



2024 Fiero Temporary Groundwater Monitoring Plan Summary

Pontiac North Campus

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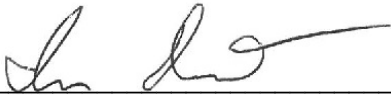
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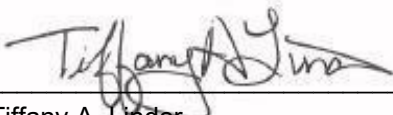
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Acronyms and Abbreviations

bgs	below ground surface
cis-1,2-DCE	cis-1,2-dichloroethene
COC	Chain of Custody
CSM	conceptual site model
cVOC	Chlorinated Volatile Organic Compound
DO	dissolved oxygen
EDD	electronic data deliverable
EGLE	Michigan Department of Environment, Great Lakes, and Energy
FTMP	Fiero Temporary Monitoring Plan
GMC	General Motors Corporation
MS/MSD	matrix spike/matrix spike duplicate
NRFSSBASE	Nonresidential Fiero site specific vapor intrusion to indoor air criteria – basement
NRFSSSOG	Nonresidential Fiero site specific vapor intrusion to indoor air criteria – slab on grade
ORP	oxidation reduction potential
PCE	tetrachloroethene
RACER	Revitalizing Auto Communities Environmental Response
RFSSBASE	Residential Fiero site specific vapor intrusion to indoor air criteria – basement
RFSSSOG	Residential Fiero site specific vapor intrusion to indoor air criteria – slab on grade
SSE	Sen's Slope Estimator
SSVIAC	Site-Specific Volatilization to Indoor Air Criteria
SVMP	soil vapor monitoring point
TCE	trichloroethene
USEPA	United States Environmental Protection Agency
VI	vapor intrusion
VOC	volatile organic compound

1 Introduction

This report summarizes the results of the 2024 semi-annual groundwater monitoring events completed as part of the Fiero Temporary Monitoring Plan (FTMP) (**Figure 1**) at the Fiero properties of the Revitalizing Auto Communities Environmental Response (RACER) Trust Pontiac North Campus Site (Site) located in Pontiac, Michigan. The 2024 FTMP was discussed with the United States Environmental Protection Agency (USEPA) during a March 21, 2024 project update meeting and the USEPA provided approval to implement the 2024 IGMP via email transmittal on March 22, 2024. Note that the FTMP was provided to USEPA within the *2023 Fiero Temporary Groundwater Monitoring Plan Summary* as an appendix to the report. The final version of the *2023 Fiero Temporary Groundwater Monitoring Plan Summary* was submitted to USEPA on August 14, 2024 and included updates based on USEPA comments provided. The data generated as a result of the 2024 FTMP adds to the previous monitoring data for the Fiero portion of the Site.

1.1 Background

The general objective of the FTMP is to monitor the chlorinated volatile organic compounds (cVOCs) in groundwater at the Site and assess the potential risk for off-site vapor intrusion (VI). The FTMP was also implemented to supplement groundwater data previously submitted in the *Fiero Vapor Intrusion Conceptual Site Model (CSM)* (Arcadis 2021) and the *2021-2022 Fiero Site Investigation Summary Report* (Arcadis 2023a). Furthermore, additional information and data collected at the Fiero Properties is included in the *Draft Corrective Action Summary Report* (Arcadis 2023b) and *2023 Fiero Temporary Groundwater Monitoring Plan Summary* (Arcadis 2024a). cVOCs, specifically tetrachloroethene (PCE), trichloroethene (TCE), and cis-1,2-dichloroethene (cis-DCE), are the primary compounds detected in groundwater in this portion of the Site. Historical references indicate the presence of steel storage and fabrication operations; trim shop operations; lacquer mixing, spraying, and drying operations; printing and upholstering operations; and woodworking and assembly operations. These operations continued through the late 1970s, when the facility was retooled to manufacture and assemble Fiero vehicles, which occurred for an approximate 10-year period from 1980 through 1990. From the time General Motors Corporation (GMC) ceased manufacturing Fiero models and decommissioned assembly operations in the early 1990s until the late 2000s, the former Fiero Assembly building was used for prototyping, storage, and other non-manufacturing processes. While details pertaining to exact dates and potential sources of cVOCs were not documented and cannot be confirmed, based on available information, the use of chlorinated solvents could have spanned from after World War II up to approximately 1990.

In response to cVOCs VI criteria exceedances near the southwestern boundary of the Fiero property, an investigation was completed in 2021 and 2022 to strengthen the CSM by mapping the groundwater impacts at higher resolution, identifying contaminant storage and transport zones, and locating source areas. The findings of the investigation identified several upgradient cVOC source areas in the vicinity of MWF16-05, MWF16-18, and MWF16-06 and confirmed cVOC impacts in groundwater extend off-site above Fiero Residential Site-Specific Volatilization to Indoor Air Criteria (SSVIAC), provided by the Michigan Department of Environment, Great Lakes and Energy (EGLE) (EGLE 2020) but did not identify an imminent risk of off-site residential VI associated with the former Fiero property.

Site stratigraphy can generally be categorized as three distinct hydrostratigraphic units including:

- Interbedded Unit – consisting of sands, silts, and clays typically encountered between ground surface and 20 feet below ground surface (bgs);
- Sand Unit – consisting of well to poorly sorted sands typically encountered between 20 to 40 feet bgs; and
- Basal Clay – unit consisting of clays and silts typically encountered around 40 feet bgs.

Typically, groundwater is first encountered within the sand unit beneath the interbedded unit and most of the monitoring wells are set within this sand unit, however there is an area in the vicinity of MWF16-12 and MWF16-06 where groundwater is encountered within the interbedded unit resulting in an area of higher groundwater elevation. Apparent groundwater flow has consistently been to the southwest outside of the perched unit but fans out to the west, southwest, south, and southeast where perched groundwater is present (**Figures 2A and 2B**).

2 Sampling Procedures

The monitoring events consisted of gauging and sampling select monitoring wells and sampling soil vapor monitoring points (SVMPs) at the former Fiero property. The monitoring locations included in the events are shown on **Figure 1**.

As outlined in the 2024 FTMP, a monitoring event was completed semi-annually in 2024. At the request of USEPA, monitoring well MWOS-10 was monitored for volatile organic compounds (VOCs) on a quarterly basis. A summary of each event follows:

- Quarter 1 (Q1) – On March 25th, 2024, Arcadis began monitoring activities by gauging Site monitoring wells. Following the gauging event SVMPs and monitoring wells were sampled for VOCs over a 4-day period. Monitoring well MWOS-10 was also gauged and sampled at this time.
- Quarter 2 (Q2) – On June 24th, 2024, Arcadis sampled MWOS-10 for VOCs, per USEPA request.
- Quarter 3 (Q3) – On August 23rd, 2024, Arcadis began monitoring activities by gauging Site monitoring wells. Following the gauging event, SVMPs, including newly installed SV-07-24 and SV-08-24 (installed in July 2024), and monitoring wells were sampled for VOCs over a 4-day period. Monitoring well MWOS-10 was also gauged and sampled at this time.
- Quarter 4 (Q4) – On November 8th, 2024, Arcadis sampled MWOS-10 for VOCs, per USEPA request. This event concluded the requested four consecutive quarters of sampling for monitoring well MWOS-10. Recently installed SVMPs SV-07-24 and SV-08-24 were also sampled during this time.

All groundwater samples were submitted to Merit Laboratories, Inc. in Lansing, Michigan (Merit) and analyzed for VOCs via USEPA Method 8260 and all soil vapor samples were submitted to Eurofins Air Toxics (Eurofins) in Folsom, California and analyzed for VOCs via USEPA Method TO-15. The analytical reports from Merit and Eurofins are provided as **Appendix A**. The results of the gauging and sampling are provided in the attached tables:

- **Table 1** – 2024 Groundwater Elevation Summary
- **Table 2** – Summary of Groundwater Analytical Results for Detected VOCs
- **Table 3** – Summary of 2024 Soil Gas Analytical Results

The following sections of this report summarize the procedures used to complete the groundwater and soil vapor sampling and a data discussion of the sample analysis results collected during 2024.

2.1 Water Level Measurements

The groundwater level measurements were recorded at select monitoring wells to the nearest 0.01 foot with an electronic water level meter. Groundwater elevations were calculated using surveyed top-of-well casing elevations. A summary of water levels and groundwater elevations is presented in **Table 1**.

2.2 Groundwater Sample Collection

Groundwater samples were collected using low-flow sampling procedures. The procedures are taken from the Low-Stress (or Low-Flow) Purging and Sampling Procedure (USEPA 2017), which is the USEPA Region V standard method for collecting low-stress/low-flow groundwater samples from monitoring wells.

During sampling, purge water was monitored for dissolved oxygen (DO), temperature, specific conductivity, turbidity, oxygen reduction potential (ORP), and pH. These water quality measurements were used to determine groundwater sample stability prior to collection of groundwater samples for laboratory analysis. All groundwater sampling logs are provided in **Appendix B**.

Due to factors such as recovery, the following deviations from the planned sampling protocol occurred during the 2024 FTMP implementation:

- MWF7-02 could not be sampled during the Q1 event due to insufficient water.
- MWF16-24 was sampled in Q1 to evaluate PCE relative to an increasing trend noted to the east at monitoring well MWF16-22, and upgradient at monitoring well MW-09-22, during 4Q 2023.
- MW-16-22 and MWF16-22 were sampled for VOCs during the Q2 event to confirm first quarter sampling results.
- Soil vapor samples were collected in 3Q and Q4 from SV-07-24 and SV-08-24. These two locations will be monitored in 1Q and 2Q 2025 to complete four consecutive quarters of monitoring.

2.3 Soil Vapor Sample Collection

Soil vapor monitoring was completed semi-annually at the six SVMP locations (SV-01-21 through SV-06-21) as part of the 2024 FTMP. SV-07-24 and SV-08-24 were sampled one week after installation on July 15th, 2024, as well as Q3 and Q4. The methodology for collecting soil vapor samples included completing a helium leak test to verify the seal of the sampling point, and a “shut-in” test completed on the sampling train to verify that a closed system was in place prior to sampling. Following a passed helium leak test and shut-in test, a SUMMA® canister, with attached pre-set flow regulator, was used to collect the sample for laboratory analysis of the Fiero site-specific VOCs in accordance with the USEPA Method TO-15. Following sampling, an additional three volumes of air was purged into a Tedlar® bag. Oxygen, carbon dioxide, and methane readings were collected from the Tedlar® bag containing purged air at the sample point.

3 Monitoring Results

The following sections summarize the results of the semi-annual monitoring during the 2024 FTMP along with the USEPA requested quarterly sampling of monitoring well MWOS-10.

3.1 Groundwater Elevation

Groundwater elevations from unconfined water table zone monitoring wells (screened across the water table) were used to create groundwater potentiometric surface maps (**Figure 2A** and **2B**). A summary of groundwater elevations collected during the 2024 FTMP is provided in **Table 1**. There was very little difference in the groundwater elevations between the March and September 2024 monitoring events. In most areas across the Site, groundwater is first encountered within the sand unit beneath the interbedded unit around 16 to 20 feet bgs. However, at select monitoring well locations (e.g., MWF16-06, MWF16-07, and MWF16-12), groundwater was encountered shallower within the interbedded unit at 10 to 12 feet bgs. A review of historical water level measurements showed that the higher elevation of groundwater was not present in the early to mid-2000s but became evident in 2018. The increased occurrence of shallow water may be the result of the degradation or removal of concrete and asphalt surfaces, or some other change in conditions, that have resulted in increased infiltration across the area. Apparent groundwater flow direction is generally to the southwest and remained consistent through each gauging event except for the area with higher groundwater elevations where flow fans out to the west, southwest, south, and southeast.

3.2 Groundwater Analytical Results

Over the two semi-annual sampling events (including four quarters of sampling well MWOS-10), 59 groundwater samples were collected and analyzed for VOCs. Groundwater data were compared to the Fiero SSVIAC provided by EGLE on April 21, 2020. These criteria include Residential and Nonresidential SSVIAC for basement (RFSSBASE and NRFSSBASE) and slab-on-grade (RFSSSOG and NRFSSSOG) scenarios (EGLE 2020). The Fiero SSVIAC is provided as **Appendix C**. Monitoring well results are compared to Nonresidential and Residential SSVIAC. Nonresidential values are relevant to on-site groundwater results as there are or will be deed restrictions limiting on-site use to nonresidential. Residential SSVIAC is relevant for locations within 100 feet of the perimeter property boundary, as they have the potential to be a source of soil vapor impacts to nearby off-site properties. A summary of select groundwater cVOC analytical detection results is provided in **Table 2** and the laboratory analytical reports are provided in **Appendix A**. A complete summary of groundwater analytical results is provided in **Appendix B**.

A summary of the two semi-annual sampling events and four quarters of monitoring well MWOS-10 groundwater analytical results follows:

- Elevated cVOC detections remain upgradient near the identified source areas in the central portion of the Site and decrease steadily as they approach the southwest property boundary.
- There were no exceedances of Fiero Nonresidential SSVIAC in groundwater.
- The primary compounds detected in groundwater include PCE, TCE, and cis-1,2-DCE. Figures showing the distribution and analytical results for each of these compounds are provided as **Figure 3 through Figure 5**.
 - Vinyl chloride was detected below the Fiero Nonresidential SSVIAC in groundwater at MWF16-16 and MWF16-18, both interior wells, but was not detected at downgradient monitoring wells located near the property boundary.

- All off-site monitoring wells were below the Fiero Residential SSVIAC for all monitoring events, except for MWOS-10, which exceeded the Fiero Residential SSVIAC in groundwater for TCE (8.1 µg/L) during the first quarter sampling event (10 µg/L, **Figure 4**). Second, third, and fourth quarter sampling results were below Residential SSVIAC for TCE at MWOS-10.

3.2.1 ZVI Performance Monitoring

Zero-valent Iron (ZVI) Injections were conducted in December 2022 through January 2023. Details of the injection were provided in the *In Situ Chemical Reduction with Zero Valent Iron Pilot Study Installation Summary Report* dated March 2023 (Arcadis, 2023c). As discussed in the August 14, 2024, *Final 2023 Fiero Temporary Groundwater Monitoring Plan Summary*, quarterly monitoring of ZVI performance monitoring wells was discontinued following the Q1 2024 sampling event. Monitoring wells MW-13-22, MW-14-22, MW-15-22 were only sampled during Q1 2024 because of the discontinuation of ZVI performance monitoring. However, monitoring wells MW-16-22 and MWF16-16, utilized previously for ZVI performance monitoring, were gauged and sampled semi-annually for cVOCs. The analytical data collected from these wells are provided in **Table 2** and shown on **Figures 3, 4, and 5**. As summarized in the *In Situ Chemical Reduction with Zero Valent Iron Pilot Study Installation Summary* report (Arcadis 2023c), the ZVI performance monitoring was discontinued due to a lack of cVOC treatment. The lack of treatment could be due to limitations of in situ distribution of the ZVI, interaction from non-target compounds, or a combination of both. The results indicated that ZVI injections would not be a viable treatment solution to this area of the site.

3.3 Groundwater Trends and Stability Analysis

Concentration trends for PCE, TCE, and cis-1,2-DCE were reviewed at on-site and off-site monitoring wells. Trend analysis from monitoring wells can provide insights regarding source maturity. No significant trend (i.e., no trend with low variability in concentrations over time) and decreasing trends indicate that the source is mature or depleted. Increasing trends at individual source area wells can indicate an expanding plume but can also reflect the wide range of concentrations and temporal variability common within source areas.

Mann-Kendall trend tests were conducted at selected wells for constituents present at concentrations higher than the Fiero Residential SSVIAC, and coefficient of variation values were calculated. In addition, the magnitude of the trend was evaluated using Sen's slope estimator (SSE). The SSE is a non-parametric method for estimating the slope of time-series data. The approach involves computing slopes for each point compared to every successive point, and then using the median of these slopes as an estimate of overall slope. The SSE is robust to outliers, data sets with a limited number of non-detects (i.e., values less than sample reporting limits), and datasets with missing values.

The Mann-Kendall trend analysis included data from 2017 through 2024, to coincide with the more frequent sampling events, and only included wells with at least 5 data points collected since 2017 with at least 50 percent detections. Mann-Kendall analysis is further outlined in Arcadis' August 14th, 2024, *2023 Fiero Temporary Groundwater Monitoring Plan Summary* (Arcadis 2024a) submitted to and approved by the USEPA. A summary of the trend analysis in groundwater can be found in **Figures 6A through 6C**, and trend graphs associated with the Mann-Kendall trend tests, as well as concentration over time trend graphs for wells that did not meet the criteria for Mann-Kendall analysis, are included in **Appendix D**. Key findings of the trend analysis include the following:

PCE: PCE in groundwater shows primarily no significant trend with four wells indicating a statistically significant increasing trend. Stability analysis results for PCE in groundwater are summarized in **Figure 6A**.

- ZVI pilot test performance monitoring well MW-14-22 shows a statistically significant increasing trend for PCE. However, MW-14-22 PCE concentration has been decreasing since its highest concentration in June of 2023 (212 µg/L).
- Source well MWF7-02, located 800 feet from the downgradient property boundary, shows an increasing PCE trend but has been decreasing in concentration since the maximum concentration (115 µg/L) detected in September 2022.
- Concentrations of PCE at source area well MWF16-16 have fluctuated over the past few years but with an overall increasing trend. MWF16-05 and MWF16-18, located upgradient of MWF16-16 in the source area, show no significant trend.
- Concentrations of PCE at offsite monitoring well MWOS-09R shows a statistically significant increasing PCE trend, with results of 20 µg/L during first quarter and 16 µg/L in the third quarter. The concentration remains well below the Fiero Residential SSVIAC of 130 µg/L. In addition, the other nearby offsite monitoring wells, MWOS-08 and MWOS-10 continue to show non-detect values of PCE.
- Southern property boundary well MW-02-17 previously showed no significant trend but has since changed to a decreasing trend.
- ZVI pilot test performance monitoring well MW-16-22, previously showed a decreasing trend but has since changed to no significant trend.
- Source upgradient boundary monitoring well MWF16-12, previously showed no significant trend but has since changed to a decreasing trend.
- All other sampled locations continue to show no significant or decreasing trends.

TCE: Statistical trends for TCE vary across the Site. Stability analysis results for TCE in groundwater are summarized in **Figure 6B**.

- Concentrations at MW-02-17, located near the southwest property boundary shows an increasing trend in TCE, but remains below the Fiero Residential SSVIAC. The TCE concentration at MW-02-17 was 6 and 4 µg/L in first and third quarter 2024, respectively.
- Monitoring well MWF16-18, located near a source area, continues to show an increasing trend with a concentration of 40 µg/L TCE during the first and third quarter 2024.
- MWF16-15, interior to the Site, continues to show an increasing trend, but decreased to 4 µg/L during the third quarter sampling event.
- Concentrations at MW-09-22, located near a source, previously showed no significant trend but has since changed to increasing trend but remains below Fiero Residential SSVIAC.
- Monitoring well MW-16-22, located downgradient of the ZVI transect, previously showed a decreasing trend but has changed to no significant trend.
- Monitoring well MW-14-22, located downgradient of the ZVI transect has shown an overall increasing trend but has been stable since September 2022.
- TCE in groundwater at MW-06-20, located near the southwest property boundary, previously showed an increasing trend but has since changed to no significant trend.

- Concentrations in monitoring well MW-08-21, located near the southwest property boundary, previously showed an increasing trend but has since changed to no significant trend.
- Concentrations at MW-07-20, located near the southwest property boundary, previously showed no significant trend but has since changed to a decreasing trend.
- MWF16-23, located near the southwest property boundary, previously showed no significant trend but now shows a decreasing trend.
- All other sampled locations continue to show no significant or decreasing trends.

Cis-1,2-DCE: Cis-1,2-DCE generally show no significant to decreasing trends across the Site with a few exceptions. Stability analysis results for cis-1,2-DCE in groundwater are summarized in **Figure 6C**.

- Cis-1,2-DCE in groundwater continues to show an increasing trend at MWF16-18 located near a source area.
- Monitoring well MWF16-25, near the southwest property boundary, continues to show a statistically significant increasing trend, but remains below Fiero Residential SSVIAC and has had no significant trend to decreasing since reaching a maximum of 44 µg/L in September 2023.
- Monitoring well MWF16-16, located near a source area, previously had no significant trend and now shows an increasing trend.
- Monitoring wells MWF16-06, located at the east side of the property, and MWF16-23, located near the southwest property boundary previously had no significant trend but now show decreasing trends.
- Offsite wells MWOS-09R and MWOS-10 previously had no significant trend but now show a decreasing trend.
- All other sampled locations continue to show no significant or decreasing trends.

3.4 Soil Gas Results

To monitor for potential vapor intrusion concerns, soil vapor samples were collected from on-site and off-site SVMP's (SV-01-21 through SV-06-21) on a semi-annual basis. SV-07-24 and SV-08-24 were installed on July 1, 2024, and sampled with the other six SVMPs during the third and fourth quarter events. SV-07-24 and SV-08-24 were also sampled on July 15th, 2024. A summary of the installation and completion activities for SV-07-24 and SV-08-24 can be found in the *Draft Fiero Right of Way Soil Vapor Monitoring Point Installation and Sampling Memo* submitted to the USEPA on December 27th, 2024 (Arcadis 2024b). The location of the SVMPs and a summary of the analytical results are shown on **Figure 7**. Complete analytical results are provided in **Table 3**. The following summarizes the results of soil vapor results:

- All SVMP (SV-01-21 through SV-08-24) sample results were below Residential SSVIAC for all COCs in 2024.
- Offsite shallow SVMPs (i.e., SV-03-21, SV-05-21, SV-07-24) installed at typical basement depth (11.5 to 12 ft bgs) were non-detect for all COCs.

3.5 Soil Vapor Stability Analysis

Mann-Kendall trend tests were conducted at all SVMPs with sufficient data for detectable constituents, and coefficient of variation values were calculated. The Mann-Kendall trend analysis included all data collected from the SVMPs since installation in 2021 through August 2024. The methodology, summary of results, figures, and trend graphs associated with the Mann-Kendall trend analysis, as well as concentration over time trend graphs for SVMPs that did not meet the criteria for Mann-Kendall analysis, are included in **Appendix E**.

Key findings of the trend analysis include the following:

- Although most SVMP locations did not meet Mann-Kendall Criteria for valid analysis, PCE in soil vapor shows no significant trend at the locations where criteria were met (SV-01-21, SV-02-21). Stability analysis results for PCE in soil vapor are summarized in **Figure 8A**.
- Although most SVMP locations did not meet Mann-Kendall Criteria for valid analysis, TCE in soil vapor shows no significant or decreasing trends at the locations where criteria were met (SV-01-21, SV-02-21, SV-04-21, SV-06-21). Stability analysis results for TCE in soil vapor are summarized in **Figure 8B**.

3.6 Analytical Data Quality Assurance / Quality Control

For lab analysis quality control, one duplicate sample was collected for every ten groundwater samples, and one matrix spike/matrix spike duplicate (MS/MSD) was collected for every 20 groundwater samples. Furthermore, one trip blank was collected for each sample set which included analysis for cVOCs. Within a day after delivery of each set of samples to Merit Laboratories, a sample set receipt was issued from the laboratory and checked for any inconsistencies with the Chain of Custody (COC) and planned reference test methods. No issues with hold times or inconsistencies were noted for the 2024 FTMP groundwater sampling events conducted.

Standard Level II laboratory analytical reports were delivered for each COC in both pdf files and electronic data deliverable (EDD) packages, followed by laboratory quality control reports. EDD files were uploaded to the project database from which tables were developed, and results were checked against the laboratory reports and evaluated with respect to data flags as well as consistency with past results. For the 2024 FTMP data, there were no trip blank detections, and duplicate sample results were representative of matched samples. All data collected was usable with no notable variances.

4 Conclusions

This FTMP consisted of routine semi-annual monitoring in 2024, with the addition of quarterly monitoring of MWOS-10 per USEPA request and quarterly sampling of new SVMPs SV-07-24 and SV-08-24. The objective of the FTMP was to collect additional data to further evaluate the potential for cVOC migration, as well as concentration trends for cVOCs in groundwater and soil vapor. Conclusions from the 2024 FTMP are summarized below:

- Based on the data collected and analyses completed there is not an imminent risk of vapor intrusion at the off-site structures. Note that the northern residential structure on the west side of St. Clair Street near MWOS-10 was destroyed by fire during the first quarter of 2022 and demolished. The parcel is currently vacant.
- There were no exceedances of Nonresidential SSVIAC for cVOCs in groundwater on-site.

- The only compound detected in groundwater off-site above the Residential SSVIAC was TCE from monitoring well location MWOS-10 during the first quarter sampling event. MWOS-10 was below Residential SSVIAC during the second, third and fourth quarter events. The TCE concentration at MWOS-10 shows statistically no significant trend.
- There were no exceedances of the soil gas Residential SSVIAC at perimeter SVMP locations during the four quarters of sampling completed in 2024.
- On-site concentrations of PCE primarily show no significant trend, except at four locations (MWF7-02, MW-14-22, MWF16-16, and MWOS-09R) that exhibit statistically significant increasing trends. Monitoring wells within 100-ft of the property boundary and offsite did not exceed PCE Residential SSVIAC in 2024.
- On-site concentration trends of TCE vary across the Site with several locations (MW-02-17, MW-09-22, MW-14-22, MWF16-15, and MWF16-18) exhibiting statistically significant increasing trends. Monitoring wells within 100-ft of the property boundary and offsite (MWF16-23, MW-06-20, and MWOS-10) exceeded TCE Residential SSVIAC at some point in 2024, but all exhibit no significant trends to decreasing trends for TCE.
- Concentrations of cis-1,2-DCE generally show no significant to decreasing trends across the Site with three monitoring wells (MWF16-25, MWF16-16, and MWF16-18) exhibiting statistically significant increasing trends. Monitoring wells within 100-ft of the property boundary and offsite did not exceed cis-1,2-DCE Residential SSVIAC in 2024.
- Off-site monitoring results for PCE, TCE, and cis-1,2-DCE show no significant to decreasing trends, except for PCE at MWOS-09R, which remains below Residential SSVIAC.

5 Recommendations

Based on the 2024 sampling results it is recommended to continue monitoring select monitoring wells within the source area, along the plume core, downgradient near the property boundary, and off-site on a semi-annual frequency. The proposed monitoring locations, monitoring frequency and analytical parameters are summarized and illustrated in **Appendix F**. RACER proposes two changes to the scope: 1) the sampling frequency for MWOS-10 be reduced from quarterly to semiannually, and 2) vapor probes SV-07-24 and SV-08-24 will be sampled during the first and second quarter 2025, and depending on the results, the sampling frequency will be reduced to semi-annual. These changes will be implemented only upon USEPA approval. As previous, the 2025 FTMP will be completed in parallel with the overall Groundwater Monitoring Plan (GMP) (Arcadis 2024c).

Groundwater gauging and sampling methodology of the 2025 FTMP will be consistent with the USEPA approved 2024 FTMP, which utilizes the USEPA Low-Stress (or Low-Flow) Purging and Sampling Procedure (USEPA 2017) described in Sections 2.1 and 2.2. All samples will be submitted for laboratory analysis of cVOCs via USEPA Method 8260. Additional recommended changes to the FTMP for 2025 include moving MWOS-10 from quarterly to semi-annual sampling frequency.

In addition to groundwater monitoring, soil vapor will be sampled from the existing soil vapor monitoring probes (SVMPs) on a semi-annual frequency (except for SV-07-24 and SV-08-24 as noted above). The methodology of the 2025 FTMP will be consistent with the 2024 FTMP as described in Section 2.3 above. Samples will be analyzed for Fiero site-specific cVOCs in accordance with USEPA Method TO-15.

This FTMP will be executed for 2025 at which time an assessment will be completed to evaluate appropriate changes or modifications for 2026. After each event for 2025, the data results will be communicated to USEPA during regularly scheduled meetings. Following completion of the 2025 FTMP a summary report will be provided to USEPA and include:

- Written summary of field activities
- Figures and tables summarizing the analytical results.
- Groundwater elevation contour maps for the semi-annual gauging events
- cVOC trend graphs and a summary of Mann-Kendall stability analysis for wells with exceedances of Residential SSVIAC. The Mann-Kendall analysis can be utilized when the following criteria are met:
 - Include data collected after 2017, when sampling frequency increased and following a spike in concentrations observed at certain monitoring wells due to deteriorating concrete slab conditions.
 - At least 5 data samples collected after 2017.
 - Of the samples collected after 2017, at least 50% of the samples have detections.
- Based on the above criteria for Mann-Kendall, some wells do not have sufficient data to perform the Mann-Kendall analysis. For those wells a concentration over time graph will be developed.

6 References

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U.S. Environmental Protection Agency (USEPA; Region I). 1996. Low-Stress (or Low-Flow) Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells – Revision 4. July 30, 1996; Revised September 19, 2017.

Tables

Table 1
2024 Groundwater Elevation Summary
2024 Fiero Temporary Groundwater Monitoring Plan Summary
RACER Trust Pontiac North Campus
Pontiac, Michigan



Well ID	Ground Elevation	Well Elevation ¹	Total Depth (ft) ²	1st Quarter			3rd Quarter		
				Date	Depth to Water (ft) ²	Groundwater Elevation ¹	Date	Depth to Water (ft) ²	Groundwater Elevation ¹
Former Fiero Powerhouse									
MW-02-17	973.53	972.52	29.70	3/25/2024	25.55	946.97	9/23/2024	25.57	946.95
MW-05-18	976.03	975.21	33.59	3/25/2024	26.99	948.22	9/23/2024	26.53	948.68
MW-06-20	975.54	974.97	29.22	3/25/2024	25.84	949.13	9/23/2024	25.72	949.25
MW-07-20	975.48	975.06	30.19	3/25/2024	26.41	948.65	9/23/2024	26.31	948.75
MW-08-21	976.04	975.50	30.27	3/25/2024	26.58	948.92	9/23/2024	26.52	948.98
MW-13-22	973.17	972.62	26.71	3/25/2024	21.06	951.56	--	--	--
MW-14-22	973.21	972.71	34.64	3/25/2024	22.34	950.37	--	--	--
MW-15-22	972.97	972.66	35.95	3/25/2024	22.46	950.20	--	--	--
MW-16-22	972.84	972.50	34.49	3/25/2024	26.43	946.07	9/23/2024	26.29	946.21
MWF7-02	NA	970.58	20.30	3/25/2024	--	--	9/23/2024	18.17	952.41
MWF7-03	973.63	973.31	37.51	3/25/2024	21.40	951.91	9/23/2024	21.30	952.01
MWF12-01R	964.97	967.99	23.22	3/25/2024	20.07	947.92	9/23/2024	20.11	947.88
MWF12-02R	962.38	961.91	22.47	3/25/2024	13.30	948.61	9/23/2024	13.38	948.53
MWF15-01	NA	969.35	28.74	3/25/2024	18.61	950.74	9/23/2024	18.56	950.79
MWF16-07	973.36	972.65	17.43	3/25/2024	5.38	967.27	9/23/2024	5.62	967.03
MWF16-15	973.30	972.71	35.46	3/25/2024	21.83	950.88	9/23/2024	21.69	951.02
MWF16-23	973.82	973.39	30.47	3/25/2024	23.81	949.58	9/23/2024	23.65	949.74
Unknown-01	969.51	969.16	24.06	3/25/2024	18.44	950.72	9/23/2024	18.36	950.80
Former Fiero Assembly									
MW-09-22	973.83	973.46	32.81	3/25/2024	21.04	952.42	9/24/2024	21.75	951.71
MW-11-22	977.42	976.75	34.68	3/25/2024	27.36	949.39	9/23/2024	27.30	949.45
MWF2	NA	971.74	60.20	3/25/2024	32.45	939.29	9/23/2024	32.33	939.41
MWF8-01	NA	972.94	27.61	3/25/2024	18.50	954.44	9/23/2024	18.26	954.68
TW-12-22	973.52	973.39	32.71	3/25/2024	22.80	950.59	9/23/2024	22.53	950.86
MWF16-05	973.95	973.68	22.79	3/25/2024	20.39	953.29	9/24/2024	20.11	953.57
MWF16-06	974.02	973.77	28.66	3/25/2024	14.41	959.36	9/23/2024	14.65	959.12
MWF16-12	973.60	973.20	18.88	3/25/2024	13.68	959.52	9/24/2024	13.15	960.05
MWF16-16	973.44	973.22	31.24	3/25/2024	22.40	950.82	9/23/2024	22.30	950.92
MWF16-17	973.70	973.32	31.80	3/25/2024	20.02	953.30	9/23/2024	19.78	953.54
MWF16-18	973.60	973.22	31.94	3/25/2024	20.85	952.37	9/26/2024	20.70	952.52
MWF16-22	973.50	973.18	33.93	3/25/2024	23.45	949.73	9/26/2024	23.10	950.08
MWF16-24	973.64	973.38	29.90	3/25/2024	22.98	950.40	9/23/2024	22.79	950.59
MWF16-25	NA	975.24	35.67	3/25/2024	27.60	947.64	9/23/2024	25.73	949.51
MWF16-26	NA	974.14	35.84	3/25/2024	24.33	949.81	9/23/2024	24.22	949.92
Offsite									
MWOS-08	975.55	975.09	28.80	3/25/2024	25.90	949.19	9/23/2024	25.70	949.39
MWOS-09R	976.68	976.18	32.18	3/25/2024	27.10	949.08	9/23/2024	26.96	949.22
MWOS-10	977.01	976.55	32.74	3/25/2024	28.25	948.30	9/23/2024	28.20	948.35

Table 1
 2024 Groundwater Elevation Summary
 2024 Fiero Temporary Groundwater Monitoring Plan Summary
 RACER Trust Pontiac North Campus
 Pontiac, Michigan



Well ID	Ground Elevation	Well Elevation ¹	Total Depth (ft) ²	Date	Depth to Water (ft) ²	Groundwater Elevation ¹	Date	Depth to Water (ft) ²	Groundwater Elevation ¹
Fiero Parking Lot									
PZF17-02	977.70	977.43	31.48	3/25/2024	23.95	953.48	9/26/2024	23.72	953.71
PZF17-04	972.90	972.47	28.85	3/25/2024	19.99	952.48	9/26/2024	19.78	952.69
PZF17-05	976.43	975.97	33.99	3/25/2024	32.11	943.86	9/23/2024	25.80	950.17

Abbreviations:

ft - feet

NA - Not Available

-- Not gauged

Notes:

1. MWF7-02 was dry during the 1Q gauging event
2. MWF16-18 and MWF16-22 were covered by debris during the 3Q event, and were gauged three days later when the debris was moved.
3. MW-09-22, MWF16-05, and MWF16-12 were covered by roll-offs during the 3Q gauging event, and were gauged the next day after they were uncovered.
4. PZF17-02 and PZF17-04 were behind a locked gate during the 3Q gauging event, and were gauged three days after the gauging event when we received an
5. MW-13-22, MW-14-22, and MW-15-22 were not gauged in Q3 2024 as ZVI monitoring was discontinued after Q1.

