BY: SIGNATURE/ORGANIZATION <i>M Olender</i>	DATE <i>3/28/25</i>	TIME <i>1015</i>	RECEIVED BY: SIGNATURE/ORGANIZATION	DATE	TIME		
RELINQUISHED BY: SIGNATURE/ORGANIZATION	DATE	TIME	SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	NOTES:	TEMP. ON ARRIVAL
RECEIVED BY: SIGNATURE/ORGANIZATION	DATE	TIME	SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS		

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

ANALYTICAL REPORT

PREPARED FOR

Attn: Lab Results
Merit Laboratories
2680 E Lansing Drive
East Lansing, Michigan 48823

Generated 4/2/2025 7:53:01 PM

JOB DESCRIPTION

S72871 LL HG

JOB NUMBER

190-36683-1

Eurofins Michigan

Job Notes

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

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

Authorization



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Authorized for release by
Sue Schafer, Project Manager II
Sue.Schafer@et.eurofinsus.com
(810)229-2763



Table of Contents

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

Sample Summary

Client: Merit Laboratories
Project/Site: S72871 LL HG

Job ID: 190-36683-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
190-36683-1	S72871.03	Water	03/27/25 10:45	03/31/25 13:35
190-36683-2	S72871.05	Water	03/27/25 11:00	03/31/25 13:35

Case Narrative

Client: Merit Laboratories
Project: S72871 LL HG

Job ID: 190-36683-1

Job ID: 190-36683-1

Eurofins Michigan

Job Narrative 190-36683-1

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

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

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

Receipt

The samples were received on 3/31/2025 1:35 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 6.0°C.

Metals

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

Eurofins Michigan

Client Sample Results

Client: Merit Laboratories
Project/Site: S72871 LL HG

Job ID: 190-36683-1

Client Sample ID: S72871.03

Lab Sample ID: 190-36683-1

Date Collected: 03/27/25 10:45

Matrix: Water

Date Received: 03/31/25 13:35

Method: EPA 1631E - Mercury, Low Level (CVAFS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	3.4		0.20	ng/L		04/01/25 14:00	04/02/25 11:59	1

Client Sample ID: S72871.05

Lab Sample ID: 190-36683-2

Date Collected: 03/27/25 11:00

Matrix: Water

Date Received: 03/31/25 13:35

Method: EPA 1631E - Mercury, Low Level (CVAFS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.20		0.20	ng/L		04/01/25 14:00	04/02/25 12:03	1

QC Sample Results

Client: Merit Laboratories
Project/Site: S72871 LL HG

Job ID: 190-36683-1

Method: 1631E - Mercury, Low Level (CVAFS)

Lab Sample ID: MB 240-650434/1-A
Matrix: Water
Analysis Batch: 650576

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 650434

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.20		0.20	ng/L		04/01/25 14:00	04/02/25 10:36	1

Lab Sample ID: LCS 240-650434/2-A
Matrix: Water
Analysis Batch: 650576

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 650434

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	5.00	4.90		ng/L		98	77 - 123

Definitions/Glossary

Client: Merit Laboratories
Project/Site: S72871 LL HG

Job ID: 190-36683-1

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

QC Association Summary

Client: Merit Laboratories
Project/Site: S72871 LL HG

Job ID: 190-36683-1

Metals

Prep Batch: 650434

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
190-36683-1	S72871.03	Total/NA	Water	1631E	
190-36683-2	S72871.05	Total/NA	Water	1631E	
MB 240-650434/1-A	Method Blank	Total/NA	Water	1631E	
LCS 240-650434/2-A	Lab Control Sample	Total/NA	Water	1631E	

Analysis Batch: 650576

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
190-36683-1	S72871.03	Total/NA	Water	1631E	650434
190-36683-2	S72871.05	Total/NA	Water	1631E	650434
MB 240-650434/1-A	Method Blank	Total/NA	Water	1631E	650434
LCS 240-650434/2-A	Lab Control Sample	Total/NA	Water	1631E	650434

Lab Chronicle

Client: Merit Laboratories
Project/Site: S72871 LL HG

Job ID: 190-36683-1

Client Sample ID: S72871.03

Lab Sample ID: 190-36683-1

Date Collected: 03/27/25 10:45

Matrix: Water

Date Received: 03/31/25 13:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	1631E			650434	GEV	EET CLE	04/01/25 14:00
Total/NA	Analysis	1631E		1	650576	GEV	EET CLE	04/02/25 11:59

Client Sample ID: S72871.05

Lab Sample ID: 190-36683-2

Date Collected: 03/27/25 11:00

Matrix: Water

Date Received: 03/31/25 13:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	1631E			650434	GEV	EET CLE	04/01/25 14:00
Total/NA	Analysis	1631E		1	650576	GEV	EET CLE	04/02/25 12:03

Client Sample ID: Method Blank

Lab Sample ID: MB 240-650434/1-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	1631E			650434	GEV	EET CLE	04/01/25 14:00
Total/NA	Analysis	1631E		1	650576	GEV	EET CLE	04/02/25 10:36

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 240-650434/2-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	1631E			650434	GEV	EET CLE	04/01/25 14:00
Total/NA	Analysis	1631E		1	650576	GEV	EET CLE	04/02/25 10:41

Laboratory References:

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

Analyst References:

Lab: EET CLE

Batch Type: Prep

GEV = Grace Vannest

Batch Type: Analysis

GEV = Grace Vannest

Accreditation/Certification Summary

Client: Merit Laboratories
Project/Site: S72871 LL HG

Job ID: 190-36683-1

Laboratory: Eurofins Cleveland

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

Authority	Program	Identification Number	Expiration Date
Connecticut	State	PH-0806	12-31-26
Georgia	State	4062	02-27-26
Illinois	NELAP	200004	08-31-25
Iowa	State	421	06-01-25
Kansas	NELAP	E-10336	01-31-26
Kentucky (UST)	State	112225	02-28-26
Kentucky (WW)	State	KY98016	12-31-25
Minnesota	NELAP	039-999-348	12-31-25
New Hampshire	NELAP	225024	09-30-25
New Jersey	NELAP	OH001	07-03-25
New York	NELAP	10975	04-01-26
Ohio	State	8303	11-04-25
Ohio VAP	State	ORELAP 4062	02-28-26
Oregon	NELAP	4062	02-27-26
Pennsylvania	NELAP	68-00340	08-31-25
Texas	NELAP	T104704517-22-19	08-31-25
US Fish & Wildlife	US Federal Programs	A26406	02-28-26
USDA	US Federal Programs	P330-18-00281	01-05-27
Virginia	NELAP	460175	09-14-25
West Virginia DEP	State	210	12-31-25
Wisconsin	State	399167560	08-31-25

Method Summary

Client: Merit Laboratories
Project/Site: S72871 LL HG

Job ID: 190-36683-1

Method	Method Description	Protocol	Laboratory
1631E	Mercury, Low Level (CVAFS)	EPA	EET CLE
1631E	Preparation, Mercury, Low Level	EPA	EET CLE

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

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



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C.O.C. PAGE # 1 OF 1

REPORT TO		CHAIN OF CUSTODY RECORD		INVOICE TO	
CONTACT NAME Project Management Team		CONTACT NAME Accounting		CONTACT NAME Accounting	
COMPANY Merit Laboratories		COMPANY Merit Laboratories		COMPANY Merit Laboratories	
ADDRESS 2680 East Lansing Drive		ADDRESS 2680 East Lansing Drive		ADDRESS 2680 East Lansing Drive	
CITY East Lansing	STATE MI	CITY East Lansing	STATE MI	CITY East Lansing	STATE MI
PHONE NO. 517-332-0167	ZIP CODE 48823	PHONE NO. 517-332-0167	ZIP CODE 48823	PHONE NO. 517-332-0167	ZIP CODE 48823
E-MAIL ADDRESS Results@meritlabs.com		E-MAIL ADDRESS accounting@meritlabs.com		E-MAIL ADDRESS accounting@meritlabs.com	
PROJECT NO./NAME S72871		ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)			
TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☒ 3 DAYS ☐ STANDARD ☐ OTHER					
DELIVERABLES REQUIRED ☒ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER					
MATRIX CODE	GW=GROUNDWATER SL=SLUDGE	WW=WASTEWATER DW=DRINKING WATER	S=SOIL WP=WIPE	L=LIQUID A=AIR	SD=SOLID W=WASTE
YEAR	DATE	TIME	IDENTIFICATION-DESCRIPTION		
	3/27/25	1045	S72871.03		
	3/27/25	1100	S72871.05		
MATERIALS		# Containers & Preservatives H₂SO₄ ☐ HNO₃ ☐ HCl ☐ NONE ☐ OTHER ☐ # OF BOTTLES WW 1 I W 1 I			
		Certifications ☐ OHIO VAP ☐ Drinking Water ☐ DoD ☐ NPDES Project Locations ☐ Detroit ☐ New York ☐ Other _____ Special Instructions _____ Field Blank RL 0.2 ppt. W=Water			
		** Subcontracted to Eurofins 190-36683 Chain of Custody			
		RELINQUISHED BY: SIGNATURE/ORGANIZATION RECEIVED BY: SIGNATURE/ORGANIZATION RELINQUISHED BY: SIGNATURE/ORGANIZATION RECEIVED BY: SIGNATURE/ORGANIZATION DATE DATE DATE DATE TIME TIME TIME TIME			
		SEAL NO. SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS INITIALS NOTES TEMP. ON ARRIVAL _____			

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE



Environment Testing
TestAmerica

☐ SDS or Known Hazard Information Supplied by Client

☐ Discrepancies

☐ Short Hold

☐ Rush ☐ 24 Hr ☐ 2-Day ☐ 3-Day ☐ 5-Day ☐ Other: _____

Receipt Evaluation Performed by: Initials: Fu Date: 3/31 Time: 1335

Client ID: Merit

Work Order #: 36683

Cooler / Sample Receipt

After hours receipt: complete gray areas. Place cooler in walk-in, place form in Receiving box. Date: _____ Time: _____