Footnotes:

¹ Top of Temporary Well Casing/Stickup Elevation is in feet National Vertical Geodetic Datum (1988).

² Measurements collected from top of temporary well casing/stickup.

Table 2
Summary of Groundwater Analytical Results for Detected VOC's
2024 Fiero Temporary Groundwater Monitoring Plan Summary
RACER Trust Pontiac North Campus
Pontiac, Michigan



VOC's		1,1,1-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2-Dichloroethane	Carbon Tetrachloride	Chloroform	cis-1,2-Dichloroethene	Tetrachloroethene	trans-1,2-Dichloroethene	Trichloroethene	Vinyl Chloride
Parameters	Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Res Fiero SSVIAC SOG		22,000	160	410	50	14	19	110	250	480	15	2.2
Res Fiero SSVIAC BASE		11,000	88	220	27	7.2	10	62	130	260	8.1	1.2
NR Fiero SSVIAC <50k SOG		210,000	5,300	8,300	1,600	440	610	2,300	3,400	9,800	210	260
NR Fiero SSVIAC <50k BASE		92,000	2,400	3,800	750	190	270	1,100	1,500	4,500	93	120
NR Fiero SSVIAC >50k SOG		310,000	8,000	13,000	2,500	650	910	3,500	5,000	15,000	310	390
NR Fiero SSVIAC >50k BASE		140,000	3,600	5,700	1,100	290	410	1,600	2,200	6,700	140	180

Sample Location	Sample Date	Sample Type											
MW-02-17	4/21/2017	Duplicate	< 1 U	2	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	12	< 1 U	1	< 1 U
MW-02-17	7/20/2017		3	2	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	5	< 1 U	2	< 1 U
MW-02-17	7/20/2017		4	2	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	5	< 1 U	2	< 1 U
MW-02-17	10/23/2017		5	2	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	10	< 1 U	2	< 1 U
MW-02-17	1/15/2018		8	2	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	11	< 1 U	2	< 1 U
MW-02-17	10/2/2018		6	2	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	6	< 1 U	2	< 1 U
MW-02-17	10/7/2019		7	2	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	10	< 1 U	4	< 1 U
MW-02-17	10/13/2020		6	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	3	< 1 U	2	< 1 U
MW-02-17	6/7/2021		10	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	8	< 1 U	2	< 1 U
MW-02-17	10/19/2021		2	1	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	5	< 1 U	7	< 1 U
MW-02-17	12/14/2021	Duplicate	< 1 U	2	< 1 U	< 1 U	< 1 U	< 1 U	1	< 1 U	2	7	< 1 U
MW-02-17	3/22/2022		2	2	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	3	< 1 U	5	< 1 U
MW-02-17	3/22/2022		2	2	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	4	< 1 U	5	< 1 U
MW-02-17	5/31/2022		< 1 U	2	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	3	< 1 U	5	< 1 U
MW-02-17	9/22/2022		6	2	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	8	< 1 U	2	< 1 U
MW-02-17	11/29/2022		8	3	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	7	< 1 U	< 1 U	< 1 U
MW-02-17	6/6/2023		2	1	< 1 U	< 1 U	< 1 U	< 1 U	1	5	1	5	< 1 U
MW-02-17	9/12/2023		3	2	< 1 U	< 1 U	< 1 U	< 1 U	1	7	< 1 U	4	< 1 U
MW-02-17	12/1/2023		2	2	< 1 U	< 1 U	< 1 U	< 1 U	2	6	1	7	< 1 U
MW-02-17	3/27/2024		< 1 U	2	< 1 U	< 1 U	< 1 U	< 1 U	3	2	3	6	< 1 U
MW-02-17	9/26/2024		1	2	< 1 U	< 1 U	< 1 U	< 1 U	1	3	2	4	< 1 U
MW-05-18	10/1/2018	Duplicate	4	4	< 1 U	< 1 U	< 1 U	< 1 U	6	< 1 U	< 1 U	< 1 U	< 1 U
MW-05-18	10/1/2018		4	4	< 1 U	< 1 U	< 1 U	< 1 U	6	< 1 U	< 1 U	< 1 U	< 1 U
MW-05-18	10/7/2019		8	9	< 1 U	< 1 U	< 1 U	< 1 U	13	< 1 U	< 1 U	< 1 U	< 1 U
MW-05-18	8/31/2020		3	3	< 1 U	< 1 U	< 1 U	< 1 U	3	< 1 U	< 1 U	< 1 U	< 1 U
MW-05-18	10/13/2020		7	7	< 1 U	< 1 U	< 1 U	< 1 U	12	< 1 U	< 1 U	< 1 U	< 1 U
MW-05-18	12/7/2020		7	8	2	< 1 U	< 1 U	< 1 U	15	< 1 U	< 1 U	< 1 U	< 1 U
MW-05-18	3/9/2021		5	6	1	< 1 U	< 1 U	< 1 U	11	< 1 U	< 1 U	< 1 U	< 1 U
MW-05-18	6/7/2021		5	7	< 1 U	< 1 U	< 1 U	< 1 U	11	< 1 U	< 1 U	< 1 U	< 1 U
MW-05-18	10/18/2021		4	6	< 1 U	< 1 U	< 1 U	< 1 U	10	< 1 U	< 1 U	< 1 U	< 1 U
MW-05-18	3/22/2022		5	4	< 1 U	< 1 U	< 1 U	< 1 U	7	< 1 U	< 1 U	< 1 U	< 1 U
MW-05-18	5/31/2022		< 1 U	5	< 1 U	< 1 U	< 1 U	< 1 U	8	< 1 U	< 1 U	< 1 U	< 1 U
MW-05-18	9/20/2022		7	5	< 1 U	< 1 U	< 1 U	< 1 U	11	< 1 U	< 1 U	1	< 1 U
MW-05-18	11/29/2022		7	3	< 1 U	< 1 U	< 1 U	< 1 U	8	< 1 U	< 1 U	1	< 1 U
MW-05-18	6/6/2023		8	6	< 1 U	< 1 U	< 1 U	< 1 U	11	< 1 U	< 1 U	2	< 1 U
MW-05-18	9/12/2023		5	4	< 1 U	< 1 U	< 1 U	< 1 U	8	< 1 U	< 1 U	1	< 1 U
MW-05-18	12/1/2023		5	4	< 1 U	< 1 U	< 1 U	< 1 U	9	< 1 U	< 1 U	< 1 U	< 1 U
MW-05-18	3/27/2024		9	6	< 1 U	< 1 U	< 1 U	< 1 U	12	< 1 U	< 1 U	2	< 1 U
MW-05-18	9/25/2024			6	3	< 1 U	< 1 U	< 1 U	7	< 1 U	< 1 U	2	< 1 U

Table 2
Summary of Groundwater Analytical Results for Detected VOC's
2024 Fiero Temporary Groundwater Monitoring Plan Summary
RACER Trust Pontiac North Campus
Pontiac, Michigan



Parameters Units	VOC's										
	1,1,1-Trichloroethane ug/L	1,1-Dichloroethane ug/L	1,1-Dichloroethene ug/L	1,2-Dichloroethane ug/L	Carbon Tetrachloride ug/L	Chloroform ug/L	cis-1,2-Dichloroethene ug/L	Tetrachloroethene ug/L	trans-1,2-Dichloroethene ug/L	Trichloroethene ug/L	Vinyl Chloride ug/L
Res Fiero SSVIAC SOG	22,000	160	410	50	14	19	110	250	480	15	2.2
Res Fiero SSVIAC BASE	11,000	88	220	27	7.2	10	62	130	260	8.1	1.2
NR Fiero SSVIAC <50k SOG	210,000	5,300	8,300	1,600	440	610	2,300	3,400	9,800	210	260
NR Fiero SSVIAC <50k BASE	92,000	2,400	3,800	750	190	270	1,100	1,500	4,500	93	120
NR Fiero SSVIAC >50k SOG	310,000	8,000	13,000	2,500	650	910	3,500	5,000	15,000	310	390
NR Fiero SSVIAC >50k BASE	140,000	3,600	5,700	1,100	290	410	1,600	2,200	6,700	140	180

Sample Location	Sample Date	Sample Type											
MW-06-20	9/1/2020	Duplicate	4	7	< 1 U	< 1 U	< 1 U	< 1 U	7	< 1 U	< 1 U	7	< 1 U
MW-06-20	12/7/2020		4	8	< 1 U	< 1 U	< 1 U	< 1 U	7	< 1 U	< 1 U	8	< 1 U
MW-06-20	3/9/2021		4	10	< 1 U	< 1 U	< 1 U	< 1 U	8	< 1 U	< 1 U	11	< 1 U
MW-06-20	6/2/2021		5	9	< 1 U	< 1 U	< 1 U	< 1 U	8	< 1 U	< 1 U	12	< 1 U
MW-06-20	11/23/2021		3	4	< 1 U	< 1 U	< 1 U	< 1 U	5	< 1 U	< 1 U	8	< 1 U
MW-06-20	12/15/2021		3	3	< 1 U	< 1 U	< 1 U	< 1 U	4	< 1 U	< 1 U	8	< 1 U
MW-06-20	3/24/2022		3	5	< 1 U	< 1 U	< 1 U	< 1 U	6	< 1 U	< 1 U	8	< 1 U
MW-06-20	5/31/2022		3	7	< 1 U	< 1 U	< 1 U	< 1 U	7	< 1 U	< 1 U	9	< 1 U
MW-06-20	9/20/2022		3	6	< 1 U	< 1 U	< 1 U	< 1 U	6	< 1 U	1	9	< 1 U
MW-06-20	9/20/2022		3	5	< 1 U	< 1 U	< 1 U	< 1 U	6	< 1 U	1	9	< 1 U
MW-06-20	11/30/2022		4	7	< 1 U	< 1 U	< 1 U	< 1 U	10	< 1 U	1	12	< 1 U
MW-06-20	11/30/2022		4	7	< 1 U	< 1 U	< 1 U	< 1 U	10	< 1 U	1	12	< 1 U
MW-06-20	3/7/2023		5	7	< 1 U	< 1 U	< 1 U	< 1 U	7	< 1 U	< 1 U	14	< 1 U
MW-06-20	3/7/2023		5	7	< 1 U	< 1 U	< 1 U	< 1 U	7	< 1 U	< 1 U	14	< 1 U
MW-06-20	6/6/2023		3	5	< 1 U	< 1 U	< 1 U	< 1 U	6	< 1 U	< 1 U	12	< 1 U
MW-06-20	6/6/2023		3	5	< 1 U	< 1 U	< 1 U	< 1 U	6	< 1 U	< 1 U	12	< 1 U
MW-06-20	8/29/2023	Duplicate	3	4	< 1 U	< 1 U	< 1 U	< 1 U	7	< 1 U	< 1 U	9	< 1 U
MW-06-20	8/29/2023		3	4	< 1 U	< 1 U	< 1 U	< 1 U	7	< 1 U	< 1 U	9	< 1 U
MW-06-20	11/30/2023		4	4	< 1 U	< 1 U	< 1 U	< 1 U	3	< 1 U	< 1 U	9	< 1 U
MW-06-20	3/29/2024		3	4	< 1 U	< 1 U	< 1 U	< 1 U	3	< 1 U	< 1 U	10	< 1 U
MW-06-20	9/24/2024		3	5	< 1 U	< 1 U	< 1 U	< 1 U	5	5	1	8	< 1 U
MW-07-20	8/31/2020		5	9	< 1 U	< 1 U	< 1 U	< 1 U	9	< 1 U	< 1 U	2	< 1 U
MW-07-20	12/7/2020		5	10	< 1 U	< 1 U	< 1 U	< 1 U	12	< 1 U	< 1 U	2	< 1 U
MW-07-20	3/12/2021		5	12	< 1 U	< 1 U	< 1 U	< 1 U	15	< 1 U	< 1 U	3	< 1 U
MW-07-20	6/7/2021		5	12	< 1 U	< 1 U	< 1 U	< 1 U	13	< 1 U	< 1 U	3	< 1 U
MW-07-20	3/22/2022		5	7	< 1 U	< 1 U	< 1 U	< 1 U	10	< 1 U	< 1 U	2	< 1 U
MW-07-20	5/31/2022		5	8	< 1 U	< 1 U	< 1 U	< 1 U	15	< 1 U	< 1 U	3	< 1 U
MW-07-20	9/20/2022		5	7	< 1 U	< 1 U	< 1 U	< 1 U	9	< 1 U	< 1 U	2	< 1 U
MW-07-20	11/29/2022		5	7	< 1 U	< 1 U	< 1 U	< 1 U	13	< 1 U	< 1 U	2	< 1 U
MW-07-20	6/6/2023		4	6	< 1 U	< 1 U	< 1 U	< 1 U	7	< 1 U	< 1 U	2	< 1 U
MW-07-20	12/1/2023		6	9	< 1 U	< 1 U	< 1 U	< 1 U	6	1	< 1 U	1	< 1 U
MW-07-20	3/27/2024		6	9	< 1 U	< 1 U	< 1 U	< 1 U	10	< 1 U	< 1 U	< 1 U	< 1 U
MW-07-20	9/25/2024		5	6	< 1 U	< 1 U	< 1 U	< 1 U	13	< 1 U	< 1 U	< 1 U	< 1 U

Table 2
Summary of Groundwater Analytical Results for Detected VOC's
2024 Fiero Temporary Groundwater Monitoring Plan Summary
RACER Trust Pontiac North Campus
Pontiac, Michigan



		VOC's											
		Parameters	1,1,1-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2-Dichloroethane	Carbon Tetrachloride	Chloroform	cis-1,2-Dichloroethene	Tetrachloroethene	trans-1,2-Dichloroethene	Trichloroethene	Vinyl Chloride
		Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
		Res Fiero SSVIAC SOG	22,000	160	410	50	14	19	110	250	480	15	2.2
		Res Fiero SSVIAC BASE	11,000	88	220	27	7.2	10	62	130	260	8.1	1.2
		NR Fiero SSVIAC <50k SOG	210,000	5,300	8,300	1,600	440	610	2,300	3,400	9,800	210	260
		NR Fiero SSVIAC <50k BASE	92,000	2,400	3,800	750	190	270	1,100	1,500	4,500	93	120
		NR Fiero SSVIAC >50k SOG	310,000	8,000	13,000	2,500	650	910	3,500	5,000	15,000	310	390
		NR Fiero SSVIAC >50k BASE	140,000	3,600	5,700	1,100	290	410	1,600	2,200	6,700	140	180
Sample Location	Sample Date	Sample Type											
MW-14-22	3/23/2022		10	5	< 1 U	< 1 U	1	< 1 U	10	52	2	12	< 1 U
MW-14-22	6/1/2022		< 1 U	6	< 1 U	< 1 U	2	< 1 U	13	67	2	16	< 1 U
MW-14-22	9/21/2022		10	4	< 1 U	< 1 U	2	< 1 U	12	89	1	19	< 1 U
MW-14-22	11/28/2022		9	4	< 1 U	< 1 U	2	1	14	98	1	18	< 1 U
MW-14-22	3/7/2023		6	< 1 U	< 1 U	< 1 U	3	1	8	100	< 1 U	15	< 1 U
MW-14-22	6/6/2023		13	2	< 1 U	< 1 U	5	1	5	212 E	< 1 U	22	< 1 U
MW-14-22	8/30/2023		10 Y	< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	20 Y	200 Y	< 10 UY	20 Y	< 10 UY
MW-14-22	11/29/2023		10 Y	< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	30 Y	180 Y	< 10 UY	20 Y	< 10 UY
MW-14-22	3/28/2024		13	13	1	< 1 U	5	2	43	139	2	22	< 1 U
MW-15-22	11/29/2022	Duplicate	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
MW-15-22	11/29/2022		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
MW-15-22	3/7/2023		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
MW-15-22	3/7/2023		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
MW-15-22	6/6/2023		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
MW-15-22	6/6/2023		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
MW-15-22	8/29/2023		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
MW-15-22	8/29/2023		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
MW-15-22	11/29/2023		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
MW-15-22	11/29/2023	Duplicate	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
MW-15-22	3/28/2024		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
MW-15-22	3/28/2024		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
MW-16-22	11/29/2022	Duplicate	10	12	1	< 1 U	4	4	55	310 D	4	27	< 1 U
MW-16-22	4/7/2023		< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	20 Y	300 Y	< 10 UY	10 Y	< 10 UY
MW-16-22	6/6/2023		< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	10 Y	180 Y	< 10 UY	10 Y	< 10 UY
MW-16-22	9/7/2023		< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	120 Y	170 Y	< 10 UY	20 Y	< 10 UY
MW-16-22	11/29/2023		2	1	< 1 U	< 1 U	< 1 U	< 1 U	8	94	< 1 U	3	< 1 U
MW-16-22	3/28/2024		3	4	< 1 U	< 1 U	< 1 U	< 1 U	12	260 Y	1	12	< 1 U
MW-16-22	5/28/2024		5	4	< 1	< 1	1	1	22	416	2	17 B	< 1
MW-16-22	5/28/2024		5	4	< 1	< 1	1	1	23	423	2	17 B	< 1
MW-16-22	9/24/2024		3 r	6 r	< 1 Ur	< 1 Ur	< 1 Ur	< 1 Ur	16 r	250 Yr	2 r	11 r	< 1 Ur

Table 2
Summary of Groundwater Analytical Results for Detected VOC's
2024 Fiero Temporary Groundwater Monitoring Plan Summary
RACER Trust Pontiac North Campus
Pontiac, Michigan



		VOC's											
		Parameters	1,1,1-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2-Dichloroethane	Carbon Tetrachloride	Chloroform	cis-1,2-Dichloroethene	Tetrachloroethene	trans-1,2-Dichloroethene	Trichloroethene	Vinyl Chloride
		Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
		Res Fiero SSVIAC SOG	22,000	160	410	50	14	19	110	250	480	15	2.2
		Res Fiero SSVIAC BASE	11,000	88	220	27	7.2	10	62	130	260	8.1	1.2
		NR Fiero SSVIAC <50k SOG	210,000	5,300	8,300	1,600	440	610	2,300	3,400	9,800	210	260
		NR Fiero SSVIAC <50k BASE	92,000	2,400	3,800	750	190	270	1,100	1,500	4,500	93	120
		NR Fiero SSVIAC >50k SOG	310,000	8,000	13,000	2,500	650	910	3,500	5,000	15,000	310	390
		NR Fiero SSVIAC >50k BASE	140,000	3,600	5,700	1,100	290	410	1,600	2,200	6,700	140	180
Sample Location	Sample Date	Sample Type											
MWF7-02	10/11/2001	Duplicate	10	23	20	< 0.21 U	< 0.12 U	9.5	0.56	4.7	< 0.15 U	0.42 J	< 0.15 U
MWF7-02	1/9/2002		7.4	11	9.1	< 1.0 U	< 1.0 U	8.5	0.33 J	6.3	< 0.50 U	0.39 J	< 1.0 U
MWF7-02	12/16/2003		1.2	9.5	3.0	< 1.0 U	< 1.0 U	0.27 J	1.7	1.8	0.25 J	< 1.0 U	< 1.0 U
MWF7-02	9/22/2016		106	50	20	1	< 1 U	2	5	34 J	< 1 U	4	< 1 U
MWF7-02	4/21/2017		52	34	9	< 1 U	< 1 U	< 1 U	2	27	< 1 U	3	< 1 U
MWF7-02	10/24/2017		76	51	14	< 1 U	< 1 U	1	3	26	< 1 U	4	< 1 U
MWF7-02	10/24/2017		78	52	14	< 1 U	< 1 U	1	3	26	< 1 U	4	< 1 U
MWF7-02	10/4/2018		73	48	11	< 1 U	< 1 U	1	3	34	< 1 U	3	< 1 U
MWF7-02	10/4/2018		73	48	11	< 1 U	< 1 U	< 1 U	3	33	< 1 U	3	< 1 U
MWF7-02	10/7/2019		60	38	10	< 1 U	< 1 U	< 1 U	3	54	< 1 U	3	< 1 U
MWF7-02	10/13/2020		77	24	15	< 1 U	< 1 U	1	3	70	< 1 U	3	< 1 U
MWF7-02	6/8/2021		96	15	20	2	< 1 U	2	3	82	< 1 U	4	< 1 U
MWF7-02	10/18/2021		95	29	11	< 1 U	< 1 U	< 1 U	3	84	< 1 U	4	< 1 U
MWF7-02	3/23/2022		88	12	13	< 1 U	< 1 U	1	2	95	< 1 U	4	< 1 U
MWF7-02	6/1/2022		76	13	11	< 1 U	< 1 U	< 1 U	2	77	< 1 U	3	< 1 U
MWF7-02	9/20/2022		115	12	15	1	< 1 U	1	2	115	< 1 U	5	< 1 U
MWF7-02	11/29/2022		100	8	13	< 1 U	< 1 U	1	1	95	< 1 U	4	< 1 U
MWF7-02	6/7/2023		81	15	8	< 1 U	< 1 U	< 1 U	2	84	< 1 U	4	< 1 U
MWF7-02	9/12/2023		72	20	7	< 1 U	< 1 U	< 1 U	2	89	< 1 U	4	< 1 U
MWF7-02	9/25/2024		68	18	9	< 1 U	< 1 U	< 1 U	2	76	< 1 U	3	< 1 U
MWF15-01	10/11/2001		< 0.15 U	7.6	< 0.24 U	< 0.21 U	< 0.12 U	0.54 J	< 0.22 U	0.28 J	< 0.15 U	< 0.14 U	< 0.15 U
MWF15-01	1/9/2002		0.61 J	2.0	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 0.50 U	< 1.0 U	< 0.50 U	< 1.0 U	< 1.0 U
MWF15-01	6/8/2021		3	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
MWF15-01	6/7/2023		4	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
MWF15-01	12/4/2023		5	1	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
MWF15-01	3/26/2024		5	1	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
MWF15-01	9/25/2024		4	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
MWF16-05	11/22/2004	Duplicate	16	< 5.0 U	1.6 J	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	93	< 5.0 U	5.9	< 5.0 U
MWF16-05	11/22/2004		21	< 6.7 U	1.8 J	< 6.7 U	< 6.7 U	< 6.7 U	3.4 J	140	< 6.7 U	15	< 6.7 U
MWF16-05	11/16/2006		1.9	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	41	< 1.7 U	1.1 J	< 1.7 U
MWF16-05	11/16/2006		2.1	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	37	< 1.0 U	1.0	< 1.0 U
MWF16-05	10/25/2017		2	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	12	< 1 U	3	< 1 U
MWF16-05	12/8/2020		< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	470 Y	< 10 UY	30 Y	< 10 UY
MWF16-05	3/10/2021		< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	530 Y	< 10 UY	30 Y	< 10 UY
MWF16-05	6/3/2021		< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	690 Y	< 10 UY	40 Y	< 10 UY
MWF16-05	3/24/2022		< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	480 Y	< 10 UY	20 Y	< 10 UY
MWF16-05	6/2/2022		< 20 UY	< 20 UY	< 20 UY	< 20 UY	< 20 UY	< 20 UY	< 20 UY	420 Y	< 20 UY	< 20 UY	< 20 UY
MWF16-05	9/22/2022		< 20 UY	< 20 UY	< 20 UY	< 20 UY	< 20 UY	< 20 UY	< 20 UY	680 Y	< 20 UY	30 Y	< 20 UY
MWF16-05	11/29/2022		< 20 UY	< 20 UY	< 20 UY	< 20 UY	< 20 UY	< 20 UY	< 20 UY	730 Y	< 20 UY	30 Y	< 20 UY
MWF16-05	3/8/2023		4	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	550 Y	< 1 U	23	< 1 U
MWF16-05	6/8/2023		< 20 UY	< 20 UY	< 20 UY	< 20 UY	< 20 UY	< 20 UY	< 20 UY	500 Y	< 20 UY	< 20 UY	< 20 UY
MWF16-05	9/7/2023		< 20 UY	< 20 UY	< 20 UY	< 20 UY	< 20 UY	< 20 UY	< 20 UY	490 Y	< 20 UY	< 20 UY	< 20 UY
MWF16-05	11/30/2023		< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	250 Y	< 10 UY	< 10 UY	< 10 UY
MWF16-05	3/26/2024		< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	550 Y	< 10 UY	< 10 UY	< 10 UY
MWF16-05	9/25/2024		< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	390 Y	< 10 UY	< 10 UY	< 10 UY
MWF16-06	11/23/2004		97	60	24	< 3.3 U	9.1	33	14	9.4	0.62 J	2.6 J	< 3.3 U
MWF16-06	11/16/2006		29	14	6.9	< 1.0 U	2.9	9.0	4.9	4.9	0.28 J	1.3	< 1.0 U
MWF16-06	4/28/2017		< 1 U	167	24	2	19	160	28	43	< 1 U	11	< 1 U
MWF16-06	10/4/2018		163 Y	47 Y	9 Y	< 5 UY	14 Y	38 Y	12 Y	70 Y	< 5 UY	12 Y	< 5 UY

Table 2
Summary of Groundwater Analytical Results for Detected VOC's
2024 Fiero Temporary Groundwater Monitoring Plan Summary
RACER Trust Pontiac North Campus
Pontiac, Michigan



VOC's														
			Parameters	1,1,1-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2-Dichloroethane	Carbon Tetrachloride	Chloroform	cis-1,2-Dichloroethene	Tetrachloroethene	trans-1,2-Dichloroethene	Trichloroethene	Vinyl Chloride
			Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
			Res Fiero SSVIAC SOG	22,000	160	410	50	14	19	110	250	480	15	2.2
			Res Fiero SSVIAC BASE	11,000	88	220	27	7.2	10	62	130	260	8.1	1.2
			NR Fiero SSVIAC <50k SOG	210,000	5,300	8,300	1,600	440	610	2,300	3,400	9,800	210	260
			NR Fiero SSVIAC <50k BASE	92,000	2,400	3,800	750	190	270	1,100	1,500	4,500	93	120
			NR Fiero SSVIAC >50k SOG	310,000	8,000	13,000	2,500	650	910	3,500	5,000	15,000	310	390
			NR Fiero SSVIAC >50k BASE	140,000	3,600	5,700	1,100	290	410	1,600	2,200	6,700	140	180
Sample Location	Sample Date	Sample Type												
MWF16-06	10/7/2019		164	67	12	1	13	34	17	76	< 1 U	12	< 1 U	
MWF16-06	10/15/2020		201 E	212 E	23 r	4 r	13 r	34 r	82 r	127 r	2 r	24 r	< 1 Ur	
MWF16-06	3/10/2021		190 Y	290 Y	30 Y	< 10 UY	< 10 UY	30 Y	150 Y	100 Y	< 10 UY	30 Y	< 10 UY	
MWF16-06	6/4/2021		210 Y	200 Y	20 Y	< 10 UY	10 Y	30 Y	90 Y	80 Y	< 10 UY	20 Y	< 10 UY	
MWF16-06	10/18/2021		106	19	4	< 1 U	10	18	4	56	< 1 U	5	< 1 U	
MWF16-06	3/23/2022		111	72	8	1	7	15	21	53	< 1 U	7	< 1 U	
MWF16-06	6/2/2022		134	133	12	2	9	17	53	66	1	10	< 1 U	
MWF16-06	9/22/2022		135	95	10	2	9	15	29	63	< 1 U	9	< 1 U	
MWF16-06	11/29/2022		145	61	8	1	10	13	19	44	< 1 U	8	< 1 U	
MWF16-06	6/9/2023		93	52	5	< 1 U	7	9	18	36	< 1 U	5	< 1 U	
MWF16-06	9/15/2023		90	8	2	< 1 U	8	7	2	36	< 1 U	4	< 1 U	
MWF16-06	11/28/2023		100	32	4	< 1 U	9	9	7	44	< 1 U	5	< 1 U	
MWF16-06	3/27/2024		98	70	7	1	7	10	17	53	< 1 U	6	< 1 U	
MWF16-06	9/27/2024		74	18	2	< 1 U	7	7	4	35	< 1 U	3	< 1 U	
MWF16-07	11/22/2004		< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	
MWF16-07	11/17/2006		< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 UJ	< 5.0 UJ	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	
MWF16-07	12/7/2020		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	
MWF16-07	6/7/2021		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	
MWF16-07	9/30/2022		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	
MWF16-07	6/7/2023		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	
MWF16-07	12/5/2023		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	
MWF16-07	3/27/2024		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	
MWF16-07	9/24/2024		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	1	< 1 U	< 1 U	< 1 U	
MWF16-12	5/13/2005		3.9	1.6	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	11	1.2	1.8	0.41 J	< 1.0 U	
MWF16-12	11/16/2006		7.8	2.1	0.46 J	< 1.0 U	< 1.0 U	0.17 J	3.6	6.8	0.57 J	0.81 J	< 1.0 U	
MWF16-12	3/10/2021		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	40	< 1 U	< 1 U	< 1 U	
MWF16-12	6/3/2021		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	43	< 1 U	< 1 U	< 1 U	
MWF16-12	3/24/2022		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	36	< 1 U	< 1 U	< 1 U	
MWF16-12	9/21/2022		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	50	< 1 U	< 1 U	< 1 U	
MWF16-12	6/8/2023		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	25	< 1 U	< 1 U	< 1 U	
MWF16-12	11/29/2023		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	9	< 1 U	< 1 U	< 1 U	
MWF16-12	3/28/2024		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	
MWF16-12	9/27/2024	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	2	< 1 U	< 1 U	< 1 U		

Table 2
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2024 Fiero Temporary Groundwater Monitoring Plan Summary
RACER Trust Pontiac North Campus
Pontiac, Michigan



VOC's												
Parameters	1,1,1-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2-Dichloroethane	Carbon Tetrachloride	Chloroform	cis-1,2-Dichloroethene	Tetrachloroethene	trans-1,2-Dichloroethene	Trichloroethene	Vinyl Chloride	
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	
Res Fiero SSVIAC SOG	22,000	160	410	50	14	19	110	250	480	15	2.2	
Res Fiero SSVIAC BASE	11,000	88	220	27	7.2	10	62	130	260	8.1	1.2	
NR Fiero SSVIAC <50k SOG	210,000	5,300	8,300	1,600	440	610	2,300	3,400	9,800	210	260	
NR Fiero SSVIAC <50k BASE	92,000	2,400	3,800	750	190	270	1,100	1,500	4,500	93	120	
NR Fiero SSVIAC >50k SOG	310,000	8,000	13,000	2,500	650	910	3,500	5,000	15,000	310	390	
NR Fiero SSVIAC >50k BASE	140,000	3,600	5,700	1,100	290	410	1,600	2,200	6,700	140	180	

Sample Location	Sample Date	Sample Type											
MWF16-15	5/16/2005		7.1	0.52 J	0.41 J	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	4.4	< 1.0 U	0.42 J	< 1.0 U
MWF16-15	11/17/2006		8.1	0.94 J	0.70 J	< 1.0 UJ	< 1.0 UJ	< 1.0 U	< 1.0 U	0.57 J	< 1.0 U	0.29 J	< 1.0 U
MWF16-15	9/22/2016		9	2	< 1 U	< 1 U	< 1 U	< 1 U	5	UJ	< 1 U	< 1 U	< 1 U
MWF16-15	4/27/2017		< 1 U	4	< 1 U	< 1 U	< 1 U	< 1 U	14	< 1 U	< 1 U	2	< 1 U
MWF16-15	10/25/2017		14	3	< 1 U	< 1 U	< 1 U	< 1 U	15	< 1 U	< 1 U	2	< 1 U
MWF16-15	9/1/2020		5	1	< 1 U	< 1 U	< 1 U	< 1 U	1	< 1 U	< 1 U	< 1 U	< 1 U
MWF16-15	6/7/2021		8	1	< 1 U	< 1 U	< 1 U	< 1 U	4	< 1 U	< 1 U	2	< 1 U
MWF16-15	3/23/2022		9	2	< 1 U	< 1 U	< 1 U	< 1 U	4	< 1 U	< 1 U	3	< 1 U
MWF16-15	9/21/2022		11	1	< 1 U	< 1 U	< 1 U	< 1 U	5	< 1 U	< 1 U	3	< 1 U
MWF16-15	6/7/2023		11	2	< 1 U	< 1 U	< 1 U	< 1 U	9	< 1 U	< 1 U	4	< 1 U
MWF16-15	12/4/2023		11	2	< 1 U	< 1 U	< 1 U	< 1 U	7	< 1 U	< 1 U	4	< 1 U
MWF16-15	3/26/2024		12	1	< 1 U	< 1 U	< 1 U	< 1 U	4	< 1 U	< 1 U	4	< 1 U
MWF16-15	9/24/2024		9	1	< 1 U	< 1 U	< 1 U	< 1 U	4	1	< 1 U	3	< 1 U
MWF16-16	5/16/2005		8.2	2.4	1.1	< 1.0 U	< 1.0 U	0.44 J	4.1	0.58 J	0.35 J	33	< 1.0 U
MWF16-16	11/17/2006		9.7	8.3	1.8	< 1.0 UJ	< 1.0 UJ	0.37 J	9.1	0.43 J	1.0	31	< 1.0 U
MWF16-16	10/25/2017		9	6	< 1 U	< 1 U	< 1 U	1	19	14	2	7	< 1 U
MWF16-16	9/2/2020		9	5	< 1 U	< 1 U	3	2	15	250 Y	< 1 U	19	< 1 U
MWF16-16	12/8/2020		< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	260 Y	< 10 UY	< 10 UY	< 10 UY
MWF16-16	3/10/2021		< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	260 Y	< 10 UY	< 10 UY	< 10 UY
MWF16-16	6/8/2021		< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	10 Y	290 Y	< 10 UY	10 Y	< 10 UY
MWF16-16	12/14/2021		< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	20 Y	490 Y	< 10 UY	20 Y	< 10 UY
MWF16-16	3/23/2022		< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	10 Y	470 Y	< 10 UY	< 10 UY	< 10 UY
MWF16-16	3/23/2022		< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	10 Y	490 Y	< 10 UY	< 10 UY	< 10 UY
MWF16-16	6/2/2022	Duplicate	< 20 UY	< 20 UY	< 20 UY	< 20 UY	< 20 UY	< 20 UY	20 Y	340 Y	< 20 UY	< 20 UY	< 20 UY
MWF16-16	6/2/2022	Duplicate	< 20 UY	< 20 UY	< 20 UY	< 20 UY	< 20 UY	< 20 UY	20 Y	330 Y	< 20 UY	< 20 UY	< 20 UY
MWF16-16	9/22/2022		< 20 UY	< 20 UY	< 20 UY	< 20 UY	< 20 UY	< 20 UY	< 20 UY	380 Y	< 20 UY	< 20 UY	< 20 UY
MWF16-16	12/5/2022		4	2	< 1 U	< 1 U	< 1 U	< 1 U	2	109	< 1 U	4	< 1 U
MWF16-16	3/6/2023		5	6	< 1 U	< 1 U	1	1	8	260 Y	< 1 U	8	< 1 U
MWF16-16	6/9/2023		< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	20 Y	400 Y	< 10 UY	10 Y	< 10 UY
MWF16-16	9/7/2023		< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	10 Y	410 Y	< 10 UY	< 10 UY	< 10 UY
MWF16-16	11/28/2023		< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	20 Y	440 Y	< 10 UY	< 10 UY	< 10 UY
MWF16-16	3/27/2024		< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	20 Y	540 Y	< 10 UY	< 10 UY	< 10 UY
MWF16-16	9/26/2024		6 r	4 r	< 1 Ur	< 1 Ur	1 r	1 r	46 r	630 Yr	< 1 Ur	12 r	6 r
MWF16-17	5/13/2005		4.9	< 1.0 U	< 1.0 U	< 1.0 U	0.23 J	< 1.0 U	< 1.0 U	13	< 1.0 U	0.47 J	< 1.0 U
MWF16-17	11/16/2006		5.1	< 1.0 U	< 1.0 U	< 1.0 U	0.25 J	< 1.0 U	< 1.0 U	8.6	< 1.0 U	0.36 J	< 1.0 U
MWF16-17	10/26/2017		2	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
MWF16-17	3/10/2021		2	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
MWF16-17	6/3/2021		2	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
MWF16-17	3/24/2022		1	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
MWF16-17	9/21/2022		4	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	4	< 1 U	< 1 U	< 1 U
MWF16-17	6/8/2023		2	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	1	< 1 U	< 1 U	< 1 U
MWF16-17	11/29/2023		2	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
MWF16-17	3/26/2024		2	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	2	< 1 U	< 1 U	< 1 U
MWF16-17	9/25/2024		2	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	3	< 1 U	< 1 U	< 1 U