Method of Shipment:

Walk-In Client Eurofins TA Field/Courier

Other Client / 3rd Party Courier: _____

Fed Ex Tracking #: _____

UPS Tracking #: _____

Other: _____

Shipping Container Type:

☒ Cooler ☐ Box

☐ None ☐ Other: _____

Packing Materials:

☐ Plastic Bags ☐ Foam

☐ Bubble Wrap ☐ Paper

☐ Packing Peanuts ☒ None

☐ Other: _____

Custody Seals Intact:

☐ Yes ☒ No

☐ NA (not used or required)

Cooling Materials:

☒ Ice (Solid) ☐ Ice (Melted)

☐ Blue Ice ☐ None

☐ Other: _____

Bacteriological Samples	Temp Corrected (°C)	Frozen?		Rec'd Within 2 Hrs?		Sample Flagged?	
		Yes	No	Yes	No	Yes	No

Received on same day sampled? Yes ☐ No ☒

Additional Sheets Required? Yes ☐ No ☒

Receipt Temperatures

Thermometer ID	Observed (°C)	Corrected (°C)	Temp Blank	Sample Temp	Acceptable	Cooler ID	Affected Samples
<u>CP313207</u>	<u>6.0°C</u>	<u>6.0°C</u>	_____	_____	<u>Y</u> <u>N</u>	_____	_____
_____	_____	_____	_____	_____	<u>Y</u> <u>N</u>	_____	_____
_____	_____	_____	_____	_____	<u>Y</u> <u>N</u>	_____	_____

Receipt Questions**	Y	N	NA	"No" answers require additional comment
CoC present and ETA receipt signature, date, and time properly documented?	☒	☐	☐	
Containers and Labels in good condition? (unbroken, not leaking, appropriately filled, labels legible & attached)	☒	☐	☐	
Appropriate containers used and adequate volume provided?	☒	☐	☐	Preserved bottles checked for pH? Yes No
Number of sample containers match CoC?	☒	☐	☐	pH strip lot # _____
Samples received within hold?	☒	☐	☐	
Samples submitted for GRO and Volatiles analysis (8260, 624, 524) received without headspace?	☐	☐	☒	
Was a Trip Blank received with VOA samples?	☐	☐	☒	
Were the samples free of any questionable physical conformities? (i.e.; field duplicates or multiple bottles of the same sample do not significantly vary in appearance - color, solid proportions, etc.)	☒	☐	☐	
Were the CoC bottle labels and all other items free of all other discrepancies or issues that would need to be addressed with the Project Manager and/or Client?	☒	☐	☐	
**May not be applicable if samples are not for compliance testing				*Excludes FOG, VOAs, TOC Vials, HEM

Client Contact Record

Contact Via: ☐ Phone ☐ Email ☐ Other: _____ Person Contacted: _____ Date/Time: _____

☐ Discrepancy allowance agreement is on record in the client project file

Discussion / Resolution

Any additional documentation and clarification from the client must be noted in the narrative and/or scanned into the CoC directory.

Reviewed by [Signature] Date: 3/31/05

WI-MI-010_020720

- 1
- 2
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- 10
- 11
- 12

Eurofins - Cleveland Sample Receipt Form/Narrative		Login # : _____	
Barberton Facility			
Client <u>Euc. Fish</u>	Site Name _____	Cooler unpacked by: MALISSA LOAR	
Cooler Received on <u>4.1.25</u>	Opened on <u>4.1.25</u>		
FedEx 1 st Grd Exp <u>UPS</u>	FAS <u>Waypoint</u>	Client Drop Off	Eurofins Courier Other
Receipt After-hours Drop-off Date/Time _____		Storage Location _____	
Eurofins Cooler # <u>22</u> Foam Box Client Cooler Box Other _____			
Packing material used: <u>Bubble Wrap</u> Foam Plastic Bag None Other _____			
COOLANT: <u>Wet Ice</u> Blue Ice Dry Ice Water None _____			
1 Cooler temperature upon receipt _____	☐ See Multiple Cooler Form		
IR GUN # <u>13</u> (CF <u>8</u>) _____ °C	Observed Cooler Temp. <u>1.8</u> °C	Corrected Cooler Temp <u>1.8</u> °C	
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity _____			
-Were the seals on the outside of the cooler(s) signed & dated? <u>Yes</u> Yes <u>No</u> No <u>NA</u> NA			
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? <u>Yes</u> Yes <u>No</u> No <u>NA</u> NA			
-Were tamper/custody seals intact and uncompromised? <u>Yes</u> Yes <u>No</u> No <u>NA</u> NA			
3 Shippers' packing slip attached to the cooler(s)?	<u>Yes</u> Yes <u>No</u> No <u>NA</u> NA	Tests that are not checked for pH by Receiving: VOAs Oil and Grease TOC	
4 Did custody papers accompany the sample(s)?	<u>Yes</u> Yes <u>No</u> No <u>NA</u> NA		
5 Were the custody papers relinquished & signed in the appropriate place?	<u>Yes</u> Yes <u>No</u> No <u>NA</u> NA		
6 Was/were the person(s) who collected the samples clearly identified on the COC?	<u>Yes</u> Yes <u>No</u> No <u>NA</u> NA		
7 Did all bottles arrive in good condition (Unbroken)?	<u>Yes</u> Yes <u>No</u> No <u>NA</u> NA		
8 Could all bottle labels (ID/Date/Time) be reconciled with the COC?	<u>Yes</u> Yes <u>No</u> No <u>NA</u> NA		
9 For each sample, does the COC specify preservatives (Y/N) # of containers <u>Y/N</u> , and sample type of grab/comp <u>Y/N</u> ?	<u>Yes</u> Yes <u>No</u> No <u>NA</u> NA		
10 Were correct bottle(s) used for the test(s) indicated?	<u>Yes</u> Yes <u>No</u> No <u>NA</u> NA		
11 Sufficient quantity received to perform indicated analyses?	<u>Yes</u> Yes <u>No</u> No <u>NA</u> NA		
12. Are these work share samples and all listed on the COC?	<u>Yes</u> Yes <u>No</u> No <u>NA</u> NA		
If yes, Questions 13-17 have been checked at the originating laboratory			
13 Were all preserved sample(s) at the correct pH upon receipt?	<u>Yes</u> Yes <u>No</u> No <u>NA</u> NA	pH Strip Lot# HC448976	
14. Were VOAs on the COC?	<u>Yes</u> Yes <u>No</u> No <u>NA</u> NA		
15 Were air bubbles >6 mm in any VOA vials? <u>Yes</u>	<u>Yes</u> Yes <u>No</u> No <u>NA</u> NA		
16 Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____	<u>Yes</u> Yes <u>No</u> No <u>NA</u> NA		
17 Was a LL Hg or Me Hg trip blank present? _____	<u>Yes</u> Yes <u>No</u> No <u>NA</u> NA		
Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____			
Concerning _____			
18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page		Samples processed by: _____	
19. SAMPLE CONDITION			
Sample(s) _____ were received after the recommended holding time had expired.			
Sample(s) _____ were received in a broken container			
Sample(s) _____ were received with bubble >6 mm in diameter (Notify PM)			
20. SAMPLE PRESERVATION			
Sample(s) _____ were further preserved in the laboratory			
Time preserved. _____ Preservative(s) added/Lot number(s): _____			
VOA Sample Preservation - Date/Time VOAs Frozen _____			

Attachment 2 – Groundwater Sampling Logs

Groundwater Sampling Form



Project Number	30219382	Well ID	RFI-12-40	Date	12/11/2024		
Project Name/Location	RACER Buick City Admin 2024		Weather(°F)				
Measuring Pt. Description	Top of Inner Casing	MP Elevation	Casing Diameter (in)	2	Well Casing Material	PVC	
Static Water Level (ft-bmp)	5.60	Total Depth (ft-bmp)	7.6	Water Column (ft)	2.00	Gallons in Well	0.32
Purge Start	10:25	Pump Intake (ft-bmp)		Purge Method	Low-Flow	Purge Equipment	Peristaltic
Purge End	11:30	Volumes Purged		Sample ID	RFI-12-40_121124	Sampled by	Donald Richmond
Sample Time	11:05	Gallons Purged		Replicate/ Code No.	NA	Sample Type	Grab

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallon Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
10:30	0	0	200	5.60	0.00	7.32	1.954	15	1.25	9.1	30.5	Clear	None
10:35	5	5	200	5.60	0.00	7.24	1.032	8.96	1.44	9.2	16.3	Clear	None
10:40	5	10	200	5.60	0.00	7.26	0.727	5.57	0.48	9.4	19.1	Clear	None
10:50	10	20	200	5.60	0.00	7.24	0.679	1.93	0.39	8.9	24.5	Clear	None
10:55	5	25	200	5.60	0.00	7.23	0.675	1.81	0.38	9.3	27.4	Clear	None
11:00	5	30	200	5.60	0.00	7.22	0.678	2.4	0.4	9.5	28.1	Clear	None

Constituent Sampled	Container	Number	Preservative
PFAS,SVOCs,VOCs,Total Metals,Dissolved Metals		10	

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot 1 = 0.04; 1.5 = 0.09; 2.5 = 0.26; 3.5 = 0.50; 6 = 1.47
1.25 = 0.06; 2 = 0.16; 3 = 0.37; 4 = 0.65