Table 2
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2024 Fiero Temporary Groundwater Monitoring Plan Summary
RACER Trust Pontiac North Campus
Pontiac, Michigan



VOC's														
			Parameters	1,1,1-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2-Dichloroethane	Carbon Tetrachloride	Chloroform	cis-1,2-Dichloroethene	Tetrachloroethene	trans-1,2-Dichloroethene	Trichloroethene	Vinyl Chloride
			Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
			Res Fiero SSVIAC SOG	22,000	160	410	50	14	19	110	250	480	15	2.2
			Res Fiero SSVIAC BASE	11,000	88	220	27	7.2	10	62	130	260	8.1	1.2
			NR Fiero SSVIAC <50k SOG	210,000	5,300	8,300	1,600	440	610	2,300	3,400	9,800	210	260
			NR Fiero SSVIAC <50k BASE	92,000	2,400	3,800	750	190	270	1,100	1,500	4,500	93	120
			NR Fiero SSVIAC >50k SOG	310,000	8,000	13,000	2,500	650	910	3,500	5,000	15,000	310	390
			NR Fiero SSVIAC >50k BASE	140,000	3,600	5,700	1,100	290	410	1,600	2,200	6,700	140	180
Sample Location	Sample Date	Sample Type												
MWF16-18	5/17/2005	Duplicate	8.2	< 1.4 U	0.59 J	< 1.4 U	0.88 J	< 1.4 U	1.0 J	37	< 1.4 U	31	< 1.4 U	
MWF16-18	5/17/2005		8.6	< 1.4 U	0.50 J	< 1.4 UJ	0.72 J	< 1.4 U	1.1 J	41	< 1.4 U	33	< 1.4 U	
MWF16-18	11/17/2006		6.5	< 4.0 U	< 4.0 U	< 4.0 UJ	< 4.0 UJ	< 4.0 U	< 4.0 U	99	< 4.0 U	14	< 4.0 U	
MWF16-18	3/12/2021		< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	20 Y	740 Y	< 10 UY	10 Y	< 10 UY	
MWF16-18	6/3/2021		< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	40 Y	1240 Y	< 10 UY	20 Y	< 10 UY	
MWF16-18	12/14/2021		< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	50 Y	1310 Y	< 10 UY	20 Y	< 10 UY	
MWF16-18	3/24/2022	Duplicate	< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	70 Y	1150 Y	< 10 UY	20 Y	< 10 UY	
MWF16-18	3/24/2022		< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	70 Y	1180 Y	< 10 UY	20 Y	< 10 UY	
MWF16-18	6/2/2022		< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	70 Y	930 Y	< 10 UY	20 Y	< 10 UY	
MWF16-18	6/2/2022	Duplicate	< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	80 Y	1090 Y	< 10 UY	20 Y	< 10 UY	
MWF16-18	9/22/2022		< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	100 Y	1350 Y	< 10 UY	20 Y	< 10 UY	
MWF16-18	12/1/2022		< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	90 Y	1220 Y	< 10 UY	20 Y	< 10 UY	
MWF16-18	3/7/2023		< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	70 Y	1070 Y	< 10 UY	20 Y	< 10 UY	
MWF16-18	6/8/2023		< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	110 Y	1040 Y	< 10 UY	20 Y	< 10 UY	
MWF16-18	9/7/2023		< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	130 Y	1090 Y	< 10 UY	30 Y	< 10 UY	
MWF16-18	11/29/2023		< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	120 Y	1040 Y	< 10 UY	30 Y	< 10 UY	
MWF16-18	3/26/2024		< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	220 Y	1170 Y	< 10 UY	40 Y	30 Y	
MWF16-18	9/27/2024		< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	< 10 UY	210 Y	1070 Y	< 10 UY	40 Y	30 Y	
MWF16-18	9/27/2024	Duplicate	2 r	3 r	< 1 Ur	< 1 Ur	< 1 Ur	< 1 Ur	210 Yr	1000 Yr	2 r	41 r	31 r	
MWF16-22	2/6/2006		2.9	3.9	0.88 J	< 1.0 U	0.22 J	0.19 J	4.1	11	0.44 J	2.6	< 1.0 U	
MWF16-22	11/17/2006		2.4	3.9	0.49 J	< 1.0 UJ	< 1.0 UJ	0.30 J	4.2	13	0.34 J	2.1	< 1.0 U	
MWF16-22	9/2/2020		1	1	< 1 U	< 1 U	< 1 U	< 1 U	5	73	< 1 U	2	< 1 U	
MWF16-22	6/4/2021		2	1	< 1 U	< 1 U	< 1 U	< 1 U	9	82	< 1 U	2	< 1 U	
MWF16-22	3/23/2022		2	1	< 1 U	< 1 U	< 1 U	< 1 U	10	76	< 1 U	2	< 1 U	
MWF16-22	6/1/2022		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	6	69	< 1 U	2	< 1 U	
MWF16-22	9/22/2022		2	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	7	76	< 1 U	2	< 1 U	
MWF16-22	12/1/2022		2	2	< 1 U	< 1 U	< 1 U	< 1 U	10	78	< 1 U	2	< 1 U	
MWF16-22	6/9/2023		1	2	< 1 U	< 1 U	< 1 U	< 1 U	14	77	< 1 U	3	< 1 U	
MWF16-22	11/28/2023		5	5	< 1 U	< 1 U	1	1	54	210 Y	2	13	< 1 U	
MWF16-22	3/27/2024		3	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	5	77	< 1 U	2	< 1 U	
MWF16-22	5/28/2024		3	< 1	< 1	< 1	< 1	< 1	5	84	< 1	3	< 1	
MWF16-22	9/26/2024		3	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	4	77	< 1 U	2	< 1 U	

Table 2
Summary of Groundwater Analytical Results for Detected VOC's
2024 Fiero Temporary Groundwater Monitoring Plan Summary
RACER Trust Pontiac North Campus
Pontiac, Michigan



VOC's											
Parameters	1,1,1-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2-Dichloroethane	Carbon Tetrachloride	Chloroform	cis-1,2-Dichloroethene	Tetrachloroethene	trans-1,2-Dichloroethene	Trichloroethene	Vinyl Chloride
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Res Fiero SSVIAC SOG	22,000	160	410	50	14	19	110	250	480	15	2.2
Res Fiero SSVIAC BASE	11,000	88	220	27	7.2	10	62	130	260	8.1	1.2
NR Fiero SSVIAC <50k SOG	210,000	5,300	8,300	1,600	440	610	2,300	3,400	9,800	210	260
NR Fiero SSVIAC <50k BASE	92,000	2,400	3,800	750	190	270	1,100	1,500	4,500	93	120
NR Fiero SSVIAC >50k SOG	310,000	8,000	13,000	2,500	650	910	3,500	5,000	15,000	310	390
NR Fiero SSVIAC >50k BASE	140,000	3,600	5,700	1,100	290	410	1,600	2,200	6,700	140	180

[illegible]

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Summary of Groundwater Analytical Results for Detected VOC's
2024 Fiero Temporary Groundwater Monitoring Plan Summary
RACER Trust Pontiac North Campus
Pontiac, Michigan



		VOC's											
		Parameters	1,1,1-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2-Dichloroethane	Carbon Tetrachloride	Chloroform	cis-1,2-Dichloroethene	Tetrachloroethene	trans-1,2-Dichloroethene	Trichloroethene	Vinyl Chloride
		Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
		Res Fiero SSVIAC SOG	22,000	160	410	50	14	19	110	250	480	15	2.2
		Res Fiero SSVIAC BASE	11,000	88	220	27	7.2	10	62	130	260	8.1	1.2
		NR Fiero SSVIAC <50k SOG	210,000	5,300	8,300	1,600	440	610	2,300	3,400	9,800	210	260
		NR Fiero SSVIAC <50k BASE	92,000	2,400	3,800	750	190	270	1,100	1,500	4,500	93	120
		NR Fiero SSVIAC >50k SOG	310,000	8,000	13,000	2,500	650	910	3,500	5,000	15,000	310	390
		NR Fiero SSVIAC >50k BASE	140,000	3,600	5,700	1,100	290	410	1,600	2,200	6,700	140	180
Sample Location	Sample Date	Sample Type											
MWF16-25	7/18/2006	Duplicate	2.5	1.3	< 1.0 U	< 1.0 U	< 1.0 U	0.66 J	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
MWF16-25	11/17/2006		2.1	2.9	0.40 J	< 1.0 UJ	0.99 J	3.0	5.0	< 1.0 U	0.28 J	< 1.0 U	< 1.0 U
MWF16-25	11/17/2006		2.5	3.0	0.39 J	< 1.0 UJ	1.1 J	3.0	5.0	< 1.0 U	0.21 J	< 1.0 U	< 1.0 U
MWF16-25	10/1/2018		3	3	< 1 U	< 1 U	< 1 U	4	5	< 1 U	< 1 U	< 1 U	< 1 U
MWF16-25	10/7/2019		4	4	< 1 U	< 1 U	1	5	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
MWF16-25	9/1/2020		4	5	< 1 U	< 1 U	< 1 U	6	9	< 1 U	< 1 U	< 1 U	< 1 U
MWF16-25	10/15/2020		4	4	< 1 U	< 1 U	1	6	9	< 1 U	< 1 U	< 1 U	< 1 U
MWF16-25	12/9/2020		4	4	< 1 U	< 1 U	< 1 U	6	8	< 1 U	< 1 U	< 1 U	< 1 U
MWF16-25	3/12/2021	Duplicate	3	4	< 1 U	< 1 U	< 1 U	4	12	< 1 U	< 1 U	< 1 U	< 1 U
MWF16-25	6/2/2021		4	5	< 1 U	< 1 U	< 1 U	4	16	< 1 U	1	< 1 U	< 1 U
MWF16-25	6/2/2021		4	5	< 1 U	< 1 U	< 1 U	4	15	< 1 U	1	< 1 U	< 1 U
MWF16-25	10/13/2021		3	5	< 1 U	< 1 U	< 1 U	3	22	< 1 U	2	< 1 U	< 1 U
MWF16-25	3/24/2022		4	5	< 1 U	< 1 U	< 1 U	4	27	< 1 U	2	< 1 U	< 1 U
MWF16-25	6/1/2022		3	5	< 1 U	< 1 U	< 1 U	3	35	< 1 U	2	< 1 U	< 1 U
MWF16-25	9/23/2022		3	4	< 1 U	< 1 U	< 1 U	3	38	< 1 U	3	< 1 U	< 1 U
MWF16-25	11/30/2022		4	4	< 1 U	< 1 U	< 1 U	3	43	< 1 U	3	< 1 U	< 1 U
MWF16-25	6/8/2023		4	3	< 1 U	< 1 U	1	3	40	< 1 U	3	< 1 U	< 1 U
MWF16-25	9/12/2023		3	3	< 1 U	< 1 U	< 1 U	2	44	< 1 U	4	< 1 U	< 1 U
MWF16-25	11/29/2023		4	3	< 1 U	< 1 U	1	3	41	< 1 U	4	< 1 U	< 1 U
MWF16-25	3/28/2024		3	2	< 1 U	< 1 U	< 1 U	2	38	< 1 U	3	< 1 U	< 1 U
MWF16-25	9/24/2024		4	2	< 1 U	< 1 U	1	3	17	< 1 U	1	< 1 U	< 1 U
MWOS-08	9/2/2020	Duplicate	3	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	4	< 1 U	< 1 U	< 1 U	< 1 U
MWOS-08	12/9/2020		3	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	4	< 1 U	< 1 U	< 1 U	< 1 U
MWOS-08	12/9/2020		3	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	4	< 1 U	< 1 U	< 1 U	< 1 U
MWOS-08	3/12/2021		3	< 1 U	< 1 U	< 1 U	< 1 U	1	6	< 1 U	< 1 U	< 1 U	< 1 U
MWOS-08	3/12/2021	Duplicate	3	< 1 U	< 1 U	< 1 U	< 1 U	1	6	< 1 U	< 1 U	< 1 U	< 1 U
MWOS-08	6/2/2021	Duplicate	4	< 1 U	< 1 U	< 1 U	< 1 U	1	4	< 1 U	< 1 U	< 1 U	< 1 U
MWOS-08	6/2/2021		4	< 1 U	< 1 U	< 1 U	< 1 U	1	4	< 1 U	< 1 U	< 1 U	< 1 U
MWOS-08	12/15/2021		4	1	< 1 U	< 1 U	< 1 U	1	2	< 1 U	< 1 U	< 1 U	< 1 U
MWOS-08	3/25/2022		4	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	1	< 1 U	< 1 U	< 1 U	< 1 U
MWOS-08	6/2/2022		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	2	< 1 U	< 1 U	< 1 U	< 1 U
MWOS-08	9/22/2022		4	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	3	< 1 U	< 1 U	< 1 U	< 1 U
MWOS-08	11/30/2022		4	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	4	< 1 U	< 1 U	< 1 U	< 1 U
MWOS-08	3/8/2023		4	< 1 U	< 1 U	< 1 U	< 1 U	1	5	< 1 U	< 1 U	< 1 U	< 1 U
MWOS-08	6/8/2023		4	1	< 1 U	< 1 U	< 1 U	1	2	< 1 U	< 1 U	< 1 U	< 1 U
MWOS-08	8/29/2023		4	1	< 1 U	< 1 U	< 1 U	1	1	< 1 U	< 1 U	< 1 U	< 1 U
MWOS-08	11/29/2023		6	1	< 1 U	< 1 U	< 1 U	1	1	< 1 U	< 1 U	< 1 U	< 1 U
MWOS-08	3/28/2024		6	1	< 1 U	< 1 U	< 1 U	1	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
MWOS-08	9/25/2024		4	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	1	< 1 U	< 1 U	< 1 U	< 1 U

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		VOC's											
		Parameters	1,1,1-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2-Dichloroethane	Carbon Tetrachloride	Chloroform	cis-1,2-Dichloroethene	Tetrachloroethene	trans-1,2-Dichloroethene	Trichloroethene	Vinyl Chloride
		Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
		Res Fiero SSVIAC SOG	22,000	160	410	50	14	19	110	250	480	15	2.2
		Res Fiero SSVIAC BASE	11,000	88	220	27	7.2	10	62	130	260	8.1	1.2
		NR Fiero SSVIAC <50k SOG	210,000	5,300	8,300	1,600	440	610	2,300	3,400	9,800	210	260
		NR Fiero SSVIAC <50k BASE	92,000	2,400	3,800	750	190	270	1,100	1,500	4,500	93	120
		NR Fiero SSVIAC >50k SOG	310,000	8,000	13,000	2,500	650	910	3,500	5,000	15,000	310	390
		NR Fiero SSVIAC >50k BASE	140,000	3,600	5,700	1,100	290	410	1,600	2,200	6,700	140	180
Sample Location	Sample Date	Sample Type											
MWOS-09R	11/24/2021	Duplicate	4	4	< 1 U	< 1 U	< 1 U	< 1 U	23	14	2	5	< 1 U
MWOS-09R	12/15/2021		4	4	< 1 U	< 1 U	< 1 U	< 1 U	20	11	2	4	< 1 U
MWOS-09R	3/22/2022		3	4	< 1 U	< 1 U	< 1 U	< 1 U	28	10	2	3	< 1 U
MWOS-09R	3/22/2022		3	4	< 1 U	< 1 U	< 1 U	< 1 U	26	12	2	4	< 1 U
MWOS-09R	6/1/2022		3	5	< 1 U	< 1 U	< 1 U	< 1 U	28	13	2	4	< 1 U
MWOS-09R	9/22/2022		3	4	< 1 U	< 1 U	< 1 U	< 1 U	22	15	2	3	< 1 U
MWOS-09R	11/30/2022		3	6	< 1 U	< 1 U	< 1 U	< 1 U	25	13	2	3	< 1 U
MWOS-09R	3/7/2023	Duplicate	4	4	< 1 U	< 1 U	< 1 U	< 1 U	28	17	2	3	< 1 U
MWOS-09R	6/8/2023		4	3	< 1 U	< 1 U	< 1 U	< 1 U	22	11	2	3	< 1 U
MWOS-09R	6/8/2023		4	3	< 1 U	< 1 U	< 1 U	< 1 U	21	12	2	3	< 1 U
MWOS-09R	8/29/2023		4	3	< 1 U	< 1 U	< 1 U	< 1 U	19	16	1	4	< 1 U
MWOS-09R	11/30/2023	Duplicate	5	4	< 1 U	< 1 U	< 1 U	< 1 U	22	14	2	5	< 1 U
MWOS-09R	11/30/2023		5	4	< 1 U	< 1 U	< 1 U	< 1 U	21	15	2	5	< 1 U
MWOS-09R	3/28/2024	Duplicate	4	3	< 1 U	< 1 U	< 1 U	< 1 U	17	20	1	5	< 1 U
MWOS-09R	3/28/2024		4	3	< 1 U	< 1 U	< 1 U	< 1 U	19	17	2	4	< 1 U
MWOS-09R	9/25/2024		4	4	< 1 U	< 1 U	< 1 U	< 1 U	18	16	2	4	< 1 U
MWOS-10	11/24/2021	Duplicate	5	9	< 1 U	< 1 U	< 1 U	< 1 U	9	< 1 U	< 1 U	11	< 1 U
MWOS-10	11/24/2021		5	9	< 1 U	< 1 U	< 1 U	< 1 U	9	< 1 U	< 1 U	11	< 1 U
MWOS-10	12/16/2021	Duplicate	4	6	< 1 U	< 1 U	< 1 U	< 1 U	6	< 1 U	< 1 U	8	< 1 U
MWOS-10	12/16/2021		3	6	< 1 U	< 1 U	< 1 U	< 1 U	6	< 1 U	< 1 U	8	< 1 U
MWOS-10	3/22/2022		4	7	< 1 U	< 1 U	< 1 U	< 1 U	6	< 1 U	< 1 U	7	< 1 U
MWOS-10	6/2/2022		< 1 U	6	< 1 U	< 1 U	< 1 U	< 1 U	7	< 1 U	< 1 U	9	< 1 U
MWOS-10	9/22/2022		4	4	< 1 U	< 1 U	< 1 U	< 1 U	4	< 1 U	< 1 U	8	< 1 U
MWOS-10	11/30/2022		3	5	< 1 U	< 1 U	< 1 U	< 1 U	4	< 1 U	< 1 U	7	< 1 U
MWOS-10	3/7/2023		4	7	< 1 U	< 1 U	< 1 U	< 1 U	9	< 1 U	1	11	< 1 U
MWOS-10	6/12/2023	Duplicate	4	5	< 1 U	< 1 U	< 1 U	< 1 U	7	< 1 U	1	12	< 1 U
MWOS-10	8/28/2023		3	5	< 1 U	< 1 U	< 1 U	< 1 U	8	< 1 U	1	10	< 1 U
MWOS-10	11/30/2023		3	5	< 1 U	< 1 U	< 1 U	< 1 U	8	< 1 U	1	9	< 1 U
MWOS-10	3/28/2024		2	3	< 1 U	< 1 U	< 1 U	< 1 U	5	< 1 U	< 1 U	10	< 1 U
MWOS-10	6/24/2024		2	1	< 1 U	< 1 U	< 1 U	< 1 U	2	< 1 U	< 1 U	8	< 1 U
MWOS-10	9/25/2024		2	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	6	< 1 U
MWOS-10	11/8/2024		3	1	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	6	< 1 U
TW-12-22	1/20/2022		6	8	< 1 U	< 1 U	< 1 U	8	32	< 1 U	2	6	< 1 U
TW-12-22	3/24/2022		5	9	< 1 U	< 1 U	< 1 U	8	67	< 1 U	3	6	< 1 U
TW-12-22	6/2/2022		< 1 U	9	< 1 U	< 1 U	< 1 U	7	85	< 1 U	3	7	< 1 U
TW-12-22	9/22/2022		6	10	< 1 U	< 1 U	< 1 U	7	57	< 1 U	3	6	< 1 U
TW-12-22	12/5/2022		6	13	< 1 U	< 1 U	< 1 U	8	51	< 1 U	3	5	< 1 U
TW-12-22	6/8/2023		11	7	< 1 U	< 1 U	2	10	48	4	2	13	< 1 U
TW-12-22	11/30/2023		17	10	< 1 U	< 1 U	1	8	33	< 1 U	2	3	< 1 U
TW-12-22	3/29/2024		18	8	1	< 1 U	3	8	190 Y	49	5	24	< 1 U
TW-12-22	9/26/2024		12	7	< 1 U	< 1 U	4	6	86	91	3	51	< 1 U

Table 2
Summary of Groundwater Analytical Results for Detected VOC's
2024 Fiero Temporary Groundwater Monitoring Plan Summary
RACER Trust Pontiac North Campus
Pontiac, Michigan



		VOC's										
	Parameters	1,1,1-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2-Dichloroethane	Carbon Tetrachloride	Chloroform	cis-1,2-Dichloroethene	Tetrachloroethene	trans-1,2-Dichloroethene	Trichloroethene	Vinyl Chloride
	Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
	Res Fiero SSVIAC SOG	22,000	160	410	50	14	19	110	250	480	15	2.2
	Res Fiero SSVIAC BASE	11,000	88	220	27	7.2	10	62	130	260	8.1	1.2
	NR Fiero SSVIAC <50k SOG	210,000	5,300	8,300	1,600	440	610	2,300	3,400	9,800	210	260
	NR Fiero SSVIAC <50k BASE	92,000	2,400	3,800	750	190	270	1,100	1,500	4,500	93	120
	NR Fiero SSVIAC >50k SOG	310,000	8,000	13,000	2,500	650	910	3,500	5,000	15,000	310	390
	NR Fiero SSVIAC >50k BASE	140,000	3,600	5,700	1,100	290	410	1,600	2,200	6,700	140	180

Sample Location	Sample Date	Sample Type											
UNKNOWN-1	4/28/2017		56	6	1	< 1 U	< 1 U	< 1 U	< 1 U	43	< 1 U	3	< 1 U
UNKNOWN-1	1/21/2022		59	2	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	26	< 1 U	< 1 U	< 1 U
UNKNOWN-1	3/23/2022		54	4	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	23	< 1 U	< 1 U	< 1 U
UNKNOWN-1	9/20/2022		66	6	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	41	< 1 U	< 1 U	< 1 U
UNKNOWN-1	6/7/2023		47	5	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	29	< 1 U	< 1 U	< 1 U
UNKNOWN-1	12/4/2023		66	8	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	45	< 1 U	< 1 U	< 1 U
UNKNOWN-1	3/26/2024		51	4	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	29	< 1 U	< 1 U	< 1 U
UNKNOWN-1	9/24/2024		49	2	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	23	< 1 U	< 1 U	< 1 U

- Notes:
- 1) Criteria utilized for comparison are the EGLE Former Fiero Assembly Site-Specific Criteria Evaluation dated April 21, 2020.
 - 2) Values in bold italics denotes exceedance and/or equal to Residential Site-Specific Volatilization to Indoor Air Criteria.
 - 3) Values in red type denotes exceedance and/or equal to Non-Residential Site-Specific Volatilization to Indoor Air Criteria.
 - 4) Samples were analyzed by USEPA Method SW5030C/8260C

Abbreviations:	
<	Not detected
µg/L	Micrograms per liter
B	Compound also found in associated method blank
BASE	Basement scenario
E	Concentration exceeds calibration range
EGLE	Michigan Department of Environment, Great Lakes, and Energy
J	Estimated value less than reporting limit, but greater than MDL
NA	Not analyzed
NR	Non-Residential
r	Analyte is being reported as the best result from multiple runs
Res	Residential
SOG	Slab-On-Grade scenario
SSVIAC	Site-Specific Volatilization to Indoor Air Criteria
U	Compound was analyzed for but not detected. The associated value is the compound quantitation limit.
Y	Elevated reporting limit due to high target concentration.
<50k	Less than 50,000 square feet
>50k	Greater than 50,000 square feet

Table 3
Summary of 2024 Soil Gas Analytical Results
2024 Fiero Tempoarary Groundwater Monitoring Plan Summary
RACER Trust Pontiac North Campus
Pontiac, Michigan



Location ID: Sample Depth (ft. bgs): Date Collected:	Fiero SSVIAC Soil Gas Residential SOG Criteria	Fiero SSVIAC Soil Gas Residential Basement Criteria	Units	SV-01-21 14-14.5 3/25/2024	SV-01-21 14-14.5 9/25/2024	SV-02-21 23.25-23.75 3/25/2024	SV-02-21 23.25-23.75 9/25/2024	SV-03-21 11.5-12 3/25/2024	SV-03-21 11.5-12 9/25/2024	SV-04-21 22.5-23 3/25/2024	SV-04-21 22.5-23 9/25/2024	SV-05-21 11.5-12 3/25/2024	SV-05-21 11.5-12 9/25/2024	SV-06-21 22.5-23 3/25/2024	SV-06-21 22.5-23 9/25/2024	SV-07-24 11.5-12 7/15/2024	SV-07-24 11.5-12 9/25/2024	SV-07-24 11.5-12 11/5/2024	SV-08-24 22.5-23 7/15/2024	SV-08-24 22.5-23 9/25/2024	SV-08-24 22.5-23 11/5/2024
Analyte																					
1,1-Dichloroethene	7,000	7,000	ug/m ³	< 4.1 U	< 4.6 U	< 4.2 U (< 4.0 U)	< 4.6 U (< 4.3 U)	< 4.0 U	< 4.5 U	< 4.0 U	< 4.8 U	< 3.9 U	< 4.3 U	< 4.1 U	< 4.8 U	< 4.5 U	< 4.5 U	< 4.2 U	< 4.3 U (< 4.6 U)	< 4.3 U	< 5.9 U (< 4.4 U)
cis-1,2-Dichloroethene	280	280	ug/m ³	< 4.1 U	< 4.6 U	< 4.2 U (< 4.0 U)	< 4.6 U (< 4.3 U)	< 4.0 U	< 4.5 U	< 4.0 U	< 4.8 U	< 3.9 U	< 4.3 U	< 4.1 U	< 4.8 U	< 4.5 U	< 4.5 U	< 4.2 U	< 4.3 U (< 4.6 U)	< 4.3 U	< 5.9 U (< 4.4 U)
trans-1,2-Dichloroethene	2,800	2,800	ug/m ³	< 4.1 U	< 4.6 U	< 4.2 U (< 4.0 U)	< 4.6 U (< 4.3 U)	< 4.0 U	< 4.5 U	< 4.0 U	< 4.8 U	< 3.9 U	< 4.3 U	< 4.1 U	< 4.8 U	< 4.5 U	< 4.5 U	< 4.2 U	< 4.3 U (< 4.6 U)	< 4.3 U	< 5.9 U (< 4.4 U)
Tetrachloroethene	1,400	1,400	ug/m ³	< 7.0 U	20.0	8.0 (7.8)	11.0 (12.0)	< 6.8 U	< 7.7 U	< 6.9 U	< 8.2 U	< 6.6 U	< 7.3 U	< 7.0 U	< 8.3 U	< 7.7 U	< 7.7 U	< 7.2 U	< 7.4 U (< 7.9 U)	< 7.4 U	< 10.0 U (< 7.6 U)
Trichloroethene	67	67	ug/m ³	20.0	9.6	53.0 (53.0)	57.0 (56.0)	< 5.4 U	< 6.1 U	13.0	16.0	< 5.3 U	< 5.8 U	11.0	15.0	< 6.1 U	< 6.1 U	< 5.8 U	< 5.9 U (< 6.2 U)	< 5.9 U	< 8.0 U (< 6.0 U)
Vinyl Chloride	54	54	ug/m ³	< 2.6 U	< 3.0 U	< 2.7 U (< 2.6 U)	< 3.0 U (< 2.8 U)	< 2.6 U	< 2.9 U	< 2.6 U	< 3.1 U	< 2.5 U	< 2.8 U	< 2.6 U	< 3.1 U	< 2.9 U	< 2.9 U	< 2.7 U	< 2.8 U (< 3.0 U)	< 2.8 U	< 3.8 U (< 2.9 U)

NOTES:

1) Criteria utilized for comparison are the EGLE Former Fiero Assembly Site-Specific Criteria Evaluation dated April 21, 2020.

2) Values in bold denote exceedance and/or equal to Residential Site-Specific Volatilization to Indoor Air soil gas SOG criteria.

3) Values in red type denote exceedance and/or equal to Residential Site-Specific Volatilization to Indoor Air soil gas basement criteria.

4) Duplicate analyses are presented in parenthesis next to parent sample.

5) Samples analyzed by USEPA TO-15 Method

Abbreviations:

µg/m³ - Micrograms per cubic meter

< - Not detected above the laboratory detection limit

ft. bgs - feet below ground surface

U - Compound analyzed for but not detected above the reporting limit, Limit of Detection (LOD), or Method Dection Limit (MDL) value.

SOG - Slab-On-Grade

SSVIAC - Site-Specific Volatilization to Indoor Air Criteria

EGLE - Michigan Department of Environment, Great Lakes, and Energy

USEPA - United States Environmental Protection Agency

Figures

CITY: NOVI DIV: ENV DB: TRY PIC: S. INSALACO PM: T. LINDER TM: L. CRISP TR: PROJECT NUMBER: 30075936.0005 COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl
T: ENV NovBrighton MI Motor Liquidation Company Pontiac North Campus Documents Former Fiero Property Site Investigation 2023 Monitoring Plan 2024 aprx PLOTTED: 6/5/2025 10:01 AM BY: AKENS

Service Layer Credits: Tiled service layer, © OpenStreetMap (and) contributors, CC-BY-SA
Google Earth Pro Aerial Dated March 15, 2024



LEGEND

- ▲ EXISTING MONITORING WELL
- ▲ SOIL VAPOR MONITORING POINT
- SEMI-ANNUAL GAUGING ONLY
- SEMI-ANNUAL GW SAMPLING
- QUARTERLY GW SAMPLING
- NOT MONITORED
- ▭ CURRENT OR FORMER RACER PROPERTY



RACER TRUST
PONTIAC NORTH CAMPUS
PONTIAC, MICHIGAN

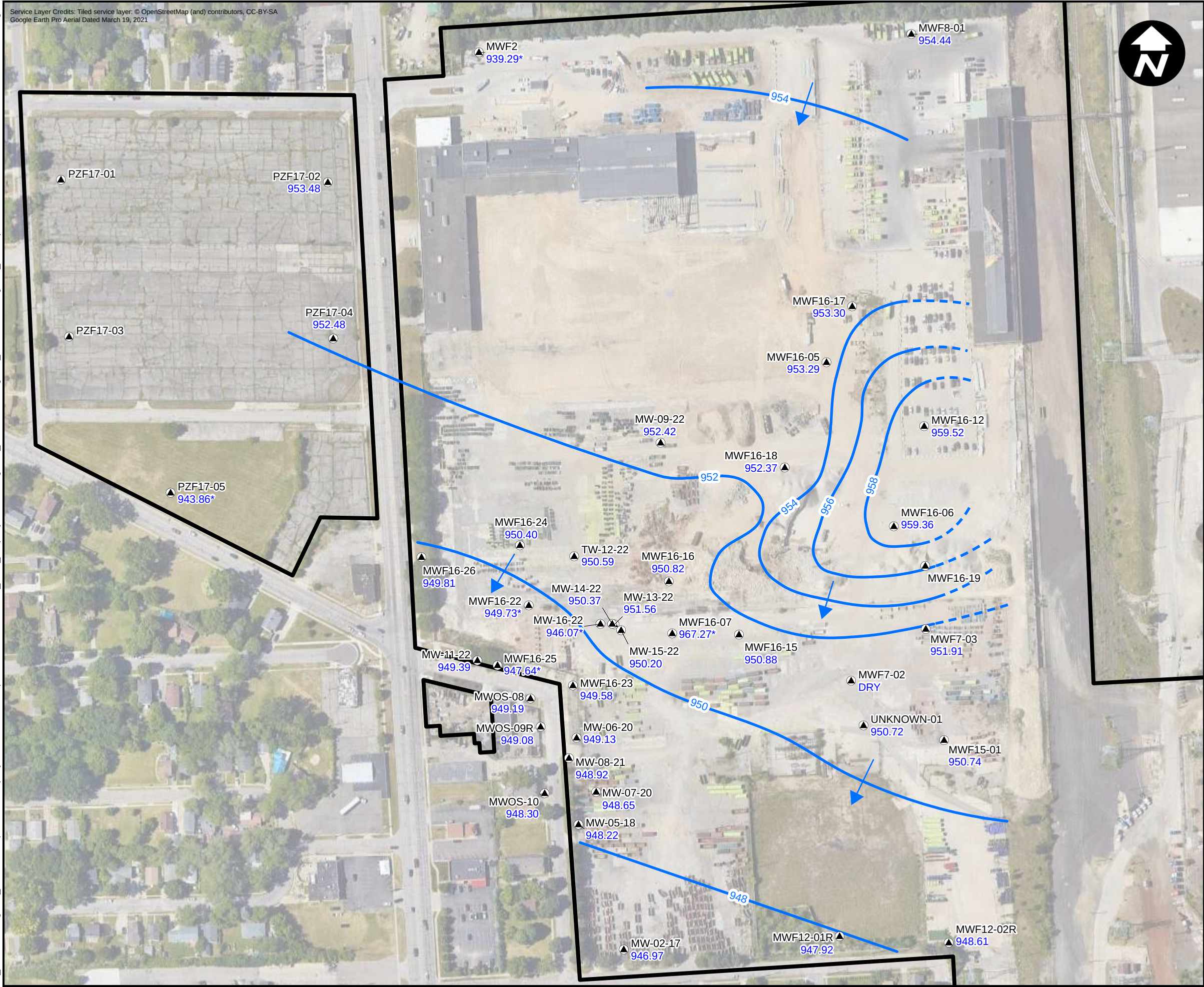
**2024 TEMPORARY MONITORING
PLAN LOCATIONS**

ARCADIS

FIGURE
1

CITY: NOVI DIV: ENV DB: TRY PIC: J. BARRETT PM: T. LINDER TM: L. CRISP TR: PROJECT NUMBER: 30214041.00005 COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl T: ENV\NovBrighton_MI\Motor\liquidation\Company\Pontiac\North Campus\Documents\Fioero_Property\SiteInvestigation_2024\MonitoringPlan_2024.aprx PLOTTED: 2/26/2025 12:36 PM BY: TYarborough

Service Layer Credits: Tiled service layer: © OpenStreetMap (and) contributors, CC-BY-SA
Google Earth Pro Aerial Dated March 19, 2021



LEGEND

- EXISTING MONITORING WELL
- 953.29 GROUNDWATER ELEVATION
- GROUNDWATER-ELEVATION CONTOUR
- INFERRED GROUNDWATER-ELEVATION CONTOUR
- APPROXIMATE GROUNDWATER FLOW DIRECTION
- ELEVATION NOT USED FOR CONTOURING
- CURRENT OR FORMER RACER PROPERTY

NOTE: GROUNDWATER ELEVATION MEASUREMENTS COLLECTED FROM TOP OF TEMPORARY WELL CASING/ STICKUP.