Well Information

Well Location:	Well Locked at Arrival: no
Condition of Well: Good condition,Missing bolts	Well Locked at Departure: no
Well Completion: Flush mount	Key Number To Well: NA

ft-bmp = feet below measuring point
in = inches
ft = feet
mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
NTU = Nephelometric Turbidity Unit
mg/L = milligrams per liter

mV = millivolts
°F = degrees Fahrenheit
°C = degrees Celsius

Groundwater Sampling Form



Project Number	30219382	Well ID	RFI-23-01R	Date	12/11/2024
Project Name/Location	RACER Buick City Admin 2024		Weather(°F)		
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2
Static Water Level (ft-bmp)	5.64	Total Depth (ft-bmp)	13.61	Water Column (ft)	7.97
Purge Start	11:40	Pump Intake (ft-bmp)		Purge Method	Low-Flow
Purge End	12:40	Volumes Purged		Sample ID	RFI-23-01R_121124
Sample Time	12:35	Gallons Purged		Replicate/ Code No.	NA
				Well Casing Material	PVC
				Gallons in Well	1.30
				Purge Equipment	Peristaltic
				Sampled by	Donald Richmond
				Sample Type	Grab

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallon Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
11:45	0	0	200	5.64	0.00	7.06	0.516	21	0.51	11.5	-59	Clear	None
11:50	5	5	200	5.64	0.00	7.05	0.518	33	0.27	11.7	-68.4	Clear	None
11:55	5	10	200	5.64	0.00	7.05	0.519	11.94	0.17	11.8	-72.9	Clear	None
12:00	5	15	200	5.64	0.00	7.05	0.511	13	0.13		-73.7	Clear	None
12:05	5	20	200	5.64	0.00	7.05	0.513	8.05	0.11	11.6	-74.3	Clear	None
12:10	5	25	200	5.64	0.00	7.05	0.513	6.39	0.09	11.7	-74.7	Clear	None
12:15	5	30	200	5.64	0.00	7.06	0.513	5.13	0.04	11.5	-75.5	Clear	None
12:20	5	35	200	5.64	0.00	7.06	0.512	5.07	0.01	11.3	-76	Clear	None
12:25	5	40	200	5.64	0.00	7.06	0.515	5.19	0	11.6	-76.2	Clear	None
12:30	5	45	200	5.64	0.00	7.06	0.518	4.12	0	11.7	-76.4	Clear	None

Constituent Sampled	Container	Number	Preservative
PFAS,SVOCs,VOCs,Total Metals,Dissolved Metals		10	

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot 1 = 0.04; 1.5 = 0.09; 2.5 = 0.26; 3.5 = 0.50; 6 = 1.47
1.25 = 0.06; 2 = 0.16; 3 = 0.37; 4 = 0.65

Well Information

Well Location:	Well Locked at Arrival: no
Condition of Well: Good condition,Missing bolts	Well Locked at Departure: no
Well Completion: Flush mount	Key Number To Well: NA

ft-bmp = feet below measuring point
in = inches
ft = feet
mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
NTU = Nephelometric Turbidity Unit
mg/L = milligrams per liter

mV = millivolts
°F = degrees Fahrenheit
°C = degrees Celsius

Groundwater Sampling Form



Project Number	30219382	Well ID	RFI-81-12R	Date	12/11/2024
Project Name/Location	RACER Buick City Admin 2024		Weather(°F)		
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2
Static Water Level (ft-bmp)	6.27	Total Depth (ft-bmp)	13.6	Water Column (ft)	7.33
Purge Start	13:20	Pump Intake (ft-bmp)		Purge Method	Low-Flow
Purge End	14:15	Volumes Purged		Sample ID	RFI-81-12R_121124
Sample Time	14:00	Gallons Purged		Replicate/ Code No.	NA
				Sample Type	Grab
				Well Casing Material	PVC
				Gallons in Well	1.19
				Purge Equipment	Peristaltic
				Sampled by	Donald Richmond

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallon Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
13:30	0	0	200	6.27	0.00	6.97	0.426	317	3.09	12.8	62.1	Clear	None
13:35	5	5	200	6.27	0.00	6.9	0.426	17	1.62	13	61.7	Clear	None
13:40	5	10	200	6.27	0.00	6.87	0.43	49	0.98	13.2	30.7	Clear	None
13:45	5	15	200	6.27	0.00	6.85	0.436	13	0.8	13.1	9.4	Clear	None
13:50	5	20	200	6.27	0.00	6.84	0.443	9.86	0.64	13.4	8.5	Clear	None
13:55	5	25	200	6.27	0.00	6.84	0.445	7.9	0.59	13.3	10.7	Clear	None

Constituent Sampled	Container	Number	Preservative
PFAS,SVOCs,VOCs,Total Metals,Dissolved Metals		10	

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot 1 = 0.04; 1.5 = 0.09; 2.5 = 0.26; 3.5 = 0.50; 6 = 1.47
1.25 = 0.06; 2 = 0.16; 3 = 0.37; 4 = 0.65