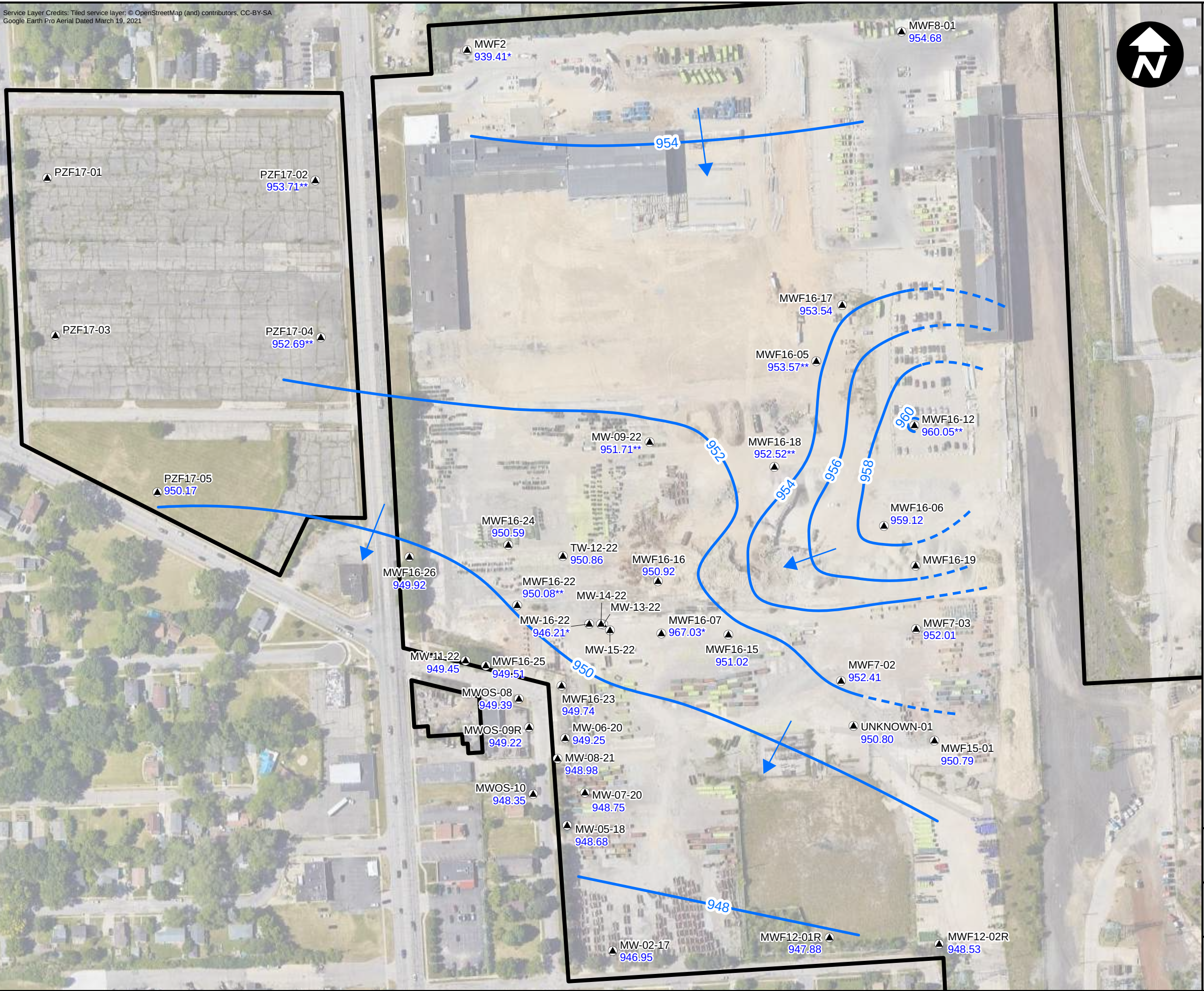
0 200 400

SCALE IN FEET

RACER TRUST
PONTIAC NORTH CAMPUS
PONTIAC, MICHIGAN

FIERO GROUNDWATER CONTOUR MAP
MARCH 25, 2024

FIGURE
2A



LEGEND

- ▲ EXISTING MONITORING WELL
- 954.68 GROUNDWATER ELEVATION
- GROUNDWATER-ELEVATION CONTOUR
- - - INFERRED GROUNDWATER-ELEVATION CONTOUR
- ← APPROXIMATE GROUNDWATER-FLOW DIRECTION
- * ELEVATION NOT USED FOR CONTOURING
- ** GAUGED AT A LATER DATE
- ▭ CURRENT OR FORMER RACER PROPERTY

NOTES:

- MWF16-18 AND MWF16-22 WERE COVERED BY DEBRIS DURING THE 3Q EVENT, AND WERE GAUGED THREE DAYS LATER WHEN THE DEBRIS WAS MOVED.
- MW-09-22, MWF16-05, AND MWF16-12 WERE COVERED BY ROLL-OFFS DURING THE 3Q GAUGING EVENT, AND WERE GAUGED THE NEXT DAY AFTER THEY WERE UNCOVERED.
- PZF17-02 AND PZF17-04 WERE BEHIND A LOCKED GATE DURING THE 3Q GAUGING EVENT, AND WERE GAUGED THREE DAYS AFTER THE GAUGING EVENT WHEN ACCESS WAS GIVEN.
- GROUNDWATER ELEVATION MEASUREMENTS COLLECTED FROM TOP OF TEMPORARY WELL CASING/ STICKUP.

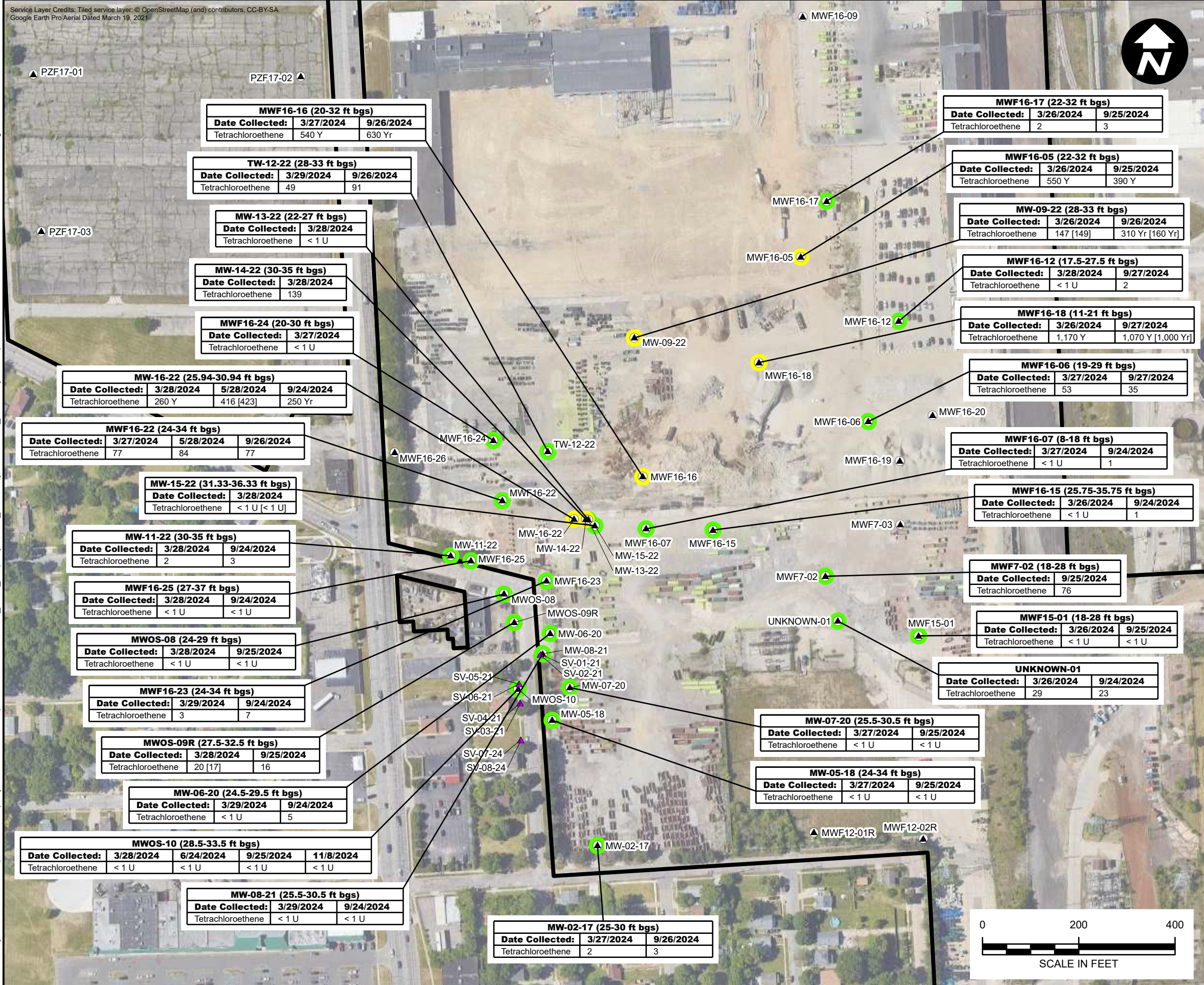
0 200 400
SCALE IN FEET

RACER TRUST
PONTIAC NORTH CAMPUS
PONTIAC, MICHIGAN

FIERO GROUNDWATER CONTOUR MAP
AUGUST 23, 2024

FIGURE
2B

CITY: NOVI DIV: ENV DB: TRY PIC: J. Barrett PM: T. Linder TM: L. Nickerson TR: PROJECT NUMBER: 30214041.00005 COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl D:\GIS\Project Files\MotorsLiqudationCompany\PontiacNorthCampusDocuments\Fioro_Property\FITMP_Summary2024\FITMP_Summary2024.aprx PLOTTED: 3/11/2025 1:54 PM BY: Tyabrough



LEGEND

- EXISTING MONITORING WELL
- SOIL VAPOR MONITORING POINT
- CURRENT OR FORMER RACER PROPERTY

CONCENTRATION OF PCE IN GROUNDWATER

- < 130 µg/L
- 130 - 1,300 µg/L

Res Fiero SSVIAC SOG	Res Fiero SSVIAC BASE	NR Fiero SSVIAC <50k SOG
250	130	3,400

PCE TETRACHLOROETHENE

BASE BASEMENT SCENARIO

NR NON-RESIDENTIAL

Res RESIDENTIAL

SOG SLAB-ON-GRADE SCENARIO

SSVIAC SITE-SPECIFIC VOLATILIZATION TO INDOOR AIR CRITERIA

r MULTIPLE RUNS COMPLETED DUE TO ELEVATED CONCENTRATIONS AND DILUTION IS REQUIRED.

U COMPOUND WAS ANALYZED FOR BUT NOT DETECTED. THE ASSOCIATED VALUE IS THE COMPOUND QUANTITATION LIMIT.

Y ELEVATED REPORTING LIMIT DUE TO HIGH TARGET CONCENTRATION.

<50k LESS THAN 50,000 SQUARE FEET

< NOT DETECTED ABOVE THE LABORATORY REPORTING LIMIT

ALL GROUNDWATER CONCENTRATIONS ARE PRESENTED IN MICROGRAMS PER LITER (µg/L).

DUPLICATE ANALYSES ARE PRESENTED IN BRACKETS.

CRITERIA UTILIZED FOR COMPARISON ARE FROM THE EGLE FORMER FIERO ASSEMBLY SITE-SPECIFIC CRITERIA EVALUATION DATED APRIL 21, 2020.

SAMPLES WERE ANALYZED BY USEPA METHOD SW5030C/8260C.

MONITORING WELLS LOCATED WITHIN 100 FEET OR OUTSIDE OF THE SITE PROPERTY BOUNDARY ARE SUBJECT TO RESIDENTIAL EXPOSURE CRITERIA. ALL OTHER ONSITE MONITORING WELLS ARE SUBJECT TO NONRESIDENTIAL EXPOSURE CRITERIA.

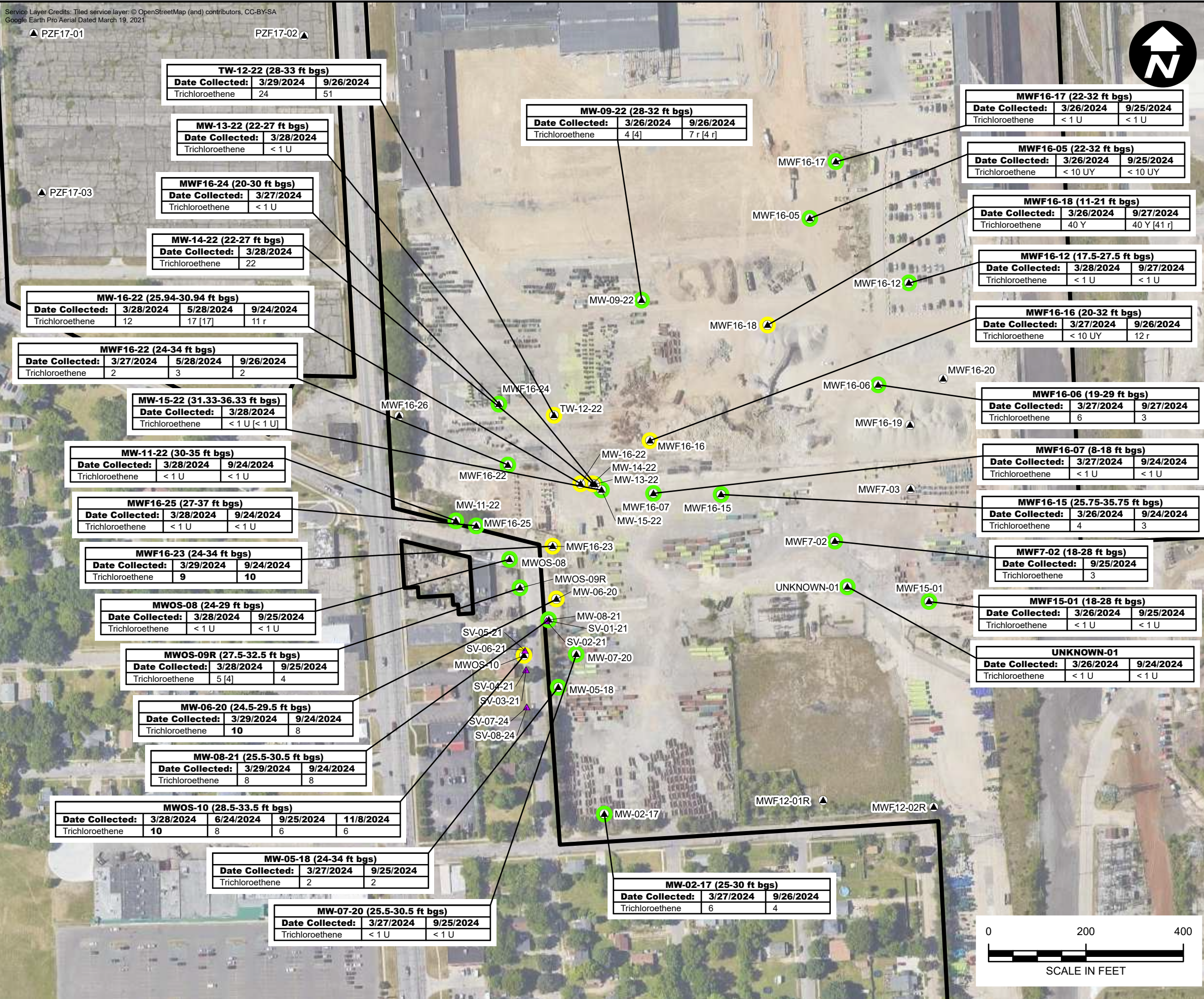
RACER TRUST
PONTIAC NORTH CAMPUS
PONTIAC, MICHIGAN

CONCENTRATION OF TETRACHLOROETHENE IN GROUNDWATER - 2024



FIGURE 3

CITY: NOVI DIV: ENV DB: TRY PIC: J. Barrett PM: T. Linder TM: L. Nickerson TR: PROJECT NUMBER: 30214041.00005 COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl D:\GIS\Project Files\MotorsLiqudationCompany\PontiacNorthCampusDocuments\Fioro_Property\F1TMP_Summary2024\F1TMP_Summary2024.aprx PLOTTED: 3/11/2025 1:54 PM BY: Tyabrough



LEGEND

- EXISTING MONITORING WELL
- SOIL VAPOR MONITORING POINT
- CURRENT OR FORMER RACER PROPERTY

CONCENTRATION OF TCE IN GROUNDWATER

- < 8.1 µg/L
- 8.1 - 81 µg/L

Res Fiero SSVIAC SOG	Res Fiero SSVIAC BASE	NR Fiero SSVIAC <50k SOG
15	8.1	210

TCE TRICHLOROETHENE

BASE BASEMENT SCENARIO.

NR NON-RESIDENTIAL

Res RESIDENTIAL

SOG SLAB-ON-GRADE SCENARIO

SSVIAC SITE-SPECIFIC VOLATILIZATION TO INDOOR AIR CRITERIA

r MULTIPLE RUNS COMPLETED DUE TO ELEVATED CONCENTRATIONS AND DILUTION IS REQUIRED.

U COMPOUND WAS ANALYZED FOR BUT NOT DETECTED. THE ASSOCIATED VALUE IS THE COMPOUND QUANTITATION LIMIT.

Y ELEVATED REPORTING LIMIT DUE TO HIGH TARGET CONCENTRATION.

<50k LESS THAN 50,000 SQUARE FEET

< NOT DETECTED ABOVE THE LABORATORY

ALL GROUNDWATER CONCENTRATIONS ARE PRESENTED IN MICROGRAMS PER LITER (µg/L).

DUPLICATE ANALYSES ARE PRESENTED IN BRACKETS.

CRITERIA UTILIZED FOR COMPARISON ARE FROM THE EGLE FORMER FIERO ASSEMBLY SITE-SPECIFIC CRITERIA EVALUATION DATED APRIL 21, 2020.

SAMPLES WERE ANALYZED BY USEPA METHOD SW5030C/ 8260C.

MONITORING WELLS LOCATED WITHIN 100 FEET OR OUTSIDE OF THE SITE PROPERTY BOUNDARY ARE SUBJECT TO RESIDENTIAL EXPOSURE CRITERIA. ALL OTHER ONSITE MONITORING WELLS ARE SUBJECT TO NONRESIDENTIAL EXPOSURE CRITERIA.

RACER TRUST
PONTIAC NORTH CAMPUS
PONTIAC, MICHIGAN

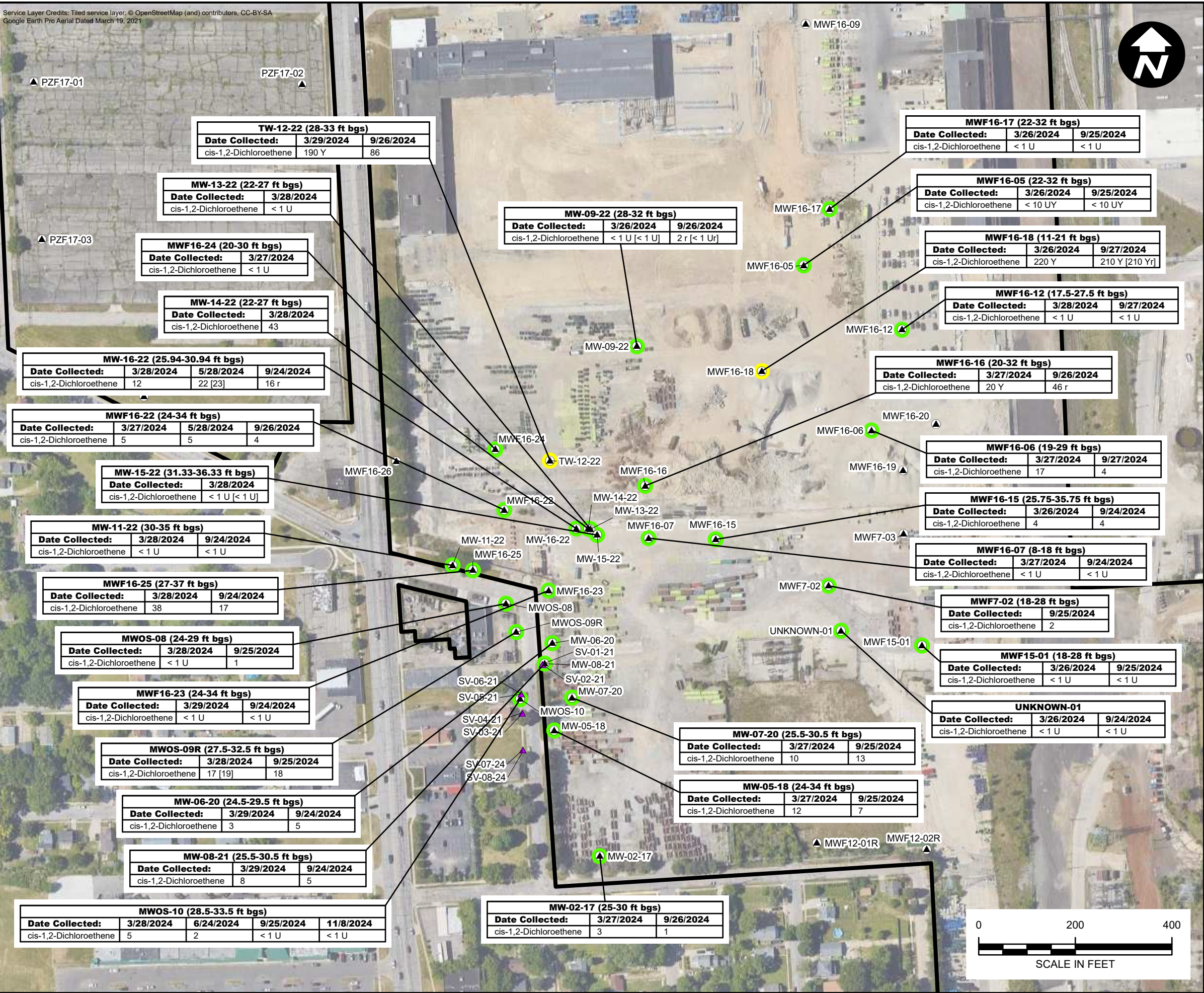
CONCENTRATION OF TRICHLOROETHENE IN GROUNDWATER - 2024

ARCADIS

FIGURE 4

CITY: NOVI DIV: ENV DB: TRY PIC: J. Barrett PM: T. Linder TM: L. Nickerson TR: PROJECT NUMBER: 30214041.00005 COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl D:\GIS\Project Files\MotorsLiqudationCompany\PontiacNorthCampusDocuments\Former_Fiero_Property\FTMP_Summary2024\FTMP_Summary2024.aprx PLOTTED: 3/11/2025 1:54 PM BY: Tyabrough

Service Layer Credits: Tiled service layer, © OpenStreetMap (and) contributors, CC-BY-SA
Google Earth Pro Aerial Dated March 19, 2021



LEGEND

- EXISTING MONITORING WELL
- SOIL VAPOR MONITORING POINT
- CURRENT OR FORMER RACER PROPERTY

CONCENTRATION OF DCE IN GROUNDWATER

- < 62 µg/L
- 62 - 620 µg/L

Res Fiero SSVIAC SOG	Res Fiero SSVIAC BASE	NR Fiero SSVIAC <50k SOG
110	62	2,300

- DCE cis-1,2-DICHLOROETHENE
- BASE BASEMENT SCENARIO.
- NR NON-RESIDENTIAL
- Res RESIDENTIAL
- SOG SLAB-ON-GRADE SCENARIO
- SSVIAC SITE-SPECIFIC VOLATILIZATION TO INDOOR AIR CRITERIA
- r MULTIPLE RUNS COMPLETED DUE TO ELEVATED CONCENTRATIONS AND DILUTION IS REQUIRED.
- U COMPOUND WAS ANALYZED FOR BUT NOT DETECTED. THE ASSOCIATED VALUE IS THE COMPOUND QUANTITATION LIMIT.
- Y ELEVATED REPORTING LIMIT DUE TO HIGH TARGET CONCENTRATION.
- <50k LESS THAN 50,000 SQUARE FEET
- < NOT DETECTED ABOVE THE LABORATORY

ALL GROUNDWATER CONCENTRATIONS ARE PRESENTED IN MICROGRAMS PER LITER (µg/L).

DUPLICATE ANALYSES ARE PRESENTED IN BRACKETS.

CRITERIA UTILIZED FOR COMPARISON ARE FROM THE EGLE FORMER FIERO ASSEMBLY SITE-SPECIFIC CRITERIA EVALUATION DATED APRIL 21, 2020.

SAMPLES WERE ANALYZED BY USEPA METHOD SW5030C/ 8260C.

MONITORING WELLS LOCATED WITHIN 100 FEET OR OUTSIDE OF THE SITE PROPERTY BOUNDARY ARE SUBJECT TO RESIDENTIAL EXPOSURE CRITERIA. ALL OTHER ONSITE MONITORING WELLS ARE SUBJECT TO NONRESIDENTIAL EXPOSURE CRITERIA

RACER TRUST
PONTIAC NORTH CAMPUS
PONTIAC, MICHIGAN

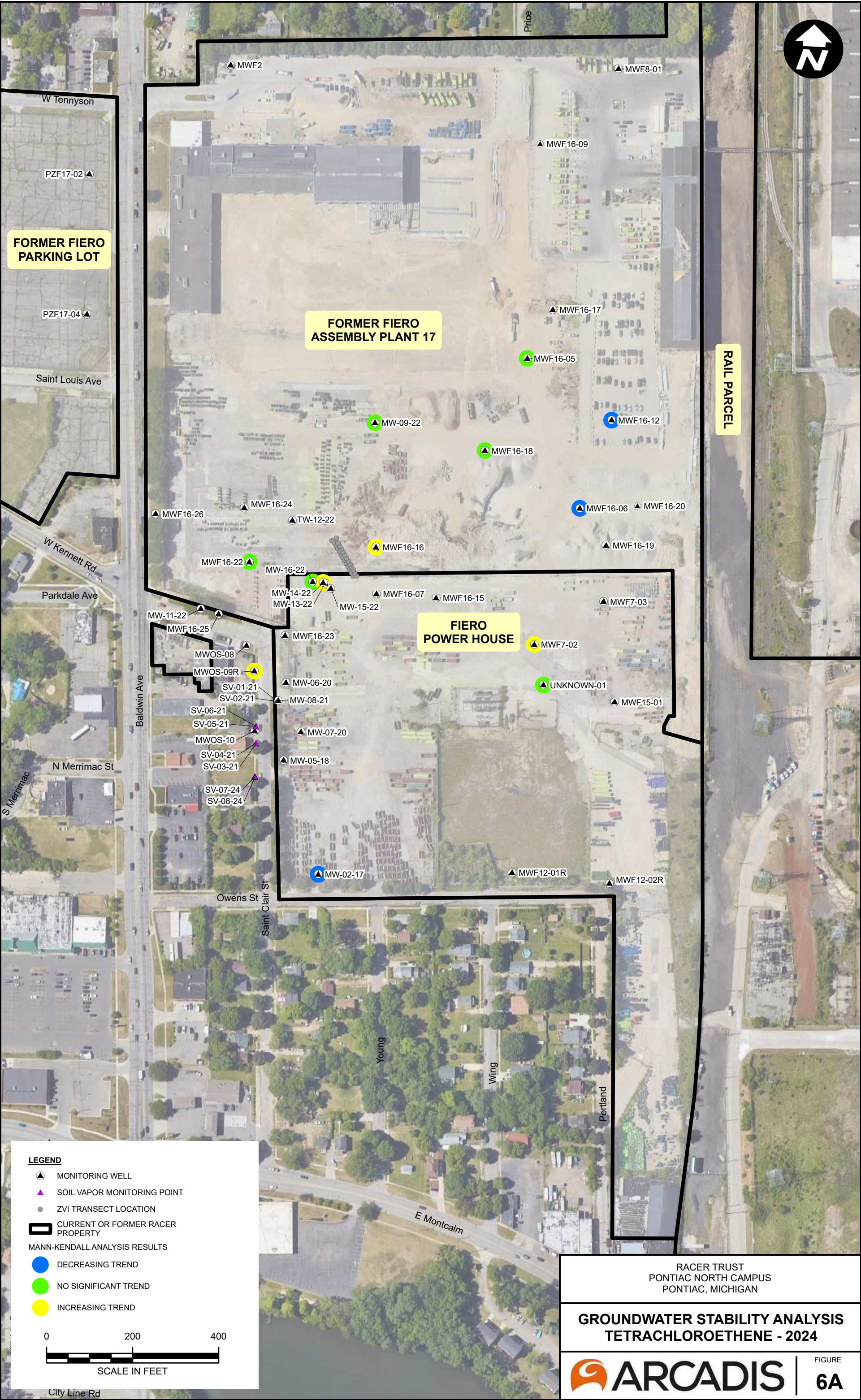
CONCENTRATION OF CIS-1,2-DICHLOROETHENE
IN GROUNDWATER - 2024



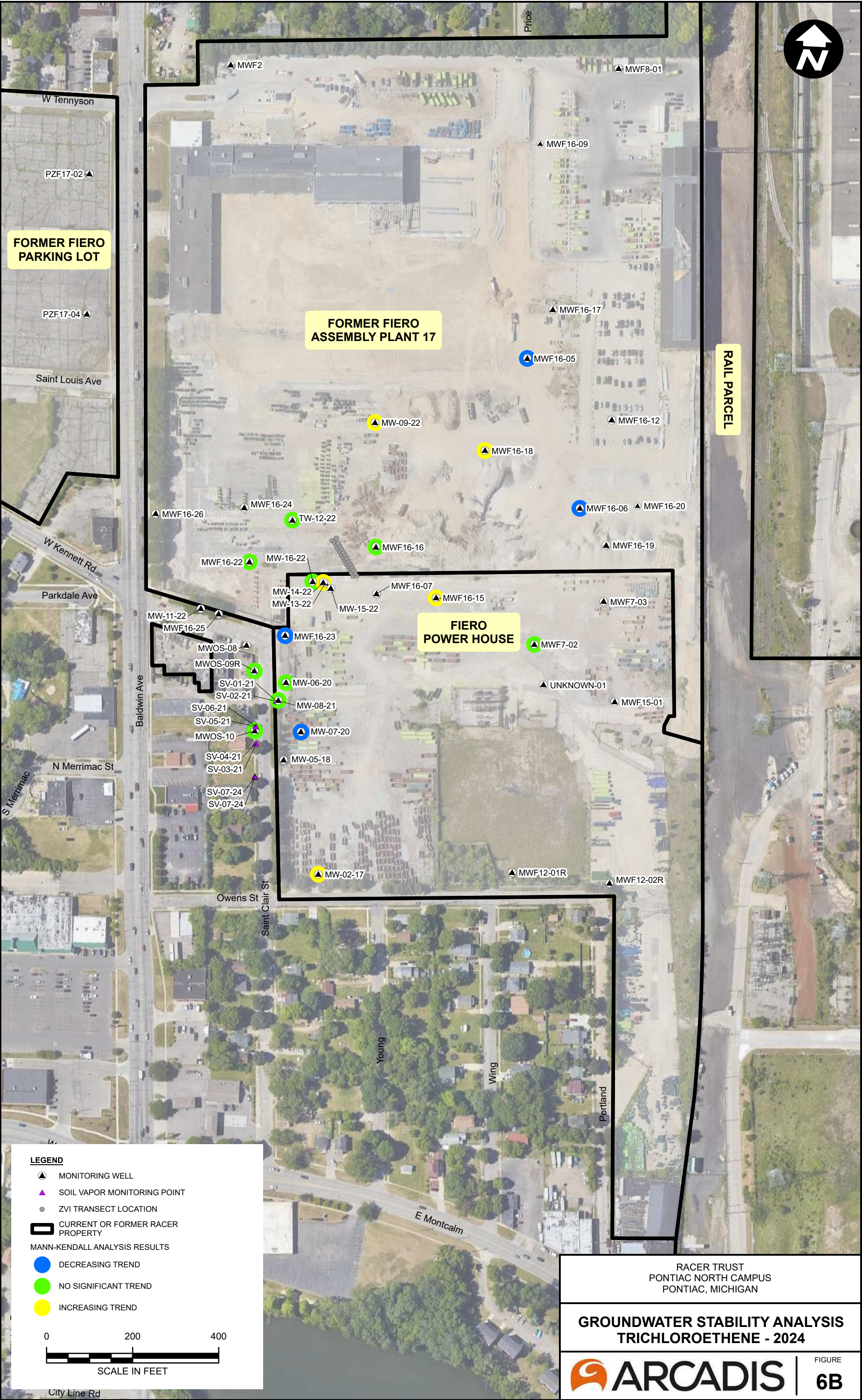
FIGURE

5

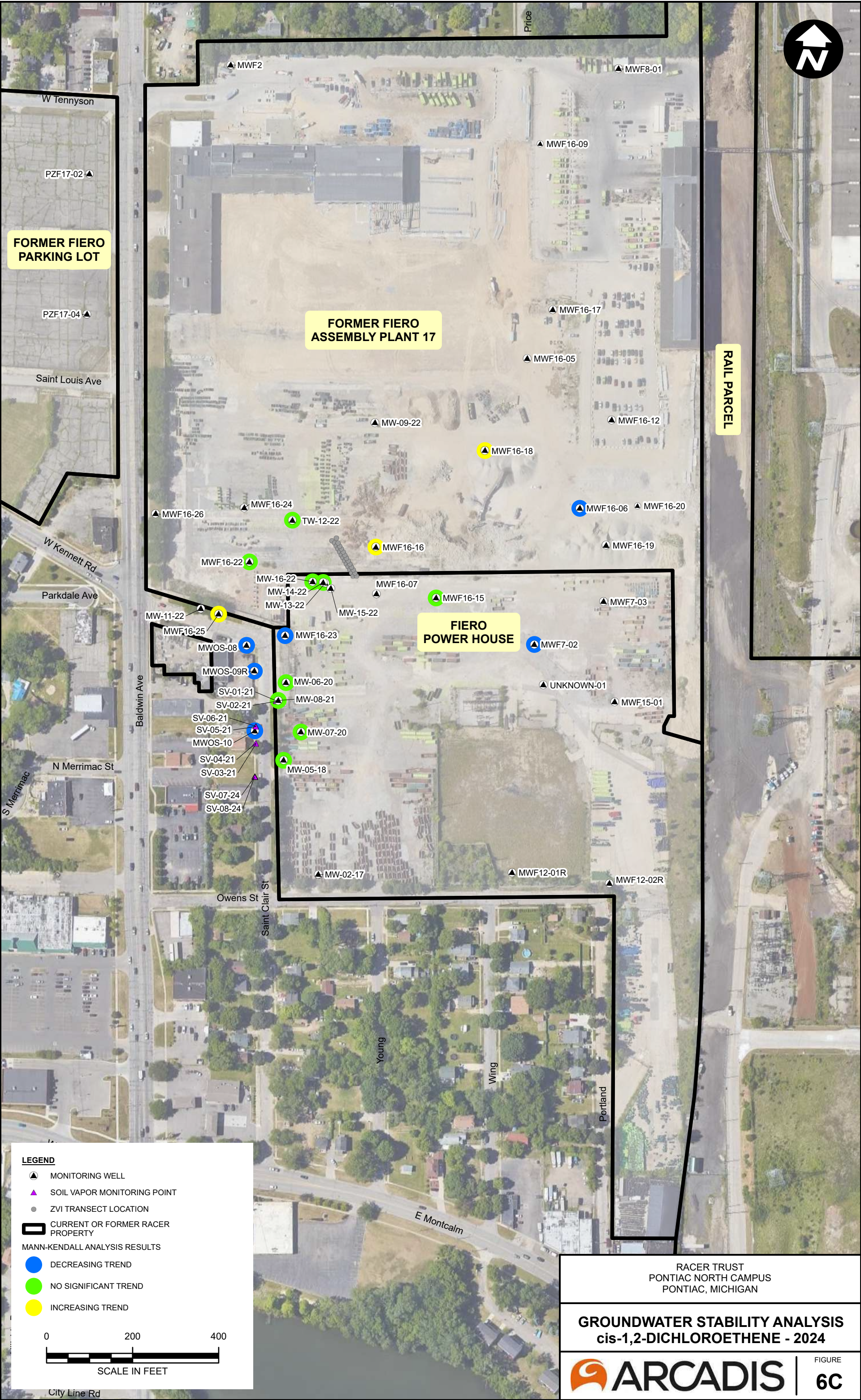
CITY: NOVI, MI DIV: ENV DB: TRY PIC: J. BARRETT PM: T. LINDER TM: L. NICKERSON TR: PROJECT NUMBER: 3026726.00005 COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl
T: ENV\Nov\Brighton_MIMotorsLiquidationCompany\PontiacNorthCampusDocuments\Fomer Fiero_Property\FITMP_Summary2024.aprx PLOTTED: 3/6/2025 11:32 AM BY: AKENS