Well Information

Well Location:	Well Locked at Arrival: no
Condition of Well: Good condition,Missing bolts	Well Locked at Departure: no
Well Completion: Flush mount	Key Number To Well: NA

ft-bmp = feet below measuring point
in = inches
ft = feet
mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
NTU = Nephelometric Turbidity Unit
mg/L = milligrams per liter

mV = millivolts
°F = degrees Fahrenheit
°C = degrees Celsius

Groundwater Sampling Form



Project Number	30219382	Well ID	RFI-81-33	Date	12/11/2024		
Project Name/Location	RACER Buick City Admin 2024		Weather(°F)				
Measuring Pt. Description	Top of Inner Casing	MP Elevation	Casing Diameter (in)	2	Well Casing Material	PVC	
Static Water Level (ft-bmp)	6.51	Total Depth (ft-bmp)	13.73	Water Column (ft)	7.22	Gallons in Well	1.17
Purge Start	14:30	Pump Intake (ft-bmp)	Purge Method	Low-Flow	Purge Equipment	Peristaltic	
Purge End	15:30	Volumes Purged	Sample ID	RFI-81-33_121124	Sampled by	Donald Richmond	
Sample Time	15:20	Gallons Purged	Replicate/ Code No.	NA	Sample Type	Grab	

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallon Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
14:40	0	0	200	6.51	0.00	7.05	0.581	21	0.81	11.2	104.9	Clear	None
14:45	5	5	200	6.51	0.00	6.92	0.589	12.14	0.41	11.2	90	Clear	None
14:50	5	10	200	6.51	0.00	6.9	0.594	8.92	0.28	11.5	81.1	Clear	None
14:55	5	15	200	6.51	0.00	6.89	0.6	7.69	0.17	11.6	56.1	Clear	None
15:00	5	20	200	6.51	0.00	6.89	0.605	6.21	0.12	11.9	28.5	Clear	None
15:05	5	25	200	6.51	0.00	6.87	0.606	4.55	0.05	11.9	8.3	Clear	None
15:10	5	30	200	6.51	0.00	6.88	0.6	4.75	0.04	11.5	3.6	Clear	None
15:15	5	35	200	6.51	0.00	6.87	0.607	5.03	0.02	12	-2.6	Clear	None

Constituent Sampled	Container	Number	Preservative
PFAS,SVOCs,VOCs,Total Metals,Dissolved Metals		10	

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot 1 = 0.04; 1.5 = 0.09; 2.5 = 0.26; 3.5 = 0.50; 6 = 1.47
1.25 = 0.06; 2 = 0.16; 3 = 0.37; 4 = 0.65

Well Information

Well Location:	Well Locked at Arrival:	no
Condition of Well: Good condition,Missing bolts	Well Locked at Departure:	no
Well Completion: Flush mount	Key Number To Well:	NA

ft-bmp = feet below measuring point
in = inches
ft = feet
mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
NTU = Nephelometric Turbidity Unit
mg/L = milligrams per liter

mV = millivolts
°F = degrees Fahrenheit
°C = degrees Celsius

Groundwater Sampling Form



Project Number	30219382	Well ID	RFI-12-40	Date	3/26/2025		
Project Name/Location	RACER Buick City Admin 2024		Weather(°F)				
Measuring Pt. Description	Top of Inner Casing	MP Elevation	Casing Diameter (in)	2	Well Casing Material	PVC	
Static Water Level (ft-bmp)	5.28	Total Depth (ft-bmp)	7.59	Water Column (ft)	2.31	Gallons in Well	0.38
Purge Start	10:00	Pump Intake (ft-bmp)		Purge Method	Low-Flow	Purge Equipment	Peristaltic
Purge End	10:45	Volumes Purged		Sample ID	RFI-12-40_032625	Sampled by	Donald Richmond
Sample Time	10:25	Gallons Purged		Replicate/ Code No.	NA	Sample Type	Grab

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallon Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
10:05	0	0	200	5.28	0.00	7.02	0.593	2.91	2.25	5.8	128.4	Clear	None
10:10	5	5	200	5.28	0.00	7.11	0.581	1.92	0.93	5.8	119	Clear	None
10:15	5	10	200	5.28	0.00	7.12	0.579	1.87	0.73	6	110.7	Clear	None
10:20	5	15	200	5.28	0.00	7.13	0.575	1.86	0.67	5.8	108.3	Clear	None
10:25	5	20	200	5.28	0.00	7.15	0.576	1.89	0.61	5.7	104.9	Clear	None

Constituent Sampled	Container	Number	Preservative
PFAS, Metals, SVOCs, VOCs		10	HCL

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot 1 = 0.04; 1.5 = 0.09; 2.5 = 0.26; 3.5 = 0.50; 6 = 1.47
1.25 = 0.06; 2 = 0.16; 3 = 0.37; 4 = 0.65

Well Information

Well Location:	Well Locked at Arrival: yes
Condition of Well: Good condition	Well Locked at Departure: yes
Well Completion: Flush mount	Key Number To Well: NA

ft-bmp = feet below measuring point
in = inches
ft = feet
mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
NTU = Nephelometric Turbidity Unit
mg/L = milligrams per liter

mV = millivolts
°F = degrees Fahrenheit
°C = degrees Celsius

Groundwater Sampling Form



Project Number	30219382	Well ID	RFI-86-14	Date	3/24/2025
Project Name/Location	RACER Buick City Admin 2024		Weather(°F)		
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2
Static Water Level (ft-bmp)	15.37	Total Depth (ft-bmp)	16.79	Water Column (ft)	1.42
Purge Start	12:00	Pump Intake (ft-bmp)		Purge Method	Low-Flow
Purge End	12:55	Volumes Purged		Sample ID	RFI-86-14_032425
Sample Time	12:50	Gallons Purged		Replicate/ Code No.	NA
				Well Casing Material	PVC
				Gallons in Well	0.23
				Purge Equipment	Peristaltic
				Sampled by	Donald Richmond
				Sample Type	Grab