CITY: NOVI, MI DIV: ENV DB: TRY PIC: J. BARRETT PM: T. LINDER TM: L. NICKERSON TR: PROJECT NUMBER: 3026726.00005 COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl
T: ENV\Novi\Brighton_MIMotorsLiquidationCompany\PontiacNorthCampusDocuments\Fomer Fiero_Property\FTMP_Summary2024.aprx PLOTTED: 3/6/2025 11:32 AM BY: AKENS



CITY: NOVI, MI DIV: ENV DB: TRY PIC: J. BARRETT PM: T. LINDER TM: L. NICKERSON TR: PROJECT NUMBER: 3026726.00005 COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl T: ENV\Nov\Brighton_MIMotorsLiquidationCompany\PontiacNorthCampusDocuments\Fomer Fiero_Property\FTMP_Summary2024\FTMP_Summary2024.aprx PLOTTED: 3/6/2025 11:32 AM BY: AKENS



RACER TRUST
PONTIAC NORTH CAMPUS
PONTIAC, MICHIGAN

GROUNDWATER STABILITY ANALYSIS
cis-1,2-DICHLOROETHENE - 2024



FIGURE
6C

CITY: NOVI, MI DIV: ENV DB: TRY PIC: J. BARRETT PM: T. LINDER TM: L. NICKERSON TR: PROJECT NUMBER: 30267726.00004 COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl T: ENV/Nov/Brighton, MI/MotorsLiquidationCompany/PontiacNorthCampus/Documents/Former Fiero Property/FTMP Summary/2024/FTMP Summary/2024.aprx PLOTTED: 3/5/2025 2:59 PM BY: AKENS



SV-01-21		
Sample Depth (ft. bgs):	14-14.5	
Date Collected:	3/25/2024	9/25/2024
Tetrachloroethene	< 7.0 U	20.0
Trichloroethene	20.0	9.6

SV-02-21		
Sample Depth (ft. bgs):	23.25-23.75	
Date Collected:	3/25/2024	9/25/2024
Tetrachloroethene	8.0 (7.8)	11.0 (12.0)
Trichloroethene	53.0 (53.0)	57.0 (56.0)

SV-06-21		
Sample Depth (ft. bgs):	22.5-23	
Date Collected:	3/25/2024	9/25/2024
Tetrachloroethene	< 7.0 U	< 8.3 U
Trichloroethene	11.0	15.0

SV-05-21		
Sample Depth (ft. bgs):	11.5-12	
Date Collected:	3/25/2024	9/25/2024
Tetrachloroethene	< 6.6 U	< 7.3 U
Trichloroethene	< 5.3 U	< 5.8 U

SV-04-21		
Sample Depth (ft. bgs):	22.5-23	
Date Collected:	3/25/2024	9/25/2024
Tetrachloroethene	< 6.9 U	< 8.2 U
Trichloroethene	13.0	16.0

SV-03-21		
Sample Depth (ft. bgs):	11.5-12	
Date Collected:	3/25/2024	9/25/2024
Tetrachloroethene	< 6.8 U	< 7.7 U
Trichloroethene	< 5.4 U	< 6.1 U

SV-07-24			
Sample Depth (ft. bgs):	11.5-12		
Date Collected:	7/15/2024	9/25/2024	11/5/2024
Tetrachloroethene	< 7.7 U	< 7.7 U	< 7.2 U
Trichloroethene	< 6.1 U	< 6.1 U	< 5.8 U

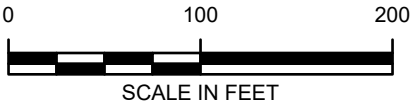
SV-08-24			
Sample Depth (ft. bgs):	22.5-23		
Date Collected:	7/15/2024	9/25/2024	11/5/2024
Tetrachloroethene	< 7.4 U (< 7.9 U)	< 7.4 U	< 10.0 U (< 7.6 U)
Trichloroethene	< 5.9 U (< 6.2 U)	< 5.9 U	< 8.0 U (< 6.0 U)

LEGEND

- MONITORING WELL
- SOIL VAPOR MONITORING POINT
- DOES NOT EXCEED RESIDENTIAL SSVIAC
- CURRENT OR FORMER RACER PROPERTY

NOTES:

- 1) ALL CONCENTRATIONS ARE PRESENTED IN MICROGRAMS PER CUBIC METER ($\mu\text{g}/\text{m}^3$)
- 2) FT. BGS - FEET BELOW GROUND SURFACE
- 3) SOG - SLAB-ON-GRADE
- 4) SSVIAC - SITE-SPECIFIC VOLATILIZATION TO INDOOR AIR CRITERIA
- 5) CRITERIA USED FOR COMPARISON ARE FROM THE EGLE FORMER FIERO ASSEMBLY SITE-SPECIFIC CRITERIA EVALUATION DATED APRIL 21, 2020.
- 6) < - NOT DETECTED ABOVE LABORATORY DETECTION LIMIT
- 7) U - COMPOUND WAS ANALYZED FOR BUT NOT DETECTED. THE ASSOCIATED VALUE IS THE COMPOUND QUANTITATION LIMIT.
- 8) DUPLICATE ANALYSES ARE PRESENTED IN ()
- 9) SAMPLES ANALYZED BY USEPA TO-15 METHOD.



	Fiero SSVIAC Soil Vapor Residential SOG Criteria	Fiero SSVIAC Soil Vapor Residential Basement Criteria
Analyte		
Tetrachloroethene (PCE)	1,400	1,400
Trichloroethene (TCE)	67	67

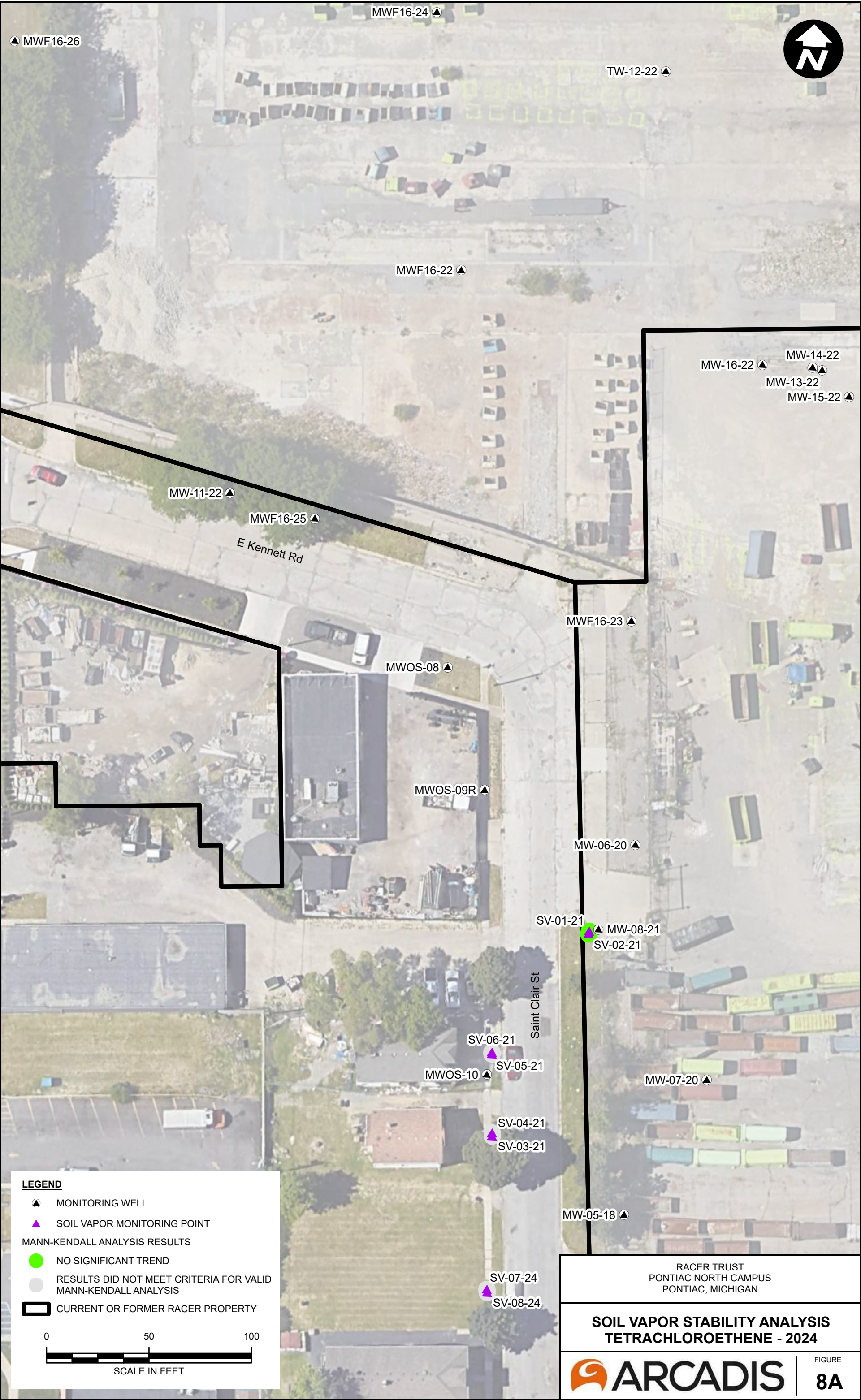
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PONTIAC, MICHIGAN

SUMMARY OF SOIL VAPOR RESULTS

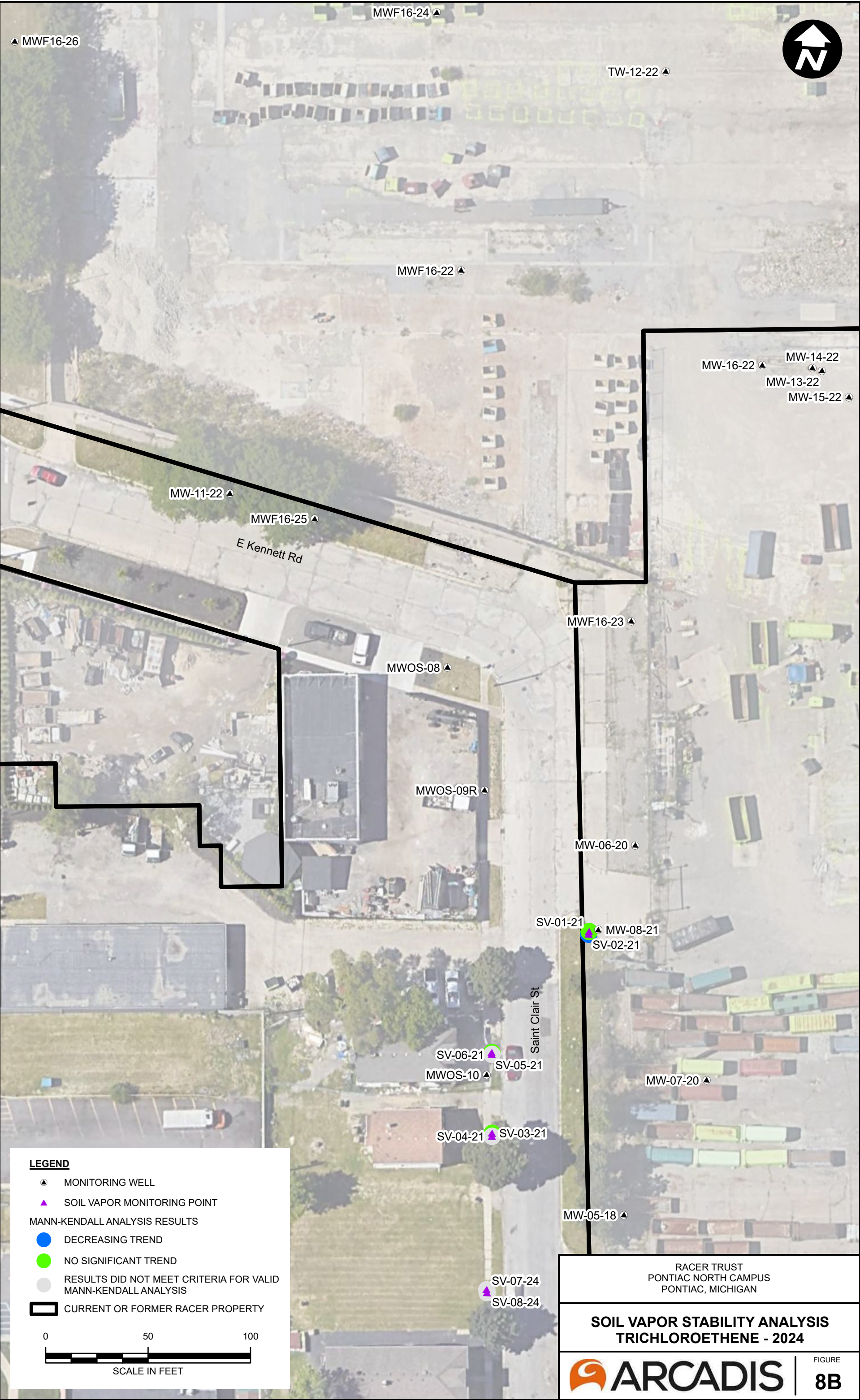
ARCADIS

FIGURE
7

CITY: NOVI, MI DIV: ENV DB: TRY PIC: J. BARRETT PM: T. LINDER TM: L. NICKERSON TR: PROJECT NUMBER: 30267726.00004 COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl
T: ENV/Nov/Brighton, MI/Motors/LiquidationCompany/PontiacNorthCampus/Documents/Former Fiero Property/FTMP Summary/2024/FTMP Summary/2024.aprx PLOTTED: 3/11/2025 1:52 PM BY: AKENS



CITY: NOVI, MI DIV: ENV DB: TRY PIC: J. BARRETT PM: T. LINDER TM: L. CRISP TR: PROJECT NUMBER: 30167840 COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl
T: J. ENV/Nov/Brighton, MI/MotorsLiquidationCompany/PontiacNorthCampus/Documents/Former Fiero Property/FTMP Summary/2024/FTMP Summary/2024.aprx PLOTTED: 3/11/2025 1:52 PM BY: AKENS



Appendix A

Laboratory Analytical Reports



Analytical Laboratory Report

Report ID: S60270.01(01)
Generated on 04/03/2024

Report to

Attention: Alexis Crisp
Arcadis US, Inc.
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: 810-225-1909 FAX:
Email: Alexis.Crisp@arcadis.com

Additional Contacts: Tiffany Linder

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): S60270.01-S60270.05
Project: 30214041.00005 RACER PNC
Collected Date(s): 03/26/2024 - 03/27/2024
Submitted Date/Time: 03/27/2024 15:40
Sampled by: Alaina Pitera
P.O. #: 30214041.00005

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
SW5030C/8260C	SW 846 Method 8260C Revision 3 August 2006 / 5030C Revision 3 May 2003



Analytical Laboratory Report

Sample Summary (5 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S60270.01	Unknown-01_GW-032624	Groundwater	03/26/24 11:20
S60270.02	MWF15-01_GW-032624	Groundwater	03/26/24 13:05
S60270.03	MWF16-15_GW-032624	Groundwater	03/26/24 14:10
S60270.04	MWF16-07_GW-032724	Groundwater	03/27/24 11:25
S60270.05	Trip Blank	Water	03/26/24 00:01



Analytical Laboratory Report

Lab Sample ID: S60270.01

Sample Tag: Unknown-01_GW-032624

Collected Date/Time: 03/26/2024 11:20

Matrix: Groundwater

COC Reference: 162012

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	2.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/01/24 12:33	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 03/29/24 21:04, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		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	4	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	51	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		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	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
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	29	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S60270.01 (continued)
Sample Tag: Unknown-01_GW-032624

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 03/29/24 21:04, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		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	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
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	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
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	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S60270.02

Sample Tag: MWF15-01_GW-032624

Collected Date/Time: 03/26/2024 13:05

Matrix: Groundwater

COC Reference: 162012

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	2.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/01/24 12:33	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 03/29/24 21:28, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		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	1	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	5	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		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	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
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	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S60270.02 (continued)
Sample Tag: MWVF15-01_GW-032624

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 03/29/24 21:28, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		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	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
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	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
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	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S60270.03

Sample Tag: MWF16-15_GW-032624

Collected Date/Time: 03/26/2024 14:10

Matrix: Groundwater

COC Reference: 162012

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	2.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/01/24 12:33	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 03/29/24 21:52, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		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	1	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	4	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	12	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		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	4	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	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
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	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S60270.03 (continued)
Sample Tag: MWVF16-15_GW-032624

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 03/29/24 21:52, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		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	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
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	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
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	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S60270.04
Sample Tag: MWF16-07_GW-032724
Collected Date/Time: 03/27/2024 11:25
Matrix: Groundwater
COC Reference: 162012

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	2.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/01/24 12:33	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 03/29/24 22:15, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		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	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		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	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
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	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S60270.04 (continued)
Sample Tag: MWF16-07_GW-032724

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 03/29/24 22:15, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		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	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
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	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
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	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S60270.05
Sample Tag: Trip Blank
Collected Date/Time: 03/26/2024 00:01
Matrix: Water
COC Reference: 162012

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40mL Glass	HCL	Yes	2.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/01/24 12:33	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 03/29/24 19:54, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		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	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		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	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
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	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S60270.05 (continued)

Sample Tag: Trip Blank

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 03/29/24 19:54, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		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	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
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	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
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	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	

Merit Laboratories Login Checklist

Lab Set ID:S60270

Client:ARCADIS_NOVI (Arcadis US, Inc. - Novi)

Project: 30214041.00005 RACER PNC

Submitted:03/27/2024 15:40 Login User: MMC

Attention: Alexis Crisp

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

Phone: 810-225-1909 FAX:

Email: Alexis.Crisp@arcadis.com

Selection	Description	Note
Sample Receiving		
01. ☒ Yes ☐ No ☐ N/A	Samples are received at 4C +/- 2C	Thermometer # IR 2.8
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 or TOX bottles contain headspace	

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

Client Review By: _____ Date: _____



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

C.O.C. PAGE # _____ OF _____

162012

REPORT TO

CHAIN OF CUSTODY RECORD

INVOICE TO

CONTACT NAME				Alexis Crisp			
COMPANY				Arcadis			
ADDRESS				28550 Cabot Dr #500			
CITY				STATE		ZIP CODE	
NOVI				MI		48377	
PHONE NO.			CELL NO.		PO NO.		
E-MAIL ADDRESS					QUOTE NO.		
t.franklin@arcadis.com Alexis.Crisp@arcadis.com							

CONTACT NAME		Accounts Payable		☐ SAME	
COMPANY					
Arcadis					
ADDRESS					
630 Plaza Dr. #600					
CITY				STATE	ZIP CODE
Highlands Ranch				CO	80129
PHONE NO		E-MAIL ADDRESS			
		accounts.payable.administration@arcadis.com			

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

PROJECT NO./NAME	30214041.00005	Pracer DNC	SAMPLER(S) - PLEASE PRINT/SIGN NAME	Alaina Pitera / Alaina Pitera		
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	# Containers & Preservatives
	SL=SLUDGE	DW=DRINKING WATER	O=OIL	WP=WIPE	A=AIR	WS=WASTE	

[illegible][illegible]

RELINQUISHED BY:	<i>Alaine Pitman / Arcadis</i>	☒ Sampler	DATE	TIME
SIGNATURE/ORGANIZATION			3/27/24	11:45
RECEIVED BY:	<i>Lauren</i>		DATE	TIME
SIGNATURE/ORGANIZATION			3/27/24	13:40
RELINQUISHED BY:	<i>Derrick</i>		DATE	TIME
SIGNATURE/ORGANIZATION			3/27/24	15:40
RECEIVED BY:	<i>M. Dilato</i>		DATE	TIME
SIGNATURE/ORGANIZATION			3/27/24	15:40

RELINQUISHED BY:			DATE	TIME
SIGNATURE/ORGANIZATION				
RECEIVED BY:			DATE	TIME
SIGNATURE/ORGANIZATION				
SEAL NO	SEAL INTACT YES ☐ NO ☐	INITIALS	NOTES:	TEMP. ON ARRIVAL <u>2.8</u>
SEAL NO	SEAL INTACT YES ☐ NO ☐	INITIALS		

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

Rev 1 26 22



Analytical Laboratory Report

Report ID: S60271.01(01)
Generated on 04/03/2024

Report to

Attention: Alexis Crisp
Arcadis US, Inc.
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: 810-225-1909 FAX:
Email: Alexis.Crisp@arcadis.com

Additional Contacts: Tiffany Linder

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): S60271.01-S60271.02
Project: 30214041 / Pontiac North Campus - RACER
Collected Date(s): 03/27/2024
Submitted Date/Time: 03/27/2024 15:40
Sampled by: Garrett Link
P.O. #: 30214041

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- General Report Notes (Page 2)
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- 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
SW5030C/8260C	SW 846 Method 8260C Revision 3 August 2006 / 5030C Revision 3 May 2003



Analytical Laboratory Report

Sample Summary (2 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S60271.01	MWF16-24_GW-032724	Groundwater	03/27/24 00:01
S60271.02	Trip Blank	Water	03/27/24 00:01



Analytical Laboratory Report

Lab Sample ID: S60271.01

Sample Tag: MWF16-24_GW-032724

Collected Date/Time: 03/27/2024 00:01

Matrix: Groundwater

COC Reference: 162017

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	2.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/01/24 12:33	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 03/29/24 22:39, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		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	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	2	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		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	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
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	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S60271.01 (continued)
Sample Tag: MWF16-24_GW-032724

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 03/29/24 22:39, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		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	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
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	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
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	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S60271.02

Sample Tag: Trip Blank

Collected Date/Time: 03/27/2024 00:01

Matrix: Water

COC Reference: 162017

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40mL Glass	HCL	Yes	2.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/01/24 12:33	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 03/29/24 20:17, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		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	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		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	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
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	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S60271.02 (continued)

Sample Tag: Trip Blank

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 03/29/24 20:17, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		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	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
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	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
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	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	

Merit Laboratories Login Checklist

Lab Set ID:S60271

Client:ARCADIS_NOVI (Arcadis US, Inc. - Novi)

Project: 30214041 / Pontiac North Campus - RACER

Submitted:03/27/2024 15:40 Login User: MMC

Attention: Alexis Crisp

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

Phone: 810-225-1909

FAX:

Email: Alexis.Crisp@arcadis.com

Selection	Description	Note
Sample Receiving		
01.	☒ Yes ☐ No ☐ N/A	Samples are received at 4C +/- 2C Thermometer # IR 2.8
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 or TOX bottles contain headspace

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 Lexi Crisp				CONTACT NAME K SAME			
COMPANY ARCADIS				COMPANY			
ADDRESS 28550 Cabot Dr.				ADDRESS			
CITY Novi		STATE MI	ZIP CODE 48377	CITY		STATE	ZIP CODE
PHONE NO 614-985-9163		CELL NO	P.O. NO. 30214041.00005	PHONE NO		E-MAIL ADDRESS	
E-MAIL ADDRESS alexis.crisp@arcadis.com		QUOTE NO		ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)			

PROJECT NO./NAME			SAMPLER(S) - PLEASE PRINT/SIGN NAME																							
TURNAROUND TIME REQUIRED			DELIVERABLES REQUIRED																							
MATRIX CODE			# Containers & Preservatives																							
MERIT LAB NO.			COLLECTION		SAMPLE TAG IDENTIFICATION-DESCRIPTION				MATRIX		# OF BOTTLES		NONE		HCl		HNO ₃		H ₂ SO ₄		NaOH		MeOH		OTHER	
FOR LAB USE ONLY			DATE		TIME																					
30214041 / Pontiac North Campus - RACER			Garrett Link / <i>Garrett Link</i>																							
1 DAY			X STANDARD																							
STD			X LEVEL II																							
W=WATER			# Containers & Preservatives																							
SL=SLUDGE																										
DW=DRINKING WATER																										
O=OIL																										
WP=WIPE																										
A=AIR																										
WS=WASTE																										
60271.01			3/27/24				MWF16-24_GW-032724				GW		3													
.02							TRIP BLANK				W		1													

RELINQUISHED BY: <i>Garrett Link</i>	DATE	TIME	RELINQUISHED BY:	DATE	TIME
SIGNATURE/ORGANIZATION <i>Garrett Link / ARCADIS</i>	<i>3/27/24</i>	<i>1325</i>	SIGNATURE/ORGANIZATION		
RECEIVED BY:	DATE	TIME	RECEIVED BY:	DATE	TIME
SIGNATURE/ORGANIZATION <i>[Signature]</i>	<i>3/27/24</i>	<i>11:21</i>	SIGNATURE/ORGANIZATION		
RELINQUISHED BY:	DATE	TIME	SEAL NO	SEAL INTACT	INITIALS
SIGNATURE/ORGANIZATION <i>[Signature]</i>	<i>3/27/24</i>	<i>15:41</i>		YES ☐ NO ☐	
RECEIVED BY:	DATE	TIME	SEAL NO	SEAL INTACT	INITIALS
SIGNATURE/ORGANIZATION <i>[Signature]</i>	<i>3/27/24</i>	<i>15:40</i>		YES ☐ NO ☐	
			NOTES: TEMP. ON ARRIVAL <i>2.8</i>		

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



Analytical Laboratory Report

Report ID: S60272.01(01)
Generated on 04/04/2024

Report to
Attention: Alexis Crisp
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Suite 500
Novi, MI 48377

Phone: 810-225-1909 FAX:
Email: Alexis.Crisp@arcadis.com

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

Report Summary
Lab Sample ID(s): S60272.01-S60272.07
Project: 30214041 / Pontiac North Campus - RACER
Collected Date(s): 03/26/2024 - 03/27/2024
Submitted Date/Time: 03/27/2024 15:40
Sampled by: Garrett Link
P.O. #: 30214041.00005

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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
SW5030C/8260C	SW 846 Method 8260C Revision 3 August 2006 / 5030C Revision 3 May 2003



Analytical Laboratory Report

Sample Summary (7 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S60272.01	MWF16-17_GW-032624	Groundwater	03/26/24 10:30
S60272.02	MWF16-05_GW-032624	Groundwater	03/26/24 12:05
S60272.03	MWF16-18_GW-032624	Groundwater	03/26/24 14:20
S60272.04	MW-09-22_GW-032624	Groundwater	03/26/24 15:15
S60272.05	DUP-01_GW-032624	Groundwater	03/26/24 00:01
S60272.06	MWF16-06_GW-032724	Groundwater	03/27/24 10:25
S60272.07	Trip Blank	Water	03/26/24 00:01



Analytical Laboratory Report

Lab Sample ID: S60272.01

Sample Tag: MWF16-17_GW-032624

Collected Date/Time: 03/26/2024 10:30

Matrix: Groundwater

COC Reference: 162016

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	2.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/01/24 12:33	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 03/29/24 23:03, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		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	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	2	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		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	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
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	2	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S60272.01 (continued)

Sample Tag: MWF16-17_GW-032624

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 03/29/24 23:03, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		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	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
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	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
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	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S60272.02
Sample Tag: MWF16-05_GW-032624
Collected Date/Time: 03/26/2024 12:05
Matrix: Groundwater
COC Reference: 162016

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	2.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/01/24 12:33	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/04/24 06:06, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	100		ug/L	10	60-29-7	Y
Acetone	Not detected	500		ug/L	10	67-64-1	Y
Methyl iodide	Not detected	10		ug/L	10	74-88-4	Y
Carbon disulfide	Not detected	50		ug/L	10	75-15-0	Y
tert-Methyl butyl ether (MTBE)	Not detected	50		ug/L	10	1634-04-4	Y
Acrylonitrile	Not detected	20		ug/L	10	107-13-1	Y
2-Butanone (MEK)	Not detected	250		ug/L	10	78-93-3	Y
Dichlorodifluoromethane	Not detected	50		ug/L	10	75-71-8	Y
Chloromethane	Not detected	50		ug/L	10	74-87-3	Y
Vinyl chloride	Not detected	10		ug/L	10	75-01-4	Y
Bromomethane	Not detected	50		ug/L	10	74-83-9	Y
Chloroethane	Not detected	50		ug/L	10	75-00-3	Y
Trichlorofluoromethane	Not detected	10		ug/L	10	75-69-4	Y
1,1-Dichloroethene	Not detected	10		ug/L	10	75-35-4	Y
Methylene chloride	Not detected	50		ug/L	10	75-09-2	Y
trans-1,2-Dichloroethene	Not detected	10		ug/L	10	156-60-5	Y
1,1-Dichloroethane	Not detected	10		ug/L	10	75-34-3	Y
cis-1,2-Dichloroethene	Not detected	10		ug/L	10	156-59-2	Y
Tetrahydrofuran*	Not detected	900		ug/L	10	109-99-9	Y
Chloroform	Not detected	10		ug/L	10	67-66-3	Y
Bromochloromethane	Not detected	10		ug/L	10	74-97-5	Y
1,1,1-Trichloroethane	Not detected	10		ug/L	10	71-55-6	Y
4-Methyl-2-pentanone (MIBK)	Not detected	500		ug/L	10	108-10-1	Y
2-Hexanone	Not detected	500		ug/L	10	591-78-6	Y
Carbon tetrachloride	Not detected	10		ug/L	10	56-23-5	Y
Benzene	Not detected	10		ug/L	10	71-43-2	Y
1,2-Dichloroethane	Not detected	10		ug/L	10	107-06-2	Y
Trichloroethene	Not detected	10		ug/L	10	79-01-6	Y
1,2-Dichloropropane	Not detected	10		ug/L	10	78-87-5	Y
Bromodichloromethane	Not detected	10		ug/L	10	75-27-4	Y
Dibromomethane	Not detected	50		ug/L	10	74-95-3	Y
cis-1,3-Dichloropropene	Not detected	10		ug/L	10	10061-01-5	Y
Toluene	Not detected	10		ug/L	10	108-88-3	Y
trans-1,3-Dichloropropene	Not detected	10		ug/L	10	10061-02-6	Y
1,1,2-Trichloroethane	Not detected	10		ug/L	10	79-00-5	Y
Tetrachloroethene	550	10		ug/L	10	127-18-4	Y

Y-Elevated reporting limit due to high target concentration



Analytical Laboratory Report

Lab Sample ID: S60272.02 (continued)
Sample Tag: MWF16-05_GW-032624

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/04/24 06:06, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
trans-1,4-Dichloro-2-butene	Not detected	10		ug/L	10	110-57-6	Y
Dibromochloromethane	Not detected	50		ug/L	10	124-48-1	Y
1,2-Dibromoethane	Not detected	10		ug/L	10	106-93-4	Y
Chlorobenzene	Not detected	10		ug/L	10	108-90-7	Y
1,1,1,2-Tetrachloroethane	Not detected	10		ug/L	10	630-20-6	Y
Ethylbenzene	Not detected	10		ug/L	10	100-41-4	Y
p,m-Xylene*	Not detected	20		ug/L	10		Y
o-Xylene	Not detected	10		ug/L	10	95-47-6	Y
Styrene	Not detected	10		ug/L	10	100-42-5	Y
Isopropylbenzene	Not detected	50		ug/L	10	98-82-8	Y
Bromoform	Not detected	10		ug/L	10	75-25-2	Y
1,1,2,2-Tetrachloroethane	Not detected	10		ug/L	10	79-34-5	Y
1,2,3-Trichloropropane	Not detected	10		ug/L	10	96-18-4	Y
n-Propylbenzene	Not detected	10		ug/L	10	103-65-1	Y
Bromobenzene	Not detected	10		ug/L	10	108-86-1	Y
1,3,5-Trimethylbenzene	Not detected	10		ug/L	10	108-67-8	Y
tert-Butylbenzene	Not detected	10		ug/L	10	98-06-6	Y
1,2,4-Trimethylbenzene	Not detected	10		ug/L	10	95-63-6	Y
sec-Butylbenzene	Not detected	10		ug/L	10	135-98-8	Y
p-Isopropyltoluene	Not detected	50		ug/L	10	99-87-6	Y
1,3-Dichlorobenzene	Not detected	10		ug/L	10	541-73-1	Y
1,4-Dichlorobenzene	Not detected	10		ug/L	10	106-46-7	Y
1,2-Dichlorobenzene	Not detected	10		ug/L	10	95-50-1	Y
1,2,3-Trimethylbenzene	Not detected	10		ug/L	10	526-73-8	Y
n-Butylbenzene	Not detected	10		ug/L	10	104-51-8	Y
Hexachloroethane	Not detected	50		ug/L	10	67-72-1	Y
1,2-Dibromo-3-chloropropane	Not detected	50		ug/L	10	96-12-8	Y
1,2,4-Trichlorobenzene	Not detected	50		ug/L	10	120-82-1	Y
1,2,3-Trichlorobenzene	Not detected	50		ug/L	10	87-61-6	Y
Naphthalene	Not detected	50		ug/L	10	91-20-3	Y
2-Methylnaphthalene	Not detected	50		ug/L	10	91-57-6	Y

Y-Elevated reporting limit due to high target concentration



Analytical Laboratory Report

Lab Sample ID: S60272.03
Sample Tag: MWF16-18_GW-032624
Collected Date/Time: 03/26/2024 14:20
Matrix: Groundwater
COC Reference: 162016

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	2.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/01/24 12:33	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 03/30/24 03:00, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	100		ug/L	10	60-29-7	Y
Acetone	Not detected	500		ug/L	10	67-64-1	Y
Methyl iodide	Not detected	10		ug/L	10	74-88-4	Y
Carbon disulfide	Not detected	50		ug/L	10	75-15-0	Y
tert-Methyl butyl ether (MTBE)	Not detected	50		ug/L	10	1634-04-4	Y
Acrylonitrile	Not detected	20		ug/L	10	107-13-1	Y
2-Butanone (MEK)	Not detected	250		ug/L	10	78-93-3	Y
Dichlorodifluoromethane	Not detected	50		ug/L	10	75-71-8	Y
Chloromethane	Not detected	50		ug/L	10	74-87-3	Y
Vinyl chloride	30	10		ug/L	10	75-01-4	Y
Bromomethane	Not detected	50		ug/L	10	74-83-9	Y
Chloroethane	Not detected	50		ug/L	10	75-00-3	Y
Trichlorofluoromethane	Not detected	10		ug/L	10	75-69-4	Y
1,1-Dichloroethene	Not detected	10		ug/L	10	75-35-4	Y
Methylene chloride	Not detected	50		ug/L	10	75-09-2	Y
trans-1,2-Dichloroethene	Not detected	10		ug/L	10	156-60-5	Y
1,1-Dichloroethane	Not detected	10		ug/L	10	75-34-3	Y
cis-1,2-Dichloroethene	220	10		ug/L	10	156-59-2	Y
Tetrahydrofuran*	Not detected	900		ug/L	10	109-99-9	Y
Chloroform	Not detected	10		ug/L	10	67-66-3	Y
Bromochloromethane	Not detected	10		ug/L	10	74-97-5	Y
1,1,1-Trichloroethane	Not detected	10		ug/L	10	71-55-6	Y
4-Methyl-2-pentanone (MIBK)	Not detected	500		ug/L	10	108-10-1	Y
2-Hexanone	Not detected	500		ug/L	10	591-78-6	Y
Carbon tetrachloride	Not detected	10		ug/L	10	56-23-5	Y
Benzene	Not detected	10		ug/L	10	71-43-2	Y
1,2-Dichloroethane	Not detected	10		ug/L	10	107-06-2	Y
Trichloroethene	40	10		ug/L	10	79-01-6	Y
1,2-Dichloropropane	Not detected	10		ug/L	10	78-87-5	Y
Bromodichloromethane	Not detected	10		ug/L	10	75-27-4	Y
Dibromomethane	Not detected	50		ug/L	10	74-95-3	Y
cis-1,3-Dichloropropene	Not detected	10		ug/L	10	10061-01-5	Y
Toluene	Not detected	10		ug/L	10	108-88-3	Y
trans-1,3-Dichloropropene	Not detected	10		ug/L	10	10061-02-6	Y
1,1,2-Trichloroethane	Not detected	10		ug/L	10	79-00-5	Y
Tetrachloroethene	1,170	10		ug/L	10	127-18-4	Y

Y-Elevated reporting limit due to high target concentration



Analytical Laboratory Report

Lab Sample ID: S60272.03 (continued)

Sample Tag: MWF16-18_GW-032624

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 03/30/24 03:00, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
trans-1,4-Dichloro-2-butene	Not detected	10		ug/L	10	110-57-6	Y
Dibromochloromethane	Not detected	50		ug/L	10	124-48-1	Y
1,2-Dibromoethane	Not detected	10		ug/L	10	106-93-4	Y
Chlorobenzene	Not detected	10		ug/L	10	108-90-7	Y
1,1,1,2-Tetrachloroethane	Not detected	10		ug/L	10	630-20-6	Y
Ethylbenzene	Not detected	10		ug/L	10	100-41-4	Y
p,m-Xylene*	Not detected	20		ug/L	10		Y
o-Xylene	Not detected	10		ug/L	10	95-47-6	Y
Styrene	Not detected	10		ug/L	10	100-42-5	Y
Isopropylbenzene	Not detected	50		ug/L	10	98-82-8	Y
Bromoform	Not detected	10		ug/L	10	75-25-2	Y
1,1,2,2-Tetrachloroethane	Not detected	10		ug/L	10	79-34-5	Y
1,2,3-Trichloropropane	Not detected	10		ug/L	10	96-18-4	Y
n-Propylbenzene	Not detected	10		ug/L	10	103-65-1	Y
Bromobenzene	Not detected	10		ug/L	10	108-86-1	Y
1,3,5-Trimethylbenzene	Not detected	10		ug/L	10	108-67-8	Y
tert-Butylbenzene	Not detected	10		ug/L	10	98-06-6	Y
1,2,4-Trimethylbenzene	Not detected	10		ug/L	10	95-63-6	Y
sec-Butylbenzene	Not detected	10		ug/L	10	135-98-8	Y
p-Isopropyltoluene	Not detected	50		ug/L	10	99-87-6	Y
1,3-Dichlorobenzene	Not detected	10		ug/L	10	541-73-1	Y
1,4-Dichlorobenzene	Not detected	10		ug/L	10	106-46-7	Y
1,2-Dichlorobenzene	Not detected	10		ug/L	10	95-50-1	Y
1,2,3-Trimethylbenzene	Not detected	10		ug/L	10	526-73-8	Y
n-Butylbenzene	Not detected	10		ug/L	10	104-51-8	Y
Hexachloroethane	Not detected	50		ug/L	10	67-72-1	Y
1,2-Dibromo-3-chloropropane	Not detected	50		ug/L	10	96-12-8	Y
1,2,4-Trichlorobenzene	Not detected	50		ug/L	10	120-82-1	Y
1,2,3-Trichlorobenzene	Not detected	50		ug/L	10	87-61-6	Y
Naphthalene	Not detected	50		ug/L	10	91-20-3	Y
2-Methylnaphthalene	Not detected	50		ug/L	10	91-57-6	Y

Y-Elevated reporting limit due to high target concentration



Analytical Laboratory Report

Lab Sample ID: S60272.04
Sample Tag: MW-09-22_GW-032624
Collected Date/Time: 03/26/2024 15:15
Matrix: Groundwater
COC Reference: 162016

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	2.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/01/24 12:33	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 03/29/24 23:27, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		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	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	1	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	1	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	4	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	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
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	147	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S60272.04 (continued)
Sample Tag: MW-09-22_GW-032624

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 03/29/24 23:27, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		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	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
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	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
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	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S60272.05
Sample Tag: DUP-01_GW-032624
Collected Date/Time: 03/26/2024 00:01
Matrix: Groundwater
COC Reference: 162016

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	2.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/01/24 12:33	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 03/29/24 23:51, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		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	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	1	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	1	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	4	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	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
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	149	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S60272.05 (continued)

Sample Tag: DUP-01_GW-032624

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 03/29/24 23:51, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		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	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
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	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
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	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S60272.06
Sample Tag: MWF16-06_GW-032724
Collected Date/Time: 03/27/2024 10:25
Matrix: Groundwater
COC Reference: 162016

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	2.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/01/24 12:33	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 03/30/24 00:14, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	7	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	70	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	17	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	10	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	98	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	7	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	1	1		ug/L	1	107-06-2	
Trichloroethene	6	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	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
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	53	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S60272.06 (continued)
Sample Tag: MWVF16-06_GW-032724

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 03/30/24 00:14, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		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	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
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	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
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	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S60272.07
Sample Tag: Trip Blank
Collected Date/Time: 03/26/2024 00:01
Matrix: Water
COC Reference: 162016

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40mL Glass	HCL	Yes	2.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/01/24 12:33	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 03/29/24 20:41, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		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	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		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	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
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	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S60272.07 (continued)

Sample Tag: Trip Blank

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 03/29/24 20:41, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		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	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
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	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
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	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	

Merit Laboratories Login Checklist

Lab Set ID:S60272

Client:ARCADIS_NOVI (Arcadis US, Inc. - Novi)

Project: 30214041 / Pontiac North Campus - RACER

Submitted:03/27/2024 15:40 Login User: MMC

Attention: Alexis Crisp

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

Phone: 810-225-1909

FAX:

Email: Alexis.Crisp@arcadis.com

Selection	Description	Note
Sample Receiving		
01. ☒ Yes ☐ No ☐ N/A	Samples are received at 4C +/- 2C	Thermometer # IR 2.8
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 or TOX bottles contain headspace	

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

Client Review By: _____ Date: _____

REPORT TO

CONTACT NAME				Lexi Crisp			
COMPANY				ARCADIS			
ADDRESS							
28550 Cabot Dr							
CITY				STATE		ZIP CODE	
Nov.				MI		48377	
PHONE NO.				CELL NO.		PO NO.	
604-985-9163						30214041.00005	
E-MAIL ADDRESS						QUOTE NO.	
alexis.crisp@arcadis.com							

CHAIN OF CUSTODY RECORD

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

INVOICE TO

PROJECT NO./NAME 30214041 / Pontiac North Campus - RACER	SAMPLER(S) - PLEASE PRINT/SIGN NAME Garrett Link
TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER	
DELIVERABLES REQUIRED ☐ STD ☒ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☒ EDD ☐ OTHER	

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications

☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations

☐ Detroit ☐ New York☐ Other _____

Special Instructions

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
Preservat

[illegible]

RELINQUISHED BY: Garrett Link	☒ Sampler	DATE	TIME
SIGNATURE/ORGANIZATION	<i>Garrett Link</i> / ARCADIS	3/23/24	1325
RECEIVED BY:		DATE	TIME
SIGNATURE/ORGANIZATION	<i>[Signature]</i>	3/27/24	1325
RELINQUISHED BY:		DATE	TIME
SIGNATURE/ORGANIZATION	<i>[Signature]</i>	3/27/24	1548
RECEIVED BY:		DATE	TIME
SIGNATURE/ORGANIZATION	<i>[Signature]</i>	3/27/24	1540

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		28

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



Analytical Laboratory Report

Report ID: S60381.01(01)
Generated on 04/09/2024

Report to

Attention: Alexis Crisp
Arcadis US, Inc.
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: 810-225-1909 FAX:
Email: Alexis.Crisp@arcadis.com

Additional Contacts: Tiffany Linder

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): S60381.01
Project: 30214041 / Pontiac North Campus - RACER
Collected Date(s): 03/27/2024
Submitted Date/Time: 03/29/2024 14:35
Sampled by: Garrett Link
P.O. #: 30214041.00005

Table of Contents

- Cover Page (Page 1)
- General Report Notes (Page 2)
- Report Narrative (Page 2)
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- 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
SW5030C/8260C	SW 846 Method 8260C Revision 3 August 2006 / 5030C Revision 3 May 2003



Analytical Laboratory Report

Sample Summary (1 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S60381.01	MWF16-16_GW-032724	Groundwater	03/27/24 14:35



Analytical Laboratory Report

Lab Sample ID: S60381.01

Sample Tag: MWF16-16_GW-032724

Collected Date/Time: 03/27/2024 14:35

Matrix: Groundwater

COC Reference: 159481

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	2.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/08/24 12:44	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/07/24 22:13, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	100		ug/L	10	60-29-7	Y
Acetone	Not detected	500		ug/L	10	67-64-1	Y
Methyl iodide	Not detected	10		ug/L	10	74-88-4	Y
Carbon disulfide	Not detected	50		ug/L	10	75-15-0	Y
tert-Methyl butyl ether (MTBE)	Not detected	50		ug/L	10	1634-04-4	Y
Acrylonitrile	Not detected	20		ug/L	10	107-13-1	Y
2-Butanone (MEK)	Not detected	250		ug/L	10	78-93-3	Y
Dichlorodifluoromethane	Not detected	50		ug/L	10	75-71-8	Y
Chloromethane	Not detected	50		ug/L	10	74-87-3	Y
Vinyl chloride	Not detected	10		ug/L	10	75-01-4	Y
Bromomethane	Not detected	50		ug/L	10	74-83-9	Y
Chloroethane	Not detected	50		ug/L	10	75-00-3	Y
Trichlorofluoromethane	Not detected	10		ug/L	10	75-69-4	Y
1,1-Dichloroethene	Not detected	10		ug/L	10	75-35-4	Y
Methylene chloride	Not detected	50		ug/L	10	75-09-2	Y
trans-1,2-Dichloroethene	Not detected	10		ug/L	10	156-60-5	Y
1,1-Dichloroethane	Not detected	10		ug/L	10	75-34-3	Y
cis-1,2-Dichloroethene	20	10		ug/L	10	156-59-2	Y
Tetrahydrofuran*	Not detected	900		ug/L	10	109-99-9	Y
Chloroform	Not detected	10		ug/L	10	67-66-3	Y
Bromochloromethane	Not detected	10		ug/L	10	74-97-5	Y
1,1,1-Trichloroethane	Not detected	10		ug/L	10	71-55-6	Y
4-Methyl-2-pentanone (MIBK)	Not detected	500		ug/L	10	108-10-1	Y
2-Hexanone	Not detected	500		ug/L	10	591-78-6	Y
Carbon tetrachloride	Not detected	10		ug/L	10	56-23-5	Y
Benzene	Not detected	10		ug/L	10	71-43-2	Y
1,2-Dichloroethane	Not detected	10		ug/L	10	107-06-2	Y
Trichloroethene	Not detected	10		ug/L	10	79-01-6	Y
1,2-Dichloropropane	Not detected	10		ug/L	10	78-87-5	Y
Bromodichloromethane	Not detected	10		ug/L	10	75-27-4	Y
Dibromomethane	Not detected	50		ug/L	10	74-95-3	Y
cis-1,3-Dichloropropene	Not detected	10		ug/L	10	10061-01-5	Y
Toluene	Not detected	10		ug/L	10	108-88-3	Y
trans-1,3-Dichloropropene	Not detected	10		ug/L	10	10061-02-6	Y
1,1,2-Trichloroethane	Not detected	10		ug/L	10	79-00-5	Y
Tetrachloroethene	540	10		ug/L	10	127-18-4	Y

Y-Elevated reporting limit due to high target concentration



Analytical Laboratory Report

Lab Sample ID: S60381.01 (continued)

Sample Tag: MWF16-16_GW-032724

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/07/24 22:13, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
trans-1,4-Dichloro-2-butene	Not detected	10		ug/L	10	110-57-6	Y
Dibromochloromethane	Not detected	50		ug/L	10	124-48-1	Y
1,2-Dibromoethane	Not detected	10		ug/L	10	106-93-4	Y
Chlorobenzene	Not detected	10		ug/L	10	108-90-7	Y
1,1,1,2-Tetrachloroethane	Not detected	10		ug/L	10	630-20-6	Y
Ethylbenzene	Not detected	10		ug/L	10	100-41-4	Y
p,m-Xylene*	Not detected	20		ug/L	10		Y
o-Xylene	Not detected	10		ug/L	10	95-47-6	Y
Styrene	Not detected	10		ug/L	10	100-42-5	Y
Isopropylbenzene	Not detected	50		ug/L	10	98-82-8	Y
Bromoform	Not detected	10		ug/L	10	75-25-2	Y
1,1,2,2-Tetrachloroethane	Not detected	10		ug/L	10	79-34-5	Y
1,2,3-Trichloropropane	Not detected	10		ug/L	10	96-18-4	Y
n-Propylbenzene	Not detected	10		ug/L	10	103-65-1	Y
Bromobenzene	Not detected	10		ug/L	10	108-86-1	Y
1,3,5-Trimethylbenzene	Not detected	10		ug/L	10	108-67-8	Y
tert-Butylbenzene	Not detected	10		ug/L	10	98-06-6	Y
1,2,4-Trimethylbenzene	Not detected	10		ug/L	10	95-63-6	Y
sec-Butylbenzene	Not detected	10		ug/L	10	135-98-8	Y
p-Isopropyltoluene	Not detected	50		ug/L	10	99-87-6	Y
1,3-Dichlorobenzene	Not detected	10		ug/L	10	541-73-1	Y
1,4-Dichlorobenzene	Not detected	10		ug/L	10	106-46-7	Y
1,2-Dichlorobenzene	Not detected	10		ug/L	10	95-50-1	Y
1,2,3-Trimethylbenzene	Not detected	10		ug/L	10	526-73-8	Y
n-Butylbenzene	Not detected	10		ug/L	10	104-51-8	Y
Hexachloroethane	Not detected	50		ug/L	10	67-72-1	Y
1,2-Dibromo-3-chloropropane	Not detected	50		ug/L	10	96-12-8	Y
1,2,4-Trichlorobenzene	Not detected	50		ug/L	10	120-82-1	Y
1,2,3-Trichlorobenzene	Not detected	50		ug/L	10	87-61-6	Y
Naphthalene	Not detected	50		ug/L	10	91-20-3	Y
2-Methylnaphthalene	Not detected	50		ug/L	10	91-57-6	Y

Y-Elevated reporting limit due to high target concentration

Merit Laboratories Login Checklist

Lab Set ID:S60381

Client:ARCADIS_NOVI (Arcadis US, Inc. - Novi)

Project: 30214041 / Pontiac North Campus - RACER

Submitted:03/29/2024 14:35 Login User: MMC

Attention: Alexis Crisp

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

Phone: 810-225-1909

FAX:

Email: Alexis.Crisp@arcadis.com

Selection	Description	Note
Sample Receiving		
01.	☒ Yes ☐ No ☐ N/A	Samples are received at 4C +/- 2C Thermometer # IR 2.7
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 or TOX bottles contain headspace

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

Client Review By: _____ Date: _____

159481

INVOICE TO

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

Certifications

☐ OHIO VAP ☐ Drinking Water

☐ DoD ☐ NPDES

Project Locations

☐ Detroit ☐ New York

☐ Other _____

Special Instructions

Containers & Preservatives

RELINQUISHED BY:				DATE	TIME
SIGNATURE/ORGANIZATION					
RECEIVED BY:				DATE	TIME
SIGNATURE/ORGANIZATION					
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	NOTES:	TEMP. ON ARRIVAL	2.7
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS			

Rev 1 26 22



Analytical Laboratory Report

Report ID: S60382.01(01)
Generated on 04/10/2024

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

Phone: 810-225-1909 FAX:
Email: Alexis.Crisp@arcadis.com

Additional Contacts: Tiffany Linder

Report produced by
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Report Summary
Lab Sample ID(s): S60382.01-S60382.10
Project: 30214041 / Pontiac North Campus - RACER
Collected Date(s): 03/27/2024 - 03/29/2024
Submitted Date/Time: 03/29/2024 14:35
Sampled by: Garrett Link
P.O. #: 30214041.00005

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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
SW5030C/8260C	SW 846 Method 8260C Revision 3 August 2006 / 5030C Revision 3 May 2003



Analytical Laboratory Report

Sample Summary (10 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S60382.01	MWF16-22_GW-032724	Groundwater	03/27/24 14:10
S60382.02	MWF16-12_GW-032824	Groundwater	03/28/24 09:05
S60382.03	MWF16-25_GW-032824	Groundwater	03/28/24 10:15
S60382.04	MW-11-22_GW-032824	Groundwater	03/28/24 11:15
S60382.05	MSOS-10_GW-032824	Groundwater	03/28/24 12:55
S60382.06	MSOS-09R_GW-032824	Groundwater	03/28/24 14:10
S60382.07	MSOS-08_GW-032824	Groundwater	03/28/24 16:33
S60382.08	DUP-03_GW-032824	Groundwater	03/28/24 00:01
S60382.09	TW-12-22_GW-032924	Groundwater	03/29/24 10:25
S60382.10	MW-08-21_GW-032924	Groundwater	03/29/24 12:20



Analytical Laboratory Report

Lab Sample ID: S60382.01

Sample Tag: MWF16-22_GW-032724

Collected Date/Time: 03/27/2024 14:10

Matrix: Groundwater

COC Reference: 159482

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	2.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/08/24 12:44	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/08/24 19:05, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		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	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	3	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		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	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
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	77	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S60382.01 (continued)
Sample Tag: MWF16-22_GW-032724

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/08/24 19:05, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		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	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
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	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
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	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S60382.02
Sample Tag: MWF16-12_GW-032824
Collected Date/Time: 03/28/2024 09:05
Matrix: Groundwater
COC Reference: 159482

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	2.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/08/24 12:44	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/07/24 18:18, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		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	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		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	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
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	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S60382.02 (continued)
Sample Tag: MWF16-12_GW-032824

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/07/24 18:18, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		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	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
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	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
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	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S60382.03

Sample Tag: MWF16-25_GW-032824

Collected Date/Time: 03/28/2024 10:15

Matrix: Groundwater

COC Reference: 159482

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	2.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/08/24 12:44	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/07/24 18:42, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		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	3	1		ug/L	1	156-60-5	
1,1-Dichloroethane	2	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	38	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	2	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	3	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		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	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
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	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S60382.03 (continued)
Sample Tag: MWF16-25_GW-032824

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/07/24 18:42, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		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	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
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	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
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	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S60382.04

Sample Tag: MW-11-22_GW-032824

Collected Date/Time: 03/28/2024 11:15

Matrix: Groundwater

COC Reference: 159482

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	2.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/08/24 12:44	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/07/24 19:06, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		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	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	2	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	1	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	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
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	2	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S60382.04 (continued)

Sample Tag: MW-11-22_GW-032824

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/07/24 19:06, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		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	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
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	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
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	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S60382.05

Sample Tag: MSOS-10_GW-032824

Collected Date/Time: 03/28/2024 12:55

Matrix: Groundwater

COC Reference: 159482

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	2.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/08/24 12:44	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/07/24 19:29, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		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	3	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	5	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	2	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		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	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
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	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S60382.05 (continued)
Sample Tag: MSOS-10_GW-032824

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/07/24 19:29, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		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	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
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	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
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	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S60382.06

Sample Tag: MSOS-09R_GW-032824

Collected Date/Time: 03/28/2024 14:10

Matrix: Groundwater

COC Reference: 159482

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	2.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/08/24 12:44	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/07/24 19:52, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		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	1	1		ug/L	1	156-60-5	
1,1-Dichloroethane	3	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	17	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	4	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		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	5	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	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
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	20	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S60382.06 (continued)
Sample Tag: MSOS-09R_GW-032824

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/07/24 19:52, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		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	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
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	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
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	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S60382.07

Sample Tag: MSOS-08_GW-032824

Collected Date/Time: 03/28/2024 16:33

Matrix: Groundwater

COC Reference: 159482

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	2.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/08/24 12:44	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/07/24 20:16, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		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	1	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	1	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	6	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		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	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
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	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S60382.07 (continued)

Sample Tag: MSOS-08_GW-032824

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/07/24 20:16, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		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	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
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	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
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	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S60382.08
Sample Tag: DUP-03_GW-032824
Collected Date/Time: 03/28/2024 00:01
Matrix: Groundwater
COC Reference: 159482

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	2.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/08/24 12:44	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/07/24 20:40, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		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	2	1		ug/L	1	156-60-5	
1,1-Dichloroethane	3	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	19	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	4	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		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	4	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	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
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	17	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S60382.08 (continued)

Sample Tag: DUP-03_GW-032824

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/07/24 20:40, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		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	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
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	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
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	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S60382.09
Sample Tag: TW-12-22_GW-032924
Collected Date/Time: 03/29/2024 10:25
Matrix: Groundwater
COC Reference: 159482

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	2.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/08/24 12:44	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/07/24 21:03, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	1	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	5	1		ug/L	1	156-60-5	
1,1-Dichloroethane	8	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	225	1		ug/L	1	156-59-2	E
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	8	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	18	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	3	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	24	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	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
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	49	1		ug/L	1	127-18-4	

E-Concentration exceeds calibration range



Analytical Laboratory Report

Lab Sample ID: S60382.09 (continued)

Sample Tag: TW-12-22_GW-032924

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/07/24 21:03, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		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	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
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	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
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	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	

Volatile Organics - DEQ List (Replicate 01), Method: SW5030C/8260C, Run Date: 04/08/24 21:50, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	100		ug/L	10	60-29-7	Y
Acetone	Not detected	500		ug/L	10	67-64-1	Y
Methyl iodide	Not detected	10		ug/L	10	74-88-4	Y
Carbon disulfide	Not detected	50		ug/L	10	75-15-0	Y
tert-Methyl butyl ether (MTBE)	Not detected	50		ug/L	10	1634-04-4	Y
Acrylonitrile	Not detected	20		ug/L	10	107-13-1	Y
2-Butanone (MEK)	Not detected	250		ug/L	10	78-93-3	Y
Dichlorodifluoromethane	Not detected	50		ug/L	10	75-71-8	Y
Chloromethane	Not detected	50		ug/L	10	74-87-3	Y
Vinyl chloride	Not detected	10		ug/L	10	75-01-4	Y
Bromomethane	Not detected	50		ug/L	10	74-83-9	Y
Chloroethane	Not detected	50		ug/L	10	75-00-3	Y
Trichlorofluoromethane	Not detected	10		ug/L	10	75-69-4	Y
1,1-Dichloroethene	Not detected	10		ug/L	10	75-35-4	Y
Methylene chloride	Not detected	50		ug/L	10	75-09-2	Y

Y-Elevated reporting limit due to high target concentration



Analytical Laboratory Report

Lab Sample ID: S60382.09 (continued)
Sample Tag: TW-12-22_GW-032924

Volatile Organics - DEQ List (Replicate 01), Method: SW5030C/8260C, Run Date: 04/08/24 21:50, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
trans-1,2-Dichloroethene	Not detected	10		ug/L	10	156-60-5	Y
1,1-Dichloroethane	Not detected	10		ug/L	10	75-34-3	Y
cis-1,2-Dichloroethene	190	10		ug/L	10	156-59-2	Y
Tetrahydrofuran*	Not detected	900		ug/L	10	109-99-9	Y
Chloroform	Not detected	10		ug/L	10	67-66-3	Y
Bromochloromethane	Not detected	10		ug/L	10	74-97-5	Y
1,1,1-Trichloroethane	10	10		ug/L	10	71-55-6	Y
4-Methyl-2-pentanone (MIBK)	Not detected	500		ug/L	10	108-10-1	Y
2-Hexanone	Not detected	500		ug/L	10	591-78-6	Y
Carbon tetrachloride	Not detected	10		ug/L	10	56-23-5	Y
Benzene	Not detected	10		ug/L	10	71-43-2	Y
1,2-Dichloroethane	Not detected	10		ug/L	10	107-06-2	Y
Trichloroethene	20	10		ug/L	10	79-01-6	Y
1,2-Dichloropropane	Not detected	10		ug/L	10	78-87-5	Y
Bromodichloromethane	Not detected	10		ug/L	10	75-27-4	Y
Dibromomethane	Not detected	50		ug/L	10	74-95-3	Y
cis-1,3-Dichloropropene	Not detected	10		ug/L	10	10061-01-5	Y
Toluene	Not detected	10		ug/L	10	108-88-3	Y
trans-1,3-Dichloropropene	Not detected	10		ug/L	10	10061-02-6	Y
1,1,2-Trichloroethane	Not detected	10		ug/L	10	79-00-5	Y
Tetrachloroethene	40	10		ug/L	10	127-18-4	Y
trans-1,4-Dichloro-2-butene	Not detected	10		ug/L	10	110-57-6	Y
Dibromochloromethane	Not detected	50		ug/L	10	124-48-1	Y
1,2-Dibromoethane	Not detected	10		ug/L	10	106-93-4	Y
Chlorobenzene	Not detected	10		ug/L	10	108-90-7	Y
1,1,1,2-Tetrachloroethane	Not detected	10		ug/L	10	630-20-6	Y
Ethylbenzene	Not detected	10		ug/L	10	100-41-4	Y
p,m-Xylene*	Not detected	20		ug/L	10		Y
o-Xylene	Not detected	10		ug/L	10	95-47-6	Y
Styrene	Not detected	10		ug/L	10	100-42-5	Y
Isopropylbenzene	Not detected	50		ug/L	10	98-82-8	Y
Bromoform	Not detected	10		ug/L	10	75-25-2	Y
1,1,2,2-Tetrachloroethane	Not detected	10		ug/L	10	79-34-5	Y
1,2,3-Trichloropropane	Not detected	10		ug/L	10	96-18-4	Y
n-Propylbenzene	Not detected	10		ug/L	10	103-65-1	Y
Bromobenzene	Not detected	10		ug/L	10	108-86-1	Y
1,3,5-Trimethylbenzene	Not detected	10		ug/L	10	108-67-8	Y
tert-Butylbenzene	Not detected	10		ug/L	10	98-06-6	Y
1,2,4-Trimethylbenzene	Not detected	10		ug/L	10	95-63-6	Y
sec-Butylbenzene	Not detected	10		ug/L	10	135-98-8	Y
p-Isopropyltoluene	Not detected	50		ug/L	10	99-87-6	Y
1,3-Dichlorobenzene	Not detected	10		ug/L	10	541-73-1	Y
1,4-Dichlorobenzene	Not detected	10		ug/L	10	106-46-7	Y
1,2-Dichlorobenzene	Not detected	10		ug/L	10	95-50-1	Y
1,2,3-Trimethylbenzene	Not detected	10		ug/L	10	526-73-8	Y
n-Butylbenzene	Not detected	10		ug/L	10	104-51-8	Y
Hexachloroethane	Not detected	50		ug/L	10	67-72-1	Y
1,2-Dibromo-3-chloropropane	Not detected	50		ug/L	10	96-12-8	Y
1,2,4-Trichlorobenzene	Not detected	50		ug/L	10	120-82-1	Y

Y-Elevated reporting limit due to high target concentration



Analytical Laboratory Report

Lab Sample ID: S60382.09 (continued)
Sample Tag: TW-12-22_GW-032924

Volatile Organics - DEQ List (Replicate 01), Method: SW5030C/8260C, Run Date: 04/08/24 21:50, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,2,3-Trichlorobenzene	Not detected	50		ug/L	10	87-61-6	Y
Naphthalene	Not detected	50		ug/L	10	91-20-3	Y
2-Methylnaphthalene	Not detected	50		ug/L	10	91-57-6	Y

Y-Elevated reporting limit due to high target concentration



Analytical Laboratory Report

Lab Sample ID: S60382.10

Sample Tag: MW-08-21_GW-032924

Collected Date/Time: 03/29/2024 12:20

Matrix: Groundwater

COC Reference: 159482

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	2.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/08/24 12:44	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/07/24 21:26, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		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	1	1		ug/L	1	156-60-5	
1,1-Dichloroethane	5	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	8	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	2	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		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	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
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	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S60382.10 (continued)
Sample Tag: MW-08-21_GW-032924

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/07/24 21:26, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		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	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
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	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
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	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	

Merit Laboratories Login Checklist

Lab Set ID:S60382

Client:ARCADIS_NOVI (Arcadis US, Inc. - Novi)

Project: 30214041 / Pontiac North Campus - RACER

Submitted:03/29/2024 14:35 Login User: MMC

Attention: Alexis Crisp

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

Phone: 810-225-1909

FAX:

Email: Alexis.Crisp@arcadis.com

Selection	Description	Note
Sample Receiving		
01.	☒ Yes ☐ No ☐ N/A	Samples are received at 4C +/- 2C Thermometer # IR 2.7
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 or TOX bottles contain headspace

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

Client Review By: _____ Date: _____



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

C.O.C. PAGE # _____ OF _____

159482

REPORT TO

CONTACT NAME		Lexi Crisp	
COMPANY		ARCADIS	
ADDRESS			
28550 Cabot Dr			
CITY		STATE	ZIP CODE
Novi		MI	48377
PHONE NO.	CELL NO	P.O. NO.	
614-985-9163		30214041.00005	
E-MAIL ADDRESS		QUOTE NO.	
alex.s.crisp@arcadis.com			

CHAIN OF CUSTODY RECORD

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

INVOICE TO

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

PROJECT NO./NAME 30214041 / Pontine North Campus -RACER	SAMPLER(S) - PLEASE PRINT/SIGN NAME Garrett Link / <i>Garrett Link</i>
TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER	
DELIVERABLES REQUIRED ☐ STD ☒ 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

Special Instructions

[illegible]

RELINQUISHED BY: Garrett Link	☒ Sampler	DATE	TIME
SIGNATURE/ORGANIZATION <i>Garrett Link / ARCADIS</i>		3/29/24	12:14
RECEIVED BY:		DATE	TIME
SIGNATURE/ORGANIZATION <i>John Smith</i>		3/29/24	1:44
RELINQUISHED BY:		DATE	TIME
SIGNATURE/ORGANIZATION <i>Summers</i>		3/29/24	4:23
RECEIVED BY:		DATE	TIME
SIGNATURE/ORGANIZATION <i>M. M. M.</i>		3/29/24	14:35

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		2.7

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



Analytical Laboratory Report

Report ID: S60383.01(01)
Generated on 04/10/2024

Report to

Attention: Alexis Crisp
Arcadis US, Inc.
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: 810-225-1909 FAX:
Email: Alexis.Crisp@arcadis.com

Additional Contacts: Tiffany Linder

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): S60383.01-S60383.06
Project: 30214041.00005 Racer PNC
Collected Date(s): 03/27/2024 - 03/29/2024
Submitted Date/Time: 03/29/2024 14:35
Sampled by: Alaina Pitera
P.O. #: 30214041.00005

Table of Contents

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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
SW5030C/8260C	SW 846 Method 8260C Revision 3 August 2006 / 5030C Revision 3 May 2003



Analytical Laboratory Report

Sample Summary (6 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S60383.01	MW-02-17_GW-032724	Groundwater	03/27/24 12:45
S60383.02	MW-05-18_GW-032724	Groundwater	03/27/24 13:55
S60383.03	MW-07-20_GW-032724	Groundwater	03/27/24 15:25
S60383.04	MWF16-23_GW-032924	Groundwater	03/29/24 10:50
S60383.05	MW-06-20_GW-032924	Groundwater	03/29/24 12:05
S60383.06	Trip Blank	Water	03/27/24 00:01



Analytical Laboratory Report

Lab Sample ID: S60383.01

Sample Tag: MW-02-17_GW-032724

Collected Date/Time: 03/27/2024 12:45

Matrix: Groundwater

COC Reference: 162013

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	2.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/09/24 11:14	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/08/24 19:29, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		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	3	1		ug/L	1	156-60-5	
1,1-Dichloroethane	2	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	3	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		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	6	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	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
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	2	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S60383.01 (continued)
Sample Tag: MW-02-17_GW-032724

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/08/24 19:29, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		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	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
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	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
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	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S60383.02

Sample Tag: MW-05-18_GW-032724

Collected Date/Time: 03/27/2024 13:55

Matrix: Groundwater

COC Reference: 162013

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	2.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/09/24 11:14	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/08/24 19:53, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		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	6	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	12	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	9	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		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	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
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	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S60383.02 (continued)
Sample Tag: MW-05-18_GW-032724

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/08/24 19:53, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		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	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
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	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
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	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S60383.03
Sample Tag: MW-07-20_GW-032724
Collected Date/Time: 03/27/2024 15:25
Matrix: Groundwater
COC Reference: 162013

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	2.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/09/24 11:14	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/08/24 20:16, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		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	9	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	10	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	6	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		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	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
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	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S60383.03 (continued)
Sample Tag: MW-07-20_GW-032724

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/08/24 20:16, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		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	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
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	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
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	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S60383.04
Sample Tag: MWF16-23_GW-032924
Collected Date/Time: 03/29/2024 10:50
Matrix: Groundwater
COC Reference: 162013

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	2.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/09/24 11:14	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/08/24 20:40, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		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	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	5	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		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	9	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	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
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	3	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S60383.04 (continued)
Sample Tag: MWVF16-23_GW-032924

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/08/24 20:40, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		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	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
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	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
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	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S60383.05
Sample Tag: MW-06-20_GW-032924
Collected Date/Time: 03/29/2024 12:05
Matrix: Groundwater
COC Reference: 162013

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	2.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/09/24 11:14	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/08/24 21:03, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		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	4	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	3	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	3	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		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	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
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	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S60383.05 (continued)
Sample Tag: MW-06-20_GW-032924

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/08/24 21:03, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		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	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
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	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
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	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S60383.06
Sample Tag: Trip Blank
Collected Date/Time: 03/27/2024 00:01
Matrix: Water
COC Reference: 162013

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	n/a	n/a	No	n/a	n/a

Other / Misc.