Time	Minutes Elapsed	Total Elapsed Minutes	Rate	Depth to Water (ft)	Gallon Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
12:15	0	0	200	15.37	0.00	7.14	0.511	9.97	2.7	8.8	142	Clear	None
12:20	5	5		15.37		7.13	0.51	2.21	1.11	8.8	88.9	Clear	None
12:25	5	10		15.37		7.13	0.511	2.28	1.05	8.9	81	Clear	None
12:30	5	15		15.37		7.14	0.513	2.16	1	8.9	64	Clear	None
12:35	5	20		15.37		7.14	0.513	2.08	0.98	8.9	54.2	Clear	None
12:40	5	25		15.37		7.15	0.51	1.94	0.95	8.9	48	Clear	None
12:45	5	30		15.37		7.16	0.515	1.84	0.93	9.1	42	Clear	None

Constituent Sampled	Container	Number	Preservative
PFAS	15 ml plastic	3	None

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot 1 = 0.04; 1.5 = 0.09; 2.5 = 0.26; 3.5 = 0.50; 6 = 1.47
1.25 = 0.06; 2 = 0.16; 3 = 0.37; 4 = 0.65

Well Information

Well Location:	Well Locked at Arrival: yes
Condition of Well: Good condition	Well Locked at Departure: yes
Well Completion: Flush mount	Key Number To Well: NA

ft-bmp = feet below measuring point
in = inches
ft = feet
mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
NTU = Nephelometric Turbidity Unit
mg/L = milligrams per liter

mV = millivolts
°F = degrees Fahrenheit
°C = degrees Celsius

Groundwater Sampling Form



Project Number	30219382	Well ID	RFI-81-12R	Date	3/25/2025		
Project Name/Location	RACER Buick City Admin 2024		Weather(°F)				
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2	Well Casing Material	PVC
Static Water Level (ft-bmp)	5.29	Total Depth (ft-bmp)	13.66	Water Column (ft)	8.37	Gallons in Well	1.36
Purge Start	09:35	Pump Intake (ft-bmp)		Purge Method	Low-Flow	Purge Equipment	Peristaltic
Purge End	10:35	Volumes Purged		Sample ID	RFI-81-12R_031525	Sampled by	Donald Richmond
Sample Time	10:15	Gallons Purged		Replicate/ Code No.	NA	Sample Type	Grab

Time	Minutes Elapsed	Total Elapsed Minutes	Rate	Depth to Water (ft)	Gallon Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
09:45	0	0	200	5.29	0.00	6.73	0.358	31	6.79	7.1	138.5	Clear	None
09:50	5	5		5.29		6.73	0.359	22	6.14	7.2	135	Clear	None
09:55	5	10		5.29		6.73	0.356	18	5.78	7.2	134.1	Clear	None
10:00	5	15		5.29		6.71	0.359	15.16	5.26	7.4	131.5	Clear	None
10:05	5	20		5.29		6.7	0.363	11.23	5.15	7.5	130.1	Clear	None
10:10	5	25		5.29		6.71	0.365	8.92	5.34	7.3	129.3	Clear	None
10:15	5	30		5.29		6.71	0.365	9.31	5.45	7.3	129.1	Clear	None

Constituent Sampled	Container	Number	Preservative
PFAS, Metals, SVOCs, VOCs		10	HCL

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot 1 = 0.04; 1.5 = 0.09; 2.5 = 0.26; 3.5 = 0.50; 6 = 1.47
1.25 = 0.06; 2 = 0.16; 3 = 0.37; 4 = 0.65

Well Information

Well Location:	Well Locked at Arrival: yes
Condition of Well: Good condition	Well Locked at Departure: yes
Well Completion: Flush mount	Key Number To Well: NA

ft-bmp = feet below measuring point
in = inches
ft = feet
mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
NTU = Nephelometric Turbidity Unit
mg/L = milligrams per liter

mV = millivolts
°F = degrees Fahrenheit
°C = degrees Celsius

Groundwater Sampling Form



Project Number	30219382	Well ID	RFI-81-33	Date	3/25/2025		
Project Name/Location	RACER Buick City Admin 2024		Weather(°F)				
Measuring Pt. Description	Top of Inner Casing	MP Elevation	Casing Diameter (in)	2	Well Casing Material	PVC	
Static Water Level (ft-bmp)	5.42	Total Depth (ft-bmp)	13.72	Water Column (ft)	8.30	Gallons in Well	1.35
Purge Start	11:00	Pump Intake (ft-bmp)		Purge Method	Low-Flow	Purge Equipment	Peristaltic
Purge End	12:00	Volumes Purged		Sample ID	RFI-81-33_031525	Sampled by	Donald Richmond
Sample Time	11:40	Gallons Purged		Replicate/ Code No.	NA	Sample Type	Grab