Method: , Run Date: 04/01/24 14:00, Analyst: JRM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
No Analyses*	Completed				1		

Merit Laboratories Login Checklist

Lab Set ID:S60383

Client:ARCADIS_NOVI (Arcadis US, Inc. - Novi)

Project: 30214041.00005 Racer PNC

Submitted:03/29/2024 14:35 Login User: MMC

Attention: Alexis Crisp

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

Phone: 810-225-1909 FAX:

Email: Alexis.Crisp@arcadis.com

Selection	Description	Note
Sample Receiving		
01.	☒ Yes ☐ No ☐ N/A	Samples are received at 4C +/- 2C Thermometer # IR 2.7
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 Trip blank not present
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 or TOX bottles contain headspace

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

Client Review By: _____ Date: _____



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

C.O.C. PAGE # _____ OF _____

162013

REPORT TO

CONTACT NAME Alexis Crisp			
COMPANY Arcadis			
ADDRESS 28550 Cabot Dr. #500			
CITY Novi		STATE MI	ZIP CODE 48377
PHONE NO.		CELL NO.	P.O. NO.
E-MAIL ADDRESS Alexis.Crisp@arcadis.com		QUOTE NO.	

CHAIN OF CUSTODY RECORD

CONTACT NAME		Accounts Payable		☐ SAME	
COMPANY		Arcadis			
ADDRESS		630 Plaza St #600			
CITY		Highlands Ranch		STATE	CO
PHONE NO		E-MAIL ADDRESS		ZIP CODE	
		accounts.payable.administration@arcadis.com		80129	

INVOICE TO

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

PROJECT NO / NAME	302140411.00005	Bacer PNC	SAMPLER(S) - PLEASE PRINT/SIGN NAME	Araina P. Itera / Araina Pitera
TURNAROUND TIME REQUIRED	☐ 1 DAY	☐ 2 DAYS	☐ 3 DAYS	☒ STANDARD ☐ OTHER
DELIVERABLES REQUIRED	☐ STD	☒ 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

Special Instructions

[illegible]

RELINQUISHED BY:	<i>Aracelis Arredondo</i>	☒ Sampler	DATE	TIME
SIGNATURE/ORGANIZATION			3/29/24	1300
RECEIVED BY:	<i>[Signature]</i>		DATE	TIME
SIGNATURE/ORGANIZATION			3/29/24	4 17:22
RELINQUISHED BY:	<i>[Signature]</i>		DATE	TIME
SIGNATURE/ORGANIZATION			3/29/24	14:33
RECEIVED BY:	<i>M. [Signature]</i>		DATE	TIME
SIGNATURE/ORGANIZATION			3/29/24	1435

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	2.7	

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

Rev 126.22



Analytical Laboratory Report

Report ID: S60384.01(01)
Generated on 04/12/2024

Report to

Attention: Alexis Crisp
Arcadis US, Inc.
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: 810-225-1909 FAX:
Email: Alexis.Crisp@arcadis.com

Additional Contacts: Tiffany Linder

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): S60384.01-S60384.08
Project: 30214041.00005 Racer PNC
Collected Date(s): 03/28/2024
Submitted Date/Time: 03/29/2024 14:35
Sampled by: Alaina Pitera
P.O. #: 30214041.00005

Table of Contents

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- General Report Notes (Page 2)
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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
SW5030C/8260C	SW 846 Method 8260C Revision 3 August 2006 / 5030C Revision 3 May 2003



Analytical Laboratory Report

Sample Summary (8 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S60384.01	MW-15-22	Groundwater	03/28/24 11:40
S60384.02	MW-13-22	Groundwater	03/28/24 12:50
S60384.03	MW-14-22	Groundwater	03/28/24 14:00
S60384.04	MW-14-22 MS	Groundwater	03/28/24 14:00
S60384.05	MW-14-22 MSD	Groundwater	03/28/24 14:00
S60384.06	MW-16-22	Groundwater	03/28/24 16:25
S60384.07	DUP-02	Groundwater	03/28/24 00:01
S60384.08	Trip Blank	Water	03/28/24 00:01



Analytical Laboratory Report

Lab Sample ID: S60384.01
Sample Tag: MW-15-22
Collected Date/Time: 03/28/2024 11:40
Matrix: Groundwater
COC Reference: 162014

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	2.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/08/24 12:44	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/08/24 02:56, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		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	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		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	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
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	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S60384.01 (continued)
Sample Tag: MW-15-22

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/08/24 02:56, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		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	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
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	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
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	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S60384.02
Sample Tag: MW-13-22
Collected Date/Time: 03/28/2024 12:50
Matrix: Groundwater
COC Reference: 162014

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	2.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/08/24 12:44	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/08/24 03:20, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		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	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		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	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
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	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S60384.02 (continued)
Sample Tag: MW-13-22

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/08/24 03:20, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		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	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
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	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
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	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S60384.03
Sample Tag: MW-14-22
Collected Date/Time: 03/28/2024 14:00
Matrix: Groundwater
COC Reference: 162014

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	2.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/11/24 12:25	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/11/24 14:50, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	1	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	2	1		ug/L	1	156-60-5	
1,1-Dichloroethane	13	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	43	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	2	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	13	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	5	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	22	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	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
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	139	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S60384.03 (continued)
Sample Tag: MW-14-22

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/11/24 14:50, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		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	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
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	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
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	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S60384.04
Sample Tag: MW-14-22 MS
Collected Date/Time: 03/28/2024 14:00
Matrix: Groundwater
COC Reference: 162014

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	2.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/08/24 12:44	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/11/24 16:00, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	61	10		ug/L	1	60-29-7	1
Acetone	53	50		ug/L	1	67-64-1	1
Methyl iodide	61	1		ug/L	1	74-88-4	1
Carbon disulfide	55	5		ug/L	1	75-15-0	1
tert-Methyl butyl ether (MTBE)	63	5		ug/L	1	1634-04-4	1
Acrylonitrile	62	2		ug/L	1	107-13-1	1
2-Butanone (MEK)	58	25		ug/L	1	78-93-3	1
Dichlorodifluoromethane	52	5		ug/L	1	75-71-8	1
Chloromethane	63	5		ug/L	1	74-87-3	1
Vinyl chloride	55	1		ug/L	1	75-01-4	1
Bromomethane	54	5		ug/L	1	74-83-9	1
Chloroethane	53	5		ug/L	1	75-00-3	1
Trichlorofluoromethane	53	1		ug/L	1	75-69-4	1
1,1-Dichloroethene	58	1		ug/L	1	75-35-4	1
Methylene chloride	62	5		ug/L	1	75-09-2	1
trans-1,2-Dichloroethene	62	1		ug/L	1	156-60-5	1
1,1-Dichloroethane	74	1		ug/L	1	75-34-3	1
cis-1,2-Dichloroethene	101	1		ug/L	1	156-59-2	1
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	1
Chloroform	62	1		ug/L	1	67-66-3	1
Bromochloromethane	61	1		ug/L	1	74-97-5	1
1,1,1-Trichloroethane	71	1		ug/L	1	71-55-6	1
4-Methyl-2-pentanone (MIBK)	58	50		ug/L	1	108-10-1	1
2-Hexanone	57	50		ug/L	1	591-78-6	1
Carbon tetrachloride	62	1		ug/L	1	56-23-5	1
Benzene	62	1		ug/L	1	71-43-2	1
1,2-Dichloroethane	57	1		ug/L	1	107-06-2	1
Trichloroethene	80	1		ug/L	1	79-01-6	1
1,2-Dichloropropane	62	1		ug/L	1	78-87-5	1
Bromodichloromethane	61	1		ug/L	1	75-27-4	1
Dibromomethane	61	5		ug/L	1	74-95-3	1
cis-1,3-Dichloropropene	62	1		ug/L	1	10061-01-5	1
Toluene	61	1		ug/L	1	108-88-3	1
trans-1,3-Dichloropropene	61	1		ug/L	1	10061-02-6	1
1,1,2-Trichloroethane	62	1		ug/L	1	79-00-5	1
Tetrachloroethene	192	1		ug/L	1	127-18-4	1

1-Spiked at 50 ug/L



Analytical Laboratory Report

Lab Sample ID: S60384.04 (continued)
Sample Tag: MW-14-22 MS

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/11/24 16:00, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
trans-1,4-Dichloro-2-butene	38	1		ug/L	1	110-57-6	1
Dibromochloromethane	166	5		ug/L	1	124-48-1	1
1,2-Dibromoethane	58	1		ug/L	1	106-93-4	1
Chlorobenzene	58	1		ug/L	1	108-90-7	1
1,1,1,2-Tetrachloroethane	58	1		ug/L	1	630-20-6	1
Ethylbenzene	58	1		ug/L	1	100-41-4	1
p,m-Xylene*	116	2		ug/L	1		1
o-Xylene	58	1		ug/L	1	95-47-6	1
Styrene	60	1		ug/L	1	100-42-5	1
Isopropylbenzene	58	5		ug/L	1	98-82-8	1
Bromoform	58	1		ug/L	1	75-25-2	1
1,1,2,2-Tetrachloroethane	58	1		ug/L	1	79-34-5	1
1,2,3-Trichloropropane	57	1		ug/L	1	96-18-4	1
n-Propylbenzene	57	1		ug/L	1	103-65-1	1
Bromobenzene	58	1		ug/L	1	108-86-1	1
1,3,5-Trimethylbenzene	58	1		ug/L	1	108-67-8	1
tert-Butylbenzene	57	1		ug/L	1	98-06-6	1
1,2,4-Trimethylbenzene	58	1		ug/L	1	95-63-6	1
sec-Butylbenzene	55	1		ug/L	1	135-98-8	1
p-Isopropyltoluene	52	5		ug/L	1	99-87-6	1
1,3-Dichlorobenzene	56	1		ug/L	1	541-73-1	1
1,4-Dichlorobenzene	55	1		ug/L	1	106-46-7	1
1,2-Dichlorobenzene	56	1		ug/L	1	95-50-1	1
1,2,3-Trimethylbenzene	55	1		ug/L	1	526-73-8	1
n-Butylbenzene	54	1		ug/L	1	104-51-8	1
Hexachloroethane	56	5		ug/L	1	67-72-1	1
1,2-Dibromo-3-chloropropane	55	5		ug/L	1	96-12-8	1
1,2,4-Trichlorobenzene	55	5		ug/L	1	120-82-1	1
1,2,3-Trichlorobenzene	53	5		ug/L	1	87-61-6	1
Naphthalene	55	5		ug/L	1	91-20-3	1
2-Methylnaphthalene	54	5		ug/L	1	91-57-6	1

1-Spiked at 50 ug/L



Analytical Laboratory Report

Lab Sample ID: S60384.05
Sample Tag: MW-14-22 MSD
Collected Date/Time: 03/28/2024 14:00
Matrix: Groundwater
COC Reference: 162014

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	2.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/08/24 12:44	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/11/24 16:23, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	57	10		ug/L	1	60-29-7	1
Acetone	Not detected	50		ug/L	1	67-64-1	1
Methyl iodide	57	1		ug/L	1	74-88-4	1
Carbon disulfide	50	5		ug/L	1	75-15-0	1
tert-Methyl butyl ether (MTBE)	59	5		ug/L	1	1634-04-4	1
Acrylonitrile	57	2		ug/L	1	107-13-1	1
2-Butanone (MEK)	52	25		ug/L	1	78-93-3	1
Dichlorodifluoromethane	47	5		ug/L	1	75-71-8	1
Chloromethane	58	5		ug/L	1	74-87-3	1
Vinyl chloride	50	1		ug/L	1	75-01-4	1
Bromomethane	50	5		ug/L	1	74-83-9	1
Chloroethane	49	5		ug/L	1	75-00-3	1
Trichlorofluoromethane	49	1		ug/L	1	75-69-4	1
1,1-Dichloroethene	53	1		ug/L	1	75-35-4	1
Methylene chloride	57	5		ug/L	1	75-09-2	1
trans-1,2-Dichloroethene	57	1		ug/L	1	156-60-5	1
1,1-Dichloroethane	68	1		ug/L	1	75-34-3	1
cis-1,2-Dichloroethene	97	1		ug/L	1	156-59-2	1
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	1
Chloroform	56	1		ug/L	1	67-66-3	1
Bromochloromethane	58	1		ug/L	1	74-97-5	1
1,1,1-Trichloroethane	66	1		ug/L	1	71-55-6	1
4-Methyl-2-pentanone (MIBK)	53	50		ug/L	1	108-10-1	1
2-Hexanone	53	50		ug/L	1	591-78-6	1
Carbon tetrachloride	57	1		ug/L	1	56-23-5	1
Benzene	57	1		ug/L	1	71-43-2	1
1,2-Dichloroethane	54	1		ug/L	1	107-06-2	1
Trichloroethene	74	1		ug/L	1	79-01-6	1
1,2-Dichloropropane	57	1		ug/L	1	78-87-5	1
Bromodichloromethane	56	1		ug/L	1	75-27-4	1
Dibromomethane	58	5		ug/L	1	74-95-3	1
cis-1,3-Dichloropropene	58	1		ug/L	1	10061-01-5	1
Toluene	56	1		ug/L	1	108-88-3	1
trans-1,3-Dichloropropene	57	1		ug/L	1	10061-02-6	1
1,1,2-Trichloroethane	58	1		ug/L	1	79-00-5	1
Tetrachloroethene	185	1		ug/L	1	127-18-4	1

1-Spiked at 50 ug/L



Analytical Laboratory Report

Lab Sample ID: S60384.05 (continued)

Sample Tag: MW-14-22 MSD

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/11/24 16:23, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
trans-1,4-Dichloro-2-butene	31	1		ug/L	1	110-57-6	1
Dibromochloromethane	53	5		ug/L	1	124-48-1	1
1,2-Dibromoethane	53	1		ug/L	1	106-93-4	1
Chlorobenzene	52	1		ug/L	1	108-90-7	1
1,1,1,2-Tetrachloroethane	53	1		ug/L	1	630-20-6	1
Ethylbenzene	51	1		ug/L	1	100-41-4	1
p,m-Xylene*	104	2		ug/L	1		1
o-Xylene	52	1		ug/L	1	95-47-6	1
Styrene	54	1		ug/L	1	100-42-5	1
Isopropylbenzene	52	5		ug/L	1	98-82-8	1
Bromoform	53	1		ug/L	1	75-25-2	1
1,1,2,2-Tetrachloroethane	53	1		ug/L	1	79-34-5	1
1,2,3-Trichloropropane	52	1		ug/L	1	96-18-4	1
n-Propylbenzene	51	1		ug/L	1	103-65-1	1
Bromobenzene	52	1		ug/L	1	108-86-1	1
1,3,5-Trimethylbenzene	52	1		ug/L	1	108-67-8	1
tert-Butylbenzene	50	1		ug/L	1	98-06-6	1
1,2,4-Trimethylbenzene	52	1		ug/L	1	95-63-6	1
sec-Butylbenzene	48	1		ug/L	1	135-98-8	1
p-Isopropyltoluene	45	5		ug/L	1	99-87-6	1
1,3-Dichlorobenzene	50	1		ug/L	1	541-73-1	1
1,4-Dichlorobenzene	49	1		ug/L	1	106-46-7	1
1,2-Dichlorobenzene	50	1		ug/L	1	95-50-1	1
1,2,3-Trimethylbenzene	49	1		ug/L	1	526-73-8	1
n-Butylbenzene	48	1		ug/L	1	104-51-8	1
Hexachloroethane	50	5		ug/L	1	67-72-1	1
1,2-Dibromo-3-chloropropane	49	5		ug/L	1	96-12-8	1
1,2,4-Trichlorobenzene	49	5		ug/L	1	120-82-1	1
1,2,3-Trichlorobenzene	49	5		ug/L	1	87-61-6	1
Naphthalene	49	5		ug/L	1	91-20-3	1
2-Methylnaphthalene	54	5		ug/L	1	91-57-6	1

1-Spiked at 50 ug/L



Analytical Laboratory Report

Lab Sample ID: S60384.06
Sample Tag: MW-16-22
Collected Date/Time: 03/28/2024 16:25
Matrix: Groundwater
COC Reference: 162014

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	2.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/08/24 12:44	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/08/24 03:43, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		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	1	1		ug/L	1	156-60-5	
1,1-Dichloroethane	4	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	12	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	3	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		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	12	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	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
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	259	1		ug/L	1	127-18-4	E

E-Concentration exceeds calibration range



Analytical Laboratory Report

Lab Sample ID: S60384.06 (continued)

Sample Tag: MW-16-22

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/08/24 03:43, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		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	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
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	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
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	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	

Volatile Organics - DEQ List (Replicate 01), Method: SW5030C/8260C, Run Date: 04/10/24 21:21, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	100		ug/L	10	60-29-7	Y
Acetone	Not detected	500		ug/L	10	67-64-1	Y
Methyl iodide	Not detected	10		ug/L	10	74-88-4	Y
Carbon disulfide	Not detected	50		ug/L	10	75-15-0	Y
tert-Methyl butyl ether (MTBE)	Not detected	50		ug/L	10	1634-04-4	Y
Acrylonitrile	Not detected	20		ug/L	10	107-13-1	Y
2-Butanone (MEK)	Not detected	250		ug/L	10	78-93-3	Y
Dichlorodifluoromethane	Not detected	50		ug/L	10	75-71-8	Y
Chloromethane	Not detected	50		ug/L	10	74-87-3	Y
Vinyl chloride	Not detected	10		ug/L	10	75-01-4	Y
Bromomethane	Not detected	50		ug/L	10	74-83-9	Y
Chloroethane	Not detected	50		ug/L	10	75-00-3	Y
Trichlorofluoromethane	Not detected	10		ug/L	10	75-69-4	Y
1,1-Dichloroethene	Not detected	10		ug/L	10	75-35-4	Y
Methylene chloride	Not detected	50		ug/L	10	75-09-2	Y

Y-Elevated reporting limit due to high target concentration



Analytical Laboratory Report

Lab Sample ID: S60384.06 (continued)

Sample Tag: MW-16-22

Volatile Organics - DEQ List (Replicate 01), Method: SW5030C/8260C, Run Date: 04/10/24 21:21, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
trans-1,2-Dichloroethene	Not detected	10		ug/L	10	156-60-5	Y
1,1-Dichloroethane	Not detected	10		ug/L	10	75-34-3	Y
cis-1,2-Dichloroethene	10	10		ug/L	10	156-59-2	Y
Tetrahydrofuran*	Not detected	900		ug/L	10	109-99-9	Y
Chloroform	Not detected	10		ug/L	10	67-66-3	Y
Bromochloromethane	Not detected	10		ug/L	10	74-97-5	Y
1,1,1-Trichloroethane	Not detected	10		ug/L	10	71-55-6	Y
4-Methyl-2-pentanone (MIBK)	Not detected	500		ug/L	10	108-10-1	Y
2-Hexanone	Not detected	500		ug/L	10	591-78-6	Y
Carbon tetrachloride	Not detected	10		ug/L	10	56-23-5	Y
Benzene	Not detected	10		ug/L	10	71-43-2	Y
1,2-Dichloroethane	Not detected	10		ug/L	10	107-06-2	Y
Trichloroethene	10	10		ug/L	10	79-01-6	Y
1,2-Dichloropropane	Not detected	10		ug/L	10	78-87-5	Y
Bromodichloromethane	Not detected	10		ug/L	10	75-27-4	Y
Dibromomethane	Not detected	50		ug/L	10	74-95-3	Y
cis-1,3-Dichloropropene	Not detected	10		ug/L	10	10061-01-5	Y
Toluene	Not detected	10		ug/L	10	108-88-3	Y
trans-1,3-Dichloropropene	Not detected	10		ug/L	10	10061-02-6	Y
1,1,2-Trichloroethane	Not detected	10		ug/L	10	79-00-5	Y
Tetrachloroethene	260	10		ug/L	10	127-18-4	Y
trans-1,4-Dichloro-2-butene	Not detected	10		ug/L	10	110-57-6	Y
Dibromochloromethane	Not detected	50		ug/L	10	124-48-1	Y
1,2-Dibromoethane	Not detected	10		ug/L	10	106-93-4	Y
Chlorobenzene	Not detected	10		ug/L	10	108-90-7	Y
1,1,1,2-Tetrachloroethane	Not detected	10		ug/L	10	630-20-6	Y
Ethylbenzene	Not detected	10		ug/L	10	100-41-4	Y
p,m-Xylene*	Not detected	20		ug/L	10		Y
o-Xylene	Not detected	10		ug/L	10	95-47-6	Y
Styrene	Not detected	10		ug/L	10	100-42-5	Y
Isopropylbenzene	Not detected	50		ug/L	10	98-82-8	Y
Bromoform	Not detected	10		ug/L	10	75-25-2	Y
1,1,2,2-Tetrachloroethane	Not detected	10		ug/L	10	79-34-5	Y
1,2,3-Trichloropropane	Not detected	10		ug/L	10	96-18-4	Y
n-Propylbenzene	Not detected	10		ug/L	10	103-65-1	Y
Bromobenzene	Not detected	10		ug/L	10	108-86-1	Y
1,3,5-Trimethylbenzene	Not detected	10		ug/L	10	108-67-8	Y
tert-Butylbenzene	Not detected	10		ug/L	10	98-06-6	Y
1,2,4-Trimethylbenzene	Not detected	10		ug/L	10	95-63-6	Y
sec-Butylbenzene	Not detected	10		ug/L	10	135-98-8	Y
p-Isopropyltoluene	Not detected	50		ug/L	10	99-87-6	Y
1,3-Dichlorobenzene	Not detected	10		ug/L	10	541-73-1	Y
1,4-Dichlorobenzene	Not detected	10		ug/L	10	106-46-7	Y
1,2-Dichlorobenzene	Not detected	10		ug/L	10	95-50-1	Y
1,2,3-Trimethylbenzene	Not detected	10		ug/L	10	526-73-8	Y
n-Butylbenzene	Not detected	10		ug/L	10	104-51-8	Y
Hexachloroethane	Not detected	50		ug/L	10	67-72-1	Y
1,2-Dibromo-3-chloropropane	Not detected	50		ug/L	10	96-12-8	Y
1,2,4-Trichlorobenzene	Not detected	50		ug/L	10	120-82-1	Y

Y-Elevated reporting limit due to high target concentration



Analytical Laboratory Report

Lab Sample ID: S60384.06 (continued)
Sample Tag: MW-16-22

Volatile Organics - DEQ List (Replicate 01), Method: SW5030C/8260C, Run Date: 04/10/24 21:21, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,2,3-Trichlorobenzene	Not detected	50		ug/L	10	87-61-6	Y
Naphthalene	Not detected	50		ug/L	10	91-20-3	Y
2-Methylnaphthalene	Not detected	50		ug/L	10	91-57-6	Y

Y-Elevated reporting limit due to high target concentration



Analytical Laboratory Report

Lab Sample ID: S60384.07
Sample Tag: DUP-02
Collected Date/Time: 03/28/2024 00:01
Matrix: Groundwater
COC Reference: 162014

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	2.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/08/24 12:44	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/08/24 04:06, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		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	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		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	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
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	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S60384.07 (continued)
Sample Tag: DUP-02

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/08/24 04:06, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		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	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
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	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
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	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S60384.08
Sample Tag: Trip Blank
Collected Date/Time: 03/28/2024 00:01
Matrix: Water
COC Reference: 162014

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	n/a	n/a	No	n/a	n/a

Other / Misc.

Method: , Run Date: 04/01/24 14:00, Analyst: JRM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
No Analyses*	Completed				1		

Merit Laboratories Login Checklist

Lab Set ID:S60384

Client:ARCADIS_NOVI (Arcadis US, Inc. - Novi)

Project: 30214041.00005 Racer PNC

Submitted:03/29/2024 14:35 Login User: MMC

Attention: Alexis Crisp

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

Phone: 810-225-1909 FAX:

Email: Alexis.Crisp@arcadis.com

Selection	Description	Note
Sample Receiving		
01.	☒ Yes ☐ No ☐ N/A	Samples are received at 4C +/- 2C Thermometer # IR 2.7
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 Trip blank not present
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 or TOX bottles contain headspace

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

Client Review By: _____ Date: _____

LOC # 4



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

C.O.C. PAGE # _____ OF _____

162014

REPORT TO

CHAIN OF CUSTODY RECORD

INVOICE TO

CONTACT NAME Alexis Crisp
COMPANY Arccadis
ADDRESS 28550 Cabot Dr. #500
CITY Novi STATE MI ZIP CODE 48377
PHONE NO. _____ CELL NO. _____ P.O. NO. _____
E-MAIL ADDRESS Alexis.Crisp@arccadis.com QUOTE NO. _____

CONTACT NAME Accounts Payable ☐ SAME
COMPANY Arccadis
ADDRESS 630 Plaza Dr. #600
CITY Highlands Ranch STATE CO ZIP CODE 80129
PHONE NO. _____ E-MAIL ADDRESS accounts payable.administration@arccadis.com

PROJECT NO./NAME 30214041.00005 Pacer PVC Alaina Pitera/Alaina Pitera
TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER _____
DELIVERABLES REQUIRED ☐ STD ☒ 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=WIFE A=AIR WS=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

										Certifications ☐ OHIO VAP ☐ Drinking Water ☐ DoD ☐ NPDES	
										Project Locations ☐ Detroit ☐ New York ☐ Other _____	
										Special Instructions	

MERIT LAB NO. FOR LAB USE ONLY	COLLECTION		SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives							
	DATE	TIME				NONE	HCl	HNO ₃	H ₂ SO ₄	NaOH	MeOH	OTHER	
60384.01	3/26/24	1410	MW-15-22	GW	3		3						X
.02	3/28/24	1250	MW-13-22	GW	3		3						X
03/04/05	3/28/24	1400	MW-14-22	GW	9		9						X
.06	3/28/24	1625	MW-16-22	GW	3		3						X
.07	3/28/24	—	DUP-02	GW	3		3						X
.08	—	—	Trip Blank	W	1		1						X

RELINQUISHED BY: Alaina Pitera Arccadis ☒ Sampler DATE 3/29/24 TIME 1300
RECEIVED BY: [Signature] DATE 3/29/24 TIME 1310
RELINQUISHED BY: [Signature] DATE 3/29/24 TIME 1435
RECEIVED BY: M. Alibola DATE 3/29/24 TIME 1435

RELINQUISHED BY: _____ DATE _____ TIME _____
RECEIVED BY: _____ DATE _____ TIME _____
SEAL NO. _____ SEAL INTACT YES ☐ NO ☐ INITIALS _____
SEAL NO. _____ SEAL INTACT YES ☐ NO ☐ INITIALS _____
NOTES: _____ TEMP ON ARRIVAL 2.7

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



Analytical Laboratory Report

Report ID: S63492.01(01)
Generated on 06/26/2024

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

Phone: 810-225-1909 FAX:
Email: Alexis.Crisp@arcadis.com

Additional Contacts: Tiffany Linder

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): S63492.01-S63492.02
Project: RACER-PNC / 30214041.00005
Collected Date(s): 06/24/2024
Submitted Date/Time: 06/24/2024 15:10
Sampled by: Garrett Link
P.O. #: 30214041.00005

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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
SW5030C/8260C	SW 846 Method 8260C Revision 3 August 2006 / 5030C Revision 3 May 2003



Analytical Laboratory Report

Sample Summary (2 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S63492.01	MW0S-10_GW-062424	Groundwater	06/24/24 09:45
S63492.02	TRIP BLANK	Water	06/24/24 00:01



Analytical Laboratory Report

Lab Sample ID: S63492.01

Sample Tag: MW0S-10_GW-062424

Collected Date/Time: 06/24/2024 09:45

Matrix: Groundwater

COC Reference: 141354

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	2.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	06/26/24 12:25	NDK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/25/24 15:15, Analyst: ACK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		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	1	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	2	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	2	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		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	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
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	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S63492.01 (continued)
Sample Tag: MW0S-10_GW-062424

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/25/24 15:15, Analyst: ACK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		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	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
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	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
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	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S63492.02
Sample Tag: TRIP BLANK
Collected Date/Time: 06/24/2024 00:01
Matrix: Water
COC Reference: 141354

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40mL Glass	HCL	Yes	2.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	06/26/24 12:25	NDK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/25/24 14:52, Analyst: ACK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		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	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		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	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
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	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S63492.02 (continued)
Sample Tag: TRIP BLANK

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/25/24 14:52, Analyst: ACK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		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	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
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	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
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	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	

Merit Laboratories Login Checklist

Lab Set ID:S63492

Client:ARCADIS_NOVI (Arcadis US, Inc. - Novi)

Project: RACER-PNC / 30214041.00005

Submitted:06/24/2024 15:10 Login User: PFD

Attention: Alexis Crisp

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

Phone: 810-225-1909 FAX:

Email: Alexis.Crisp@arcadis.com

Selection	Description	Note
Sample Receiving		
01.	☒ Yes ☐ No ☐ N/A	Samples are received at 4C +/- 2C Thermometer # ir 2.6
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 or TOX bottles contain headspace

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: S66797.01(01)
Generated on 10/03/2024

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

Phone: C: 248-994-1734 FAX:
Email: Alexis.Nickerson@arcadis.com

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): S66797.01-S66797.18
Project: RACER - PNC / 30214041.00005
Collected Date(s): 09/24/2024 - 09/27/2024
Submitted Date/Time: 09/27/2024 14:40
Sampled by: Jeremy Myers
P.O. #: 30214041.00005

Table of Contents

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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
SW5030C/8260C	SW 846 Method 8260C Revision 3 August 2006 / 5030C Revision 3 May 2003



Analytical Laboratory Report

Sample Summary (18 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S66797.01	MW-08-21_GW-092424	Groundwater	09/24/24 10:10
S66797.02	MW-06-20_GW-092424	Groundwater	09/24/24 11:10
S66797.03	MWF16-23_GW-092424	Groundwater	09/24/24 12:25
S66797.04	MWF16-25_GW-092424	Groundwater	09/24/24 13:40
S66797.05	MW-11-22_GW-092424	Groundwater	09/24/24 15:05
S66797.06	MWOS-08_GW-092524	Groundwater	09/25/24 10:14
S66797.07	MWOS-09R_GW-092524	Groundwater	09/25/24 11:25
S66797.08	MWOS-10_GW-092524	Groundwater	09/25/24 13:25
S66797.09	MW-05-18_GW-092524	Groundwater	09/25/24 14:35
S66797.10	MW-07-20_GW-092524	Groundwater	09/25/24 15:25
S66797.11	MW-02-17_GW-092624	Groundwater	09/26/24 10:00
S66797.12	TW-12-22_GW-092624	Groundwater	09/26/24 11:35
S66797.13	MWF16-22_GW-092624	Groundwater	09/26/24 12:40
S66797.14	MWF16-16_GW-092624	Groundwater	09/26/24 13:35
S66797.15	MWF16-06_GW-092724	Groundwater	09/27/24 09:20
S66797.16	MWF16-06_GW-092724 MS	Groundwater	09/27/24 09:20
S66797.17	MWF16-06_GW-092724 MSD	Groundwater	09/27/24 09:20
S66797.18	Trip Blank	Water	09/27/24 00:01