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallon Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
11:10	0	0	200	5.42	0.00	6.8	0.537	112	1.45	8.3	72.5	Clear	None
11:15	5	5	200	5.42	0.00	6.78	0.544	15	0.92	8.3	15.9	Clear	None
11:20	5	10	200	5.42	0.00	6.77	0.545	11.58	0.87	8.4	-9.5	Clear	None
11:25	5	15	200	5.42	0.00	6.78	0.546	7.54	0.7	8.3	-9.6	Clear	None
11:30	5	20	200	5.42	0.00	6.78	0.546	7.57	0.66	8.4	-13.6	Clear	None
11:35	5	25	200	5.42	0.00	6.79	0.55	7.22	0.64	8.6	-17.1	Clear	None

Constituent Sampled	Container	Number	Preservative
PFAS,Metals,SVOCs,VOCs		10	HCL

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot 1 = 0.04; 1.5 = 0.09; 2.5 = 0.26; 3.5 = 0.50; 6 = 1.47
1.25 = 0.06; 2 = 0.16; 3 = 0.37; 4 = 0.65

Well Information

Well Location:	Well Locked at Arrival: yes
Condition of Well: Good condition	Well Locked at Departure: yes
Well Completion: Flush mount	Key Number To Well: NA

ft-bmp = feet below measuring point
in = inches
ft = feet
mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
NTU = Nephelometric Turbidity Unit
mg/L = milligrams per liter

mV = millivolts
°F = degrees Fahrenheit
°C = degrees Celsius

Groundwater Sampling Form



Project Number	30219382	Well ID	RFI-23-01R	Date	3/26/2025
Project Name/Location	RACER Buick City Admin 2024		Weather(°F)		
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2
Static Water Level (ft-bmp)	4.63	Total Depth (ft-bmp)	13.6	Water Column (ft)	8.97
Purge Start	11:05	Pump Intake (ft-bmp)		Purge Method	Low-Flow
Purge End	11:50	Volumes Purged		Sample ID	RFI-23-01R_032625
				Sampled by	Donald Richmond
Sample Time	11:30	Gallons Purged		Replicate/ Code No.	NA
				Sample Type	Grab

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallon Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
11:10	0	0	200	4.63	0.00	6.9	0.559	84	5.1	8.3	112.7	Clear	None
11:15	5	5	200	4.63	0.00	6.9	0.557	11	4.75	8.2	111	Clear	None
11:20	5	10	200	4.63	0.00	6.91	0.555	9.48	4.61	7.9	110.4	Clear	None
11:25	5	15	200	4.63	0.00	6.92	0.554	7.62	4.34	8	110.4	Clear	None

Constituent Sampled	Container	Number	Preservative
PFAS,Metals,SVOCs,VOCs		10	HCL

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot 1 = 0.04; 1.5 = 0.09; 2.5 = 0.26; 3.5 = 0.50; 6 = 1.47
1.25 = 0.06; 2 = 0.16; 3 = 0.37; 4 = 0.65

Well Information

Well Location:	Well Locked at Arrival: yes
Condition of Well: Good condition	Well Locked at Departure: yes
Well Completion: Flush mount	Key Number To Well: NA

ft-bmp = feet below measuring point
in = inches
ft = feet
mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
NTU = Nephelometric Turbidity Unit
mg/L = milligrams per liter

mV = millivolts
°F = degrees Fahrenheit
°C = degrees Celsius

Groundwater Sampling Form



Project Number	30219382	Well ID	RFI-23-02R	Date	3/26/2025
Project Name/Location	RACER Buick City Admin 2024		Weather(°F)		
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2
Static Water Level (ft-bmp)	4.18	Total Depth (ft-bmp)	13.86	Water Column (ft)	9.68
Purge Start	12:10	Pump Intake (ft-bmp)		Purge Method	Low-Flow
Purge End	13:00	Volumes Purged		Sample ID	RFI-23-02R_032625
				Sampled by	Donald Richmond
Sample Time	12:40	Gallons Purged		Replicate/ Code No.	NA
				Sample Type	Grab

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallon Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
12:15	0	0	200	4.18	0.00	7.1	0.649	270	1.3	9	116.6	Clear	None
12:20	5	5	200	4.18	0.00	7.08	0.646	36	0.83	8.8	107.5	Clear	None
12:25	5	10	200	4.18	0.00	7.06	0.641	19	1.1	8.8	103	Clear	None
12:30	5	15	200	4.18	0.00	7.05	0.636	18	1.33	8.7	102.7	Clear	None
12:35	5	20	200	4.18	0.00	7.03	0.63	18	1.29	8.5	100.7	Clear	None

Constituent Sampled	Container	Number	Preservative
PFAS, Metals, SVOCs, VOCs		10	HCL

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot 1 = 0.04; 1.5 = 0.09; 2.5 = 0.26; 3.5 = 0.50; 6 = 1.47
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