Analytical Laboratory Report

Lab Sample ID: S66797.01
Sample Tag: MW-08-21_GW-092424
Collected Date/Time: 09/24/2024 10:10
Matrix: Groundwater
COC Reference: 172311

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/01/24 11:50	NDK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/01/24 05:08, Analyst: ACK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		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	1	1		ug/L	1	156-60-5	
1,1-Dichloroethane	7	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	5	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	3	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		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	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
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	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S66797.01 (continued)
Sample Tag: MW-08-21_GW-092424

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/01/24 05:08, Analyst: ACK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		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	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
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	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
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	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S66797.02

Sample Tag: MW-06-20_GW-092424

Collected Date/Time: 09/24/2024 11:10

Matrix: Groundwater

COC Reference: 172311

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/01/24 11:50	NDK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/01/24 05:32, Analyst: ACK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		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	1	1		ug/L	1	156-60-5	
1,1-Dichloroethane	5	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	5	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	3	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		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	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
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	5	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S66797.02 (continued)
Sample Tag: MW-06-20_GW-092424

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/01/24 05:32, Analyst: ACK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		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	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
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	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
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	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S66797.03
Sample Tag: MWF16-23_GW-092424
Collected Date/Time: 09/24/2024 12:25
Matrix: Groundwater
COC Reference: 172311

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/01/24 11:50	NDK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/01/24 05:55, Analyst: ACK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		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	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	6	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		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	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
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	7	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S66797.03 (continued)
Sample Tag: MWVF16-23_GW-092424

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/01/24 05:55, Analyst: ACK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		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	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
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	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
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	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S66797.04

Sample Tag: MWF16-25_GW-092424

Collected Date/Time: 09/24/2024 13:40

Matrix: Groundwater

COC Reference: 172311

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/01/24 11:50	NDK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/01/24 06:18, Analyst: ACK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		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	1	1		ug/L	1	156-60-5	
1,1-Dichloroethane	2	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	17	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	3	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	4	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	1	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	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
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	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S66797.04 (continued)

Sample Tag: MWF16-25_GW-092424

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/01/24 06:18, Analyst: ACK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		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	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
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	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
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	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S66797.05

Sample Tag: MW-11-22_GW-092424

Collected Date/Time: 09/24/2024 15:05

Matrix: Groundwater

COC Reference: 172311

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/01/24 11:50	NDK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/01/24 06:42, Analyst: ACK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		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	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	2	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		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	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
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	3	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S66797.05 (continued)

Sample Tag: MW-11-22_GW-092424

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/01/24 06:42, Analyst: ACK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		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	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
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	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
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	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S66797.06

Sample Tag: MWOS-08_GW-092524

Collected Date/Time: 09/25/2024 10:14

Matrix: Groundwater

COC Reference: 172311

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/01/24 11:50	NDK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/01/24 07:05, Analyst: ACK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		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	1	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	4	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		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	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
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	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S66797.06 (continued)
Sample Tag: MWOS-08_GW-092524

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/01/24 07:05, Analyst: ACK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		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	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
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	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
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	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S66797.07
Sample Tag: MWOS-09R_GW-092524
Collected Date/Time: 09/25/2024 11:25
Matrix: Groundwater
COC Reference: 172311

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/01/24 11:50	NDK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/01/24 07:28, Analyst: ACK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		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	2	1		ug/L	1	156-60-5	
1,1-Dichloroethane	4	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	18	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	4	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		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	4	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	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
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	16	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S66797.07 (continued)
Sample Tag: MWOS-09R_GW-092524

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/01/24 07:28, Analyst: ACK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		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	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
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	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
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	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S66797.08
Sample Tag: MWOS-10_GW-092524
Collected Date/Time: 09/25/2024 13:25
Matrix: Groundwater
COC Reference: 172311

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/01/24 11:50	NDK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/01/24 07:51, Analyst: ACK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		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	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	2	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		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	6	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	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
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	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S66797.08 (continued)

Sample Tag: MWOS-10_GW-092524

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/01/24 07:51, Analyst: ACK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		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	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
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	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
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	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S66797.09

Sample Tag: MW-05-18_GW-092524

Collected Date/Time: 09/25/2024 14:35

Matrix: Groundwater

COC Reference: 172311

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/01/24 11:50	NDK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/01/24 08:15, Analyst: ACK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		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	3	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	7	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	6	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		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	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
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	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S66797.09 (continued)
Sample Tag: MW-05-18_GW-092524

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/01/24 08:15, Analyst: ACK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		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	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
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	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
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	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S66797.10
Sample Tag: MW-07-20_GW-092524
Collected Date/Time: 09/25/2024 15:25
Matrix: Groundwater
COC Reference: 172311

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/01/24 11:50	NDK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/01/24 16:23, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		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	6	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	13	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	5	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		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	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
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	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S66797.10 (continued)
Sample Tag: MW-07-20_GW-092524

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/01/24 16:23, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		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	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
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	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
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	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S66797.11
Sample Tag: MW-02-17_GW-092624
Collected Date/Time: 09/26/2024 10:00
Matrix: Groundwater
COC Reference: 172311

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/01/24 11:50	NDK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/01/24 16:46, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		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	2	1		ug/L	1	156-60-5	
1,1-Dichloroethane	2	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	1	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	1	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		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	4	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	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
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	3	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S66797.11 (continued)
Sample Tag: MW-02-17_GW-092624

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/01/24 16:46, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		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	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
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	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
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	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S66797.12
Sample Tag: TW-12-22_GW-092624
Collected Date/Time: 09/26/2024 11:35
Matrix: Groundwater
COC Reference: 172311

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/02/24 11:45	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/01/24 17:56, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		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	3	1		ug/L	1	156-60-5	
1,1-Dichloroethane	7	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	86	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	6	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	12	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	4	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	51	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	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
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	91	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S66797.12 (continued)

Sample Tag: TW-12-22_GW-092624

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/01/24 17:56, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		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	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
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	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
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	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S66797.13
Sample Tag: MWF16-22_GW-092624
Collected Date/Time: 09/26/2024 12:40
Matrix: Groundwater
COC Reference: 172749

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/02/24 11:45	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/01/24 18:19, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		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	4	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	3	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		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	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
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	77	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S66797.13 (continued)
Sample Tag: MWF16-22_GW-092624

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/01/24 18:19, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		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	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
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	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
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	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S66797.14

Sample Tag: MWF16-16_GW-092624

Collected Date/Time: 09/26/2024 13:35

Matrix: Groundwater

COC Reference: 172749

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/02/24 11:45	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run #1: 10/01/24 18:43, #2: 10/02/24 21:19, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	Run #	Flags
Diethyl ether	Not detected	10		ug/L	1	Run #1	r
Acetone	Not detected	50		ug/L	1	Run #1	r
Methyl iodide	Not detected	1		ug/L	1	Run #1	r
Carbon disulfide	Not detected	5		ug/L	1	Run #1	r
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	Run #1	r
Acrylonitrile	Not detected	2		ug/L	1	Run #1	r
2-Butanone (MEK)	Not detected	25		ug/L	1	Run #1	r
Dichlorodifluoromethane	Not detected	5		ug/L	1	Run #1	r
Chloromethane	Not detected	5		ug/L	1	Run #1	r
Vinyl chloride	6	1		ug/L	1	Run #1	r
Bromomethane	Not detected	5		ug/L	1	Run #1	r
Chloroethane	Not detected	5		ug/L	1	Run #1	r
Trichlorofluoromethane	Not detected	1		ug/L	1	Run #1	r
1,1-Dichloroethene	Not detected	1		ug/L	1	Run #1	r
Methylene chloride	Not detected	5		ug/L	1	Run #1	r
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	Run #1	r
1,1-Dichloroethane	4	1		ug/L	1	Run #1	r
cis-1,2-Dichloroethene	46	1		ug/L	1	Run #1	r
Tetrahydrofuran*	Not detected	90		ug/L	1	Run #1	r
Chloroform	1	1		ug/L	1	Run #1	r
Bromochloromethane	Not detected	1		ug/L	1	Run #1	r
1,1,1-Trichloroethane	6	1		ug/L	1	Run #1	r
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	Run #1	r
2-Hexanone	Not detected	50		ug/L	1	Run #1	r
Carbon tetrachloride	1	1		ug/L	1	Run #1	r
Benzene	Not detected	1		ug/L	1	Run #1	r
1,2-Dichloroethane	Not detected	1		ug/L	1	Run #1	r
Trichloroethene	12	1		ug/L	1	Run #1	r
1,2-Dichloropropane	Not detected	1		ug/L	1	Run #1	r
Bromodichloromethane	Not detected	1		ug/L	1	Run #1	r
Dibromomethane	Not detected	5		ug/L	1	Run #1	r
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	Run #1	r
Toluene	Not detected	1		ug/L	1	Run #1	r
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	Run #1	r
1,1,2-Trichloroethane	Not detected	1		ug/L	1	Run #1	r
Tetrachloroethene	630	10		ug/L	10	Run #2	Yr

r-This analyte is being reported as the best result from multiple runs

Y-Elevated reporting limit due to high target concentration

Lab Sample ID: S66797.14 (continued)

Sample Tag: MWF16-16_GW-092624

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run #1: 10/01/24 18:43, #2: 10/02/24 21:19, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	Run #	Flags
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	Run #1	r
Dibromochloromethane	Not detected	5		ug/L	1	Run #1	r
1,2-Dibromoethane	Not detected	1		ug/L	1	Run #1	r
Chlorobenzene	Not detected	1		ug/L	1	Run #1	r
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	Run #1	r
Ethylbenzene	Not detected	1		ug/L	1	Run #1	r
p,m-Xylene*	Not detected	2		ug/L	1	Run #1	r
o-Xylene	Not detected	1		ug/L	1	Run #1	r
Styrene	Not detected	1		ug/L	1	Run #1	r
Isopropylbenzene	Not detected	5		ug/L	1	Run #1	r
Bromoform	Not detected	1		ug/L	1	Run #1	r
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	Run #1	r
1,2,3-Trichloropropane	Not detected	1		ug/L	1	Run #1	r
n-Propylbenzene	Not detected	1		ug/L	1	Run #1	r
Bromobenzene	Not detected	1		ug/L	1	Run #1	r
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	Run #1	r
tert-Butylbenzene	Not detected	1		ug/L	1	Run #1	r
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	Run #1	r
sec-Butylbenzene	Not detected	1		ug/L	1	Run #1	r
p-Isopropyltoluene	Not detected	5		ug/L	1	Run #1	r
1,3-Dichlorobenzene	Not detected	1		ug/L	1	Run #1	r
1,4-Dichlorobenzene	Not detected	1		ug/L	1	Run #1	r
1,2-Dichlorobenzene	Not detected	1		ug/L	1	Run #1	r
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	Run #1	r
n-Butylbenzene	Not detected	1		ug/L	1	Run #1	r
Hexachloroethane	Not detected	5		ug/L	1	Run #1	r
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	Run #1	r
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	Run #1	r
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	Run #1	r
Naphthalene	Not detected	5		ug/L	1	Run #1	r
2-Methylnaphthalene	Not detected	5		ug/L	1	Run #1	r

r-This analyte is being reported as the best result from multiple runs



Analytical Laboratory Report

Lab Sample ID: S66797.15
Sample Tag: MWF16-06_GW-092724
Collected Date/Time: 09/27/2024 09:20
Matrix: Groundwater
COC Reference: 172749

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/02/24 11:45	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/02/24 17:46, Analyst: ACK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	2	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	18	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	4	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	7	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	74	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	7	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	3	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	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
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	35	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S66797.15 (continued)
Sample Tag: MWF16-06_GW-092724

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/02/24 17:46, Analyst: ACK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		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	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
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	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
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	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S66797.16
Sample Tag: MWF16-06_GW-092724 MS
Collected Date/Time: 09/27/2024 09:20
Matrix: Groundwater
COC Reference: 172749

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/02/24 11:45	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/02/24 14:14, Analyst: ACK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	57	10		ug/L	1	60-29-7	1
Acetone	Not detected	50		ug/L	1	67-64-1	1
Methyl iodide	54	1		ug/L	1	74-88-4	1
Carbon disulfide	51	5		ug/L	1	75-15-0	1
tert-Methyl butyl ether (MTBE)	56	5		ug/L	1	1634-04-4	1
Acrylonitrile	60	2		ug/L	1	107-13-1	1
2-Butanone (MEK)	51	25		ug/L	1	78-93-3	1
Dichlorodifluoromethane	43	5		ug/L	1	75-71-8	1
Chloromethane	52	5		ug/L	1	74-87-3	1
Vinyl chloride	49	1		ug/L	1	75-01-4	1
Bromomethane	52	5		ug/L	1	74-83-9	1
Chloroethane	52	5		ug/L	1	75-00-3	1
Trichlorofluoromethane	46	1		ug/L	1	75-69-4	1
1,1-Dichloroethene	45	1		ug/L	1	75-35-4	1
Methylene chloride	54	5		ug/L	1	75-09-2	1
trans-1,2-Dichloroethene	53	1		ug/L	1	156-60-5	1
1,1-Dichloroethane	73	1		ug/L	1	75-34-3	1
cis-1,2-Dichloroethene	58	1		ug/L	1	156-59-2	1
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	1
Chloroform	61	1		ug/L	1	67-66-3	1
Bromochloromethane	55	1		ug/L	1	74-97-5	1
1,1,1-Trichloroethane	124	1		ug/L	1	71-55-6	1
4-Methyl-2-pentanone (MIBK)	55	50		ug/L	1	108-10-1	1
2-Hexanone	55	50		ug/L	1	591-78-6	1
Carbon tetrachloride	56	1		ug/L	1	56-23-5	1
Benzene	53	1		ug/L	1	71-43-2	1
1,2-Dichloroethane	53	1		ug/L	1	107-06-2	1
Trichloroethene	55	1		ug/L	1	79-01-6	1
1,2-Dichloropropane	55	1		ug/L	1	78-87-5	1
Bromodichloromethane	55	1		ug/L	1	75-27-4	1
Dibromomethane	53	5		ug/L	1	74-95-3	1
cis-1,3-Dichloropropene	56	1		ug/L	1	10061-01-5	1
Toluene	53	1		ug/L	1	108-88-3	1
trans-1,3-Dichloropropene	56	1		ug/L	1	10061-02-6	1
1,1,2-Trichloroethane	54	1		ug/L	1	79-00-5	1
Tetrachloroethene	84	1		ug/L	1	127-18-4	1

1-Spiked at 50 ug/L

Lab Sample ID: S66797.16 (continued)

Sample Tag: MWF16-06_GW-092724 MS

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/02/24 14:14, Analyst: ACK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
trans-1,4-Dichloro-2-butene	57	1		ug/L	1	110-57-6	1
Dibromochloromethane	54	5		ug/L	1	124-48-1	1
1,2-Dibromoethane	54	1		ug/L	1	106-93-4	1
Chlorobenzene	53	1		ug/L	1	108-90-7	1
1,1,1,2-Tetrachloroethane	55	1		ug/L	1	630-20-6	1
Ethylbenzene	53	1		ug/L	1	100-41-4	1
p,m-Xylene*	107	2		ug/L	1		1
o-Xylene	54	1		ug/L	1	95-47-6	1
Styrene	55	1		ug/L	1	100-42-5	1
Isopropylbenzene	53	5		ug/L	1	98-82-8	1
Bromoform	55	1		ug/L	1	75-25-2	1
1,1,2,2-Tetrachloroethane	54	1		ug/L	1	79-34-5	1
1,2,3-Trichloropropane	55	1		ug/L	1	96-18-4	1
n-Propylbenzene	54	1		ug/L	1	103-65-1	1
Bromobenzene	53	1		ug/L	1	108-86-1	1
1,3,5-Trimethylbenzene	54	1		ug/L	1	108-67-8	1
tert-Butylbenzene	52	1		ug/L	1	98-06-6	1
1,2,4-Trimethylbenzene	54	1		ug/L	1	95-63-6	1
sec-Butylbenzene	52	1		ug/L	1	135-98-8	1
p-Isopropyltoluene	52	5		ug/L	1	99-87-6	1
1,3-Dichlorobenzene	53	1		ug/L	1	541-73-1	1
1,4-Dichlorobenzene	53	1		ug/L	1	106-46-7	1
1,2-Dichlorobenzene	54	1		ug/L	1	95-50-1	1
1,2,3-Trimethylbenzene	55	1		ug/L	1	526-73-8	1
n-Butylbenzene	53	1		ug/L	1	104-51-8	1
Hexachloroethane	56	5		ug/L	1	67-72-1	1
1,2-Dibromo-3-chloropropane	59	5		ug/L	1	96-12-8	1
1,2,4-Trichlorobenzene	54	5		ug/L	1	120-82-1	1
1,2,3-Trichlorobenzene	54	5		ug/L	1	87-61-6	1
Naphthalene	57	5		ug/L	1	91-20-3	1
2-Methylnaphthalene	62	5		ug/L	1	91-57-6	1

1-Spiked at 50 ug/L



Analytical Laboratory Report

Lab Sample ID: S66797.17
Sample Tag: MWF16-06_GW-092724 MSD
Collected Date/Time: 09/27/2024 09:20
Matrix: Groundwater
COC Reference: 172749

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/02/24 11:45	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/02/24 14:38, Analyst: ACK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	56	10		ug/L	1	60-29-7	1
Acetone	Not detected	50		ug/L	1	67-64-1	1
Methyl iodide	48	1		ug/L	1	74-88-4	1
Carbon disulfide	48	5		ug/L	1	75-15-0	1
tert-Methyl butyl ether (MTBE)	55	5		ug/L	1	1634-04-4	1
Acrylonitrile	57	2		ug/L	1	107-13-1	1
2-Butanone (MEK)	52	25		ug/L	1	78-93-3	1
Dichlorodifluoromethane	42	5		ug/L	1	75-71-8	1
Chloromethane	50	5		ug/L	1	74-87-3	1
Vinyl chloride	47	1		ug/L	1	75-01-4	1
Bromomethane	50	5		ug/L	1	74-83-9	1
Chloroethane	50	5		ug/L	1	75-00-3	1
Trichlorofluoromethane	44	1		ug/L	1	75-69-4	1
1,1-Dichloroethene	42	1		ug/L	1	75-35-4	1
Methylene chloride	53	5		ug/L	1	75-09-2	1
trans-1,2-Dichloroethene	51	1		ug/L	1	156-60-5	1
1,1-Dichloroethane	71	1		ug/L	1	75-34-3	1
cis-1,2-Dichloroethene	56	1		ug/L	1	156-59-2	1
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	1
Chloroform	59	1		ug/L	1	67-66-3	1
Bromochloromethane	54	1		ug/L	1	74-97-5	1
1,1,1-Trichloroethane	121	1		ug/L	1	71-55-6	1
4-Methyl-2-pentanone (MIBK)	54	50		ug/L	1	108-10-1	1
2-Hexanone	53	50		ug/L	1	591-78-6	1
Carbon tetrachloride	55	1		ug/L	1	56-23-5	1
Benzene	51	1		ug/L	1	71-43-2	1
1,2-Dichloroethane	52	1		ug/L	1	107-06-2	1
Trichloroethene	54	1		ug/L	1	79-01-6	1
1,2-Dichloropropane	54	1		ug/L	1	78-87-5	1
Bromodichloromethane	54	1		ug/L	1	75-27-4	1
Dibromomethane	53	5		ug/L	1	74-95-3	1
cis-1,3-Dichloropropene	54	1		ug/L	1	10061-01-5	1
Toluene	52	1		ug/L	1	108-88-3	1
trans-1,3-Dichloropropene	56	1		ug/L	1	10061-02-6	1
1,1,2-Trichloroethane	53	1		ug/L	1	79-00-5	1
Tetrachloroethene	82	1		ug/L	1	127-18-4	1

1-Spiked at 50 ug/L



Analytical Laboratory Report

Lab Sample ID: S66797.17 (continued)
Sample Tag: MWF16-06_GW-092724 MSD

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/02/24 14:38, Analyst: ACK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
trans-1,4-Dichloro-2-butene	57	1		ug/L	1	110-57-6	1
Dibromochloromethane	56	5		ug/L	1	124-48-1	1
1,2-Dibromoethane	56	1		ug/L	1	106-93-4	1
Chlorobenzene	53	1		ug/L	1	108-90-7	1
1,1,1,2-Tetrachloroethane	56	1		ug/L	1	630-20-6	1
Ethylbenzene	54	1		ug/L	1	100-41-4	1
p,m-Xylene*	108	2		ug/L	1		1
o-Xylene	54	1		ug/L	1	95-47-6	1
Styrene	56	1		ug/L	1	100-42-5	1
Isopropylbenzene	53	5		ug/L	1	98-82-8	1
Bromoform	56	1		ug/L	1	75-25-2	1
1,1,2,2-Tetrachloroethane	56	1		ug/L	1	79-34-5	1
1,2,3-Trichloropropane	55	1		ug/L	1	96-18-4	1
n-Propylbenzene	52	1		ug/L	1	103-65-1	1
Bromobenzene	54	1		ug/L	1	108-86-1	1
1,3,5-Trimethylbenzene	54	1		ug/L	1	108-67-8	1
tert-Butylbenzene	52	1		ug/L	1	98-06-6	1
1,2,4-Trimethylbenzene	54	1		ug/L	1	95-63-6	1
sec-Butylbenzene	50	1		ug/L	1	135-98-8	1
p-Isopropyltoluene	51	5		ug/L	1	99-87-6	1
1,3-Dichlorobenzene	52	1		ug/L	1	541-73-1	1
1,4-Dichlorobenzene	52	1		ug/L	1	106-46-7	1
1,2-Dichlorobenzene	53	1		ug/L	1	95-50-1	1
1,2,3-Trimethylbenzene	54	1		ug/L	1	526-73-8	1
n-Butylbenzene	51	1		ug/L	1	104-51-8	1
Hexachloroethane	53	5		ug/L	1	67-72-1	1
1,2-Dibromo-3-chloropropane	56	5		ug/L	1	96-12-8	1
1,2,4-Trichlorobenzene	55	5		ug/L	1	120-82-1	1
1,2,3-Trichlorobenzene	55	5		ug/L	1	87-61-6	1
Naphthalene	57	5		ug/L	1	91-20-3	1
2-Methylnaphthalene	63	5		ug/L	1	91-57-6	1

1-Spiked at 50 ug/L



Analytical Laboratory Report

Lab Sample ID: S66797.18
Sample Tag: Trip Blank
Collected Date/Time: 09/27/2024 00:01
Matrix: Water
COC Reference: 172749

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40mL Glass	HCL	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/02/24 11:45	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/02/24 02:50, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		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	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		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	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
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	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S66797.18 (continued)

Sample Tag: Trip Blank

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/02/24 02:50, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		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	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
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	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
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	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	

Merit Laboratories Login Checklist

Lab Set ID:S66797

Client:ARCADIS_NOVI (Arcadis US, Inc.)

Project: RACER - PNC / 30214041.00005

Submitted:09/27/2024 14:40 Login User: MMC

Attention: Lexi Nickerson

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

Phone: C: 248-994-1734 FAX:

Email: Alexis.Nickerson@arcadis.com

Selection	Description	Note
Sample Receiving		
01.	☒ Yes ☐ No ☐ N/A	Samples are received at 4C +/- 2C Thermometer # IR 4.6
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				Lexi Nickelson											
COMPANY				Arcadis											
ADDRESS								28550 Cabot Dr. Suite 500							
CITY						STATE		ZIP CODE							
Ngui						MI		48377							
PHONE NO.				CELL NO.				P.O. NO.							
								2021479100005							
E-MAIL ADDRESS								QUOTE NO.							
lexi.nickelson@arcadis.com															

CONTACT NAME		Accounts Payable		☐ SAME	
COMPANY		Arendis			
ADDRESS		636 Plaza Dr. #600			
CITY		Highlands Ranch		STATE	CO
PHONE NO.		E-MAIL ADDRESS		ZIP CODE	
		accounts.payable.administration@arendis.com		86127	

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

PROJECT NO./NAME RACER-FNL 30214041.00005	SAMPLER(S) - PLEASE PRINT/SIGN NAME J. R. Long Mgr/s 
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

[illegible]

RELINQUISHED BY: <i>Jeffery Myers</i>	<i>1 AR 40.5</i>	DATE	TIME
SIGNATURE/ORGANIZATION		09/27/24	11:00
RECEIVED BY:		DATE	TIME
SIGNATURE/ORGANIZATION		9/27/24	18:00
RELINQUISHED BY:		DATE	TIME
SIGNATURE/ORGANIZATION		9/27/24	14:40
RECEIVED BY:		DATE	TIME
SIGNATURE/ORGANIZATION		9/27/24	14:40

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		4.6



Analytical Laboratory Report

Report ID: S66799.01(01)
Generated on 10/04/2024

Report to
Attention: Lexi Nickerson
Arcadis US, Inc.
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Suite 500
Novi, MI 48377

Phone: C: 248-994-1734 FAX:
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Barbara Ball (bball@meritlabs.com)

Report Summary
Lab Sample ID(s): S66799.01-S66799.14
Project: 30214041.00005 / RACER - PNC
Collected Date(s): 09/24/2024 - 09/27/2024
Submitted Date/Time: 09/27/2024 14:40
Sampled by: Alaina Ralko
P.O. #: 30214041.00005

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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
SW5030C/8260C	SW 846 Method 8260C Revision 3 August 2006 / 5030C Revision 3 May 2003



Analytical Laboratory Report

Sample Summary (14 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S66799.01	MW-16-22_GW-092424	Groundwater	09/24/24 11:05
S66799.02	MWF16-07_GW-092424	Groundwater	09/24/24 12:10
S66799.03	MWF16-15_GW-092424	Groundwater	09/24/24 13:00
S66799.04	UNKNOWN-01_GW-092424	Groundwater	09/24/24 14:50
S66799.05	MWF15-01_GW-092524	Groundwater	09/25/24 12:25
S66799.06	MWF7-02_GW-092524	Groundwater	09/25/24 13:20
S66799.07	MWF16-17_GW-092524	Groundwater	09/25/24 14:55
S66799.08	MWF16-05_GW-092524	Groundwater	09/25/24 16:45
S66799.09	MW-09-22_GW-092624	Groundwater	09/26/24 13:40
S66799.10	MWF16-12_GW-092724	Groundwater	09/27/24 08:55
S66799.11	MWF16-18_GW-092724	Groundwater	09/27/24 09:55
S66799.12	DUP-02_GW-092724	Groundwater	09/27/24 00:01
S66799.13	DUP-01_GW-092624	Groundwater	09/26/24 00:01
S66799.14	Trip Blank	Water	09/27/24 00:01



Analytical Laboratory Report

Lab Sample ID: S66799.01

Sample Tag: MW-16-22_GW-092424

Collected Date/Time: 09/24/2024 11:05

Matrix: Groundwater

COC Reference: 172334

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/02/24 11:45	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run #1: 10/02/24 18:09, #2: 10/03/24 15:27, Analyst: ACK

Parameter	Result	RL	MDL	Units	Dilution	Run #	Flags
Diethyl ether	Not detected	10		ug/L	1	Run #1	r
Acetone	Not detected	50		ug/L	1	Run #1	r
Methyl iodide	Not detected	1		ug/L	1	Run #1	r
Carbon disulfide	Not detected	5		ug/L	1	Run #1	r
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	Run #1	r
Acrylonitrile	Not detected	2		ug/L	1	Run #1	r
2-Butanone (MEK)	Not detected	25		ug/L	1	Run #1	r
Dichlorodifluoromethane	Not detected	5		ug/L	1	Run #1	r
Chloromethane	Not detected	5		ug/L	1	Run #1	r
Vinyl chloride	Not detected	1		ug/L	1	Run #1	r
Bromomethane	Not detected	5		ug/L	1	Run #1	r
Chloroethane	Not detected	5		ug/L	1	Run #1	r
Trichlorofluoromethane	Not detected	1		ug/L	1	Run #1	r
1,1-Dichloroethene	Not detected	1		ug/L	1	Run #1	r
Methylene chloride	Not detected	5		ug/L	1	Run #1	r
trans-1,2-Dichloroethene	2	1		ug/L	1	Run #1	r
1,1-Dichloroethane	6	1		ug/L	1	Run #1	r
cis-1,2-Dichloroethene	16	1		ug/L	1	Run #1	r
Tetrahydrofuran*	Not detected	90		ug/L	1	Run #1	r
Chloroform	Not detected	1		ug/L	1	Run #1	r
Bromochloromethane	Not detected	1		ug/L	1	Run #1	r
1,1,1-Trichloroethane	3	1		ug/L	1	Run #1	r
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	Run #1	r
2-Hexanone	Not detected	50		ug/L	1	Run #1	r
Carbon tetrachloride	Not detected	1		ug/L	1	Run #1	r
Benzene	Not detected	1		ug/L	1	Run #1	r
1,2-Dichloroethane	Not detected	1		ug/L	1	Run #1	r
Trichloroethene	11	1		ug/L	1	Run #1	r
1,2-Dichloropropane	Not detected	1		ug/L	1	Run #1	r
Bromodichloromethane	Not detected	1		ug/L	1	Run #1	r
Dibromomethane	Not detected	5		ug/L	1	Run #1	r
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	Run #1	r
Toluene	Not detected	1		ug/L	1	Run #1	r
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	Run #1	r
1,1,2-Trichloroethane	Not detected	1		ug/L	1	Run #1	r
Tetrachloroethene	250	10		ug/L	10	Run #2	Yr

r-This analyte is being reported as the best result from multiple runs

Y-Elevated reporting limit due to high target concentration



Analytical Laboratory Report

Lab Sample ID: S66799.01 (continued)

Sample Tag: MW-16-22_GW-092424

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run #1: 10/02/24 18:09, #2: 10/03/24 15:27, Analyst: ACK (continued)

Parameter	Result	RL	MDL	Units	Dilution	Run #	Flags
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	Run #1	r
Dibromochloromethane	Not detected	5		ug/L	1	Run #1	r
1,2-Dibromoethane	Not detected	1		ug/L	1	Run #1	r
Chlorobenzene	Not detected	1		ug/L	1	Run #1	r
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	Run #1	r
Ethylbenzene	Not detected	1		ug/L	1	Run #1	r
p,m-Xylene*	Not detected	2		ug/L	1	Run #1	r
o-Xylene	Not detected	1		ug/L	1	Run #1	r
Styrene	Not detected	1		ug/L	1	Run #1	r
Isopropylbenzene	Not detected	5		ug/L	1	Run #1	r
Bromoform	Not detected	1		ug/L	1	Run #1	r
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	Run #1	r
1,2,3-Trichloropropane	Not detected	1		ug/L	1	Run #1	r
n-Propylbenzene	Not detected	1		ug/L	1	Run #1	r
Bromobenzene	Not detected	1		ug/L	1	Run #1	r
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	Run #1	r
tert-Butylbenzene	Not detected	1		ug/L	1	Run #1	r
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	Run #1	r
sec-Butylbenzene	Not detected	1		ug/L	1	Run #1	r
p-Isopropyltoluene	Not detected	5		ug/L	1	Run #1	r
1,3-Dichlorobenzene	Not detected	1		ug/L	1	Run #1	r
1,4-Dichlorobenzene	Not detected	1		ug/L	1	Run #1	r
1,2-Dichlorobenzene	Not detected	1		ug/L	1	Run #1	r
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	Run #1	r
n-Butylbenzene	Not detected	1		ug/L	1	Run #1	r
Hexachloroethane	Not detected	5		ug/L	1	Run #1	r
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	Run #1	r
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	Run #1	r
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	Run #1	r
Naphthalene	Not detected	5		ug/L	1	Run #1	r
2-Methylnaphthalene	Not detected	5		ug/L	1	Run #1	r

r-This analyte is being reported as the best result from multiple runs



Analytical Laboratory Report

Lab Sample ID: S66799.02
Sample Tag: MWF16-07_GW-092424
Collected Date/Time: 09/24/2024 12:10
Matrix: Groundwater
COC Reference: 172334

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/02/24 11:45	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/03/24 13:54, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		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	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		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	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
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	1	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S66799.02 (continued)
Sample Tag: MWF16-07_GW-092424

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/03/24 13:54, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		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	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
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	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
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	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S66799.03

Sample Tag: MWF16-15_GW-092424

Collected Date/Time: 09/24/2024 13:00

Matrix: Groundwater

COC Reference: 172334

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/02/24 11:45	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/02/24 18:57, Analyst: ACK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		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	1	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	4	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	9	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		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	3	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	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
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	1	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S66799.03 (continued)
Sample Tag: MWF16-15_GW-092424

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/02/24 18:57, Analyst: ACK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		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	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
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	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
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	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S66799.04
Sample Tag: UNKNOWN-01_GW-092424
Collected Date/Time: 09/24/2024 14:50
Matrix: Groundwater
COC Reference: 172334

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/02/24 11:45	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/02/24 19:21, Analyst: ACK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		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	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	49	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		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	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
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	23	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S66799.04 (continued)
Sample Tag: UNKNOWN-01_GW-092424

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/02/24 19:21, Analyst: ACK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		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	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
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	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
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	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S66799.05

Sample Tag: MWF15-01_GW-092524

Collected Date/Time: 09/25/2024 12:25

Matrix: Groundwater

COC Reference: 172334

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/02/24 11:45	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/02/24 19:45, Analyst: ACK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		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	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	4	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		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	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
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	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S66799.05 (continued)
Sample Tag: MWVF15-01_GW-092524

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/02/24 19:45, Analyst: ACK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		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	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
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	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
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	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S66799.06
Sample Tag: MWF7-02_GW-092524
Collected Date/Time: 09/25/2024 13:20
Matrix: Groundwater
COC Reference: 172334

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/02/24 11:45	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/02/24 20:08, Analyst: ACK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	9	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	18	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	2	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	68	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		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	3	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	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
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	76	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S66799.06 (continued)
Sample Tag: MWLF7-02_GW-092524

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/02/24 20:08, Analyst: ACK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		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	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
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	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
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	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S66799.07

Sample Tag: MWF16-17_GW-092524

Collected Date/Time: 09/25/2024 14:55

Matrix: Groundwater

COC Reference: 172334

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/02/24 11:45	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/02/24 06:43, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		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	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	2	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		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	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
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	3	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S66799.07 (continued)
Sample Tag: MWF16-17_GW-092524

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/02/24 06:43, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		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	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
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	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
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	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S66799.08
Sample Tag: MWF16-05_GW-092524
Collected Date/Time: 09/25/2024 16:45
Matrix: Groundwater
COC Reference: 172334

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/02/24 11:45	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/02/24 21:43, Analyst: ACK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	100		ug/L	10	60-29-7	Y
Acetone	Not detected	500		ug/L	10	67-64-1	Y
Methyl iodide	Not detected	10		ug/L	10	74-88-4	Y
Carbon disulfide	Not detected	50		ug/L	10	75-15-0	Y
tert-Methyl butyl ether (MTBE)	Not detected	50		ug/L	10	1634-04-4	Y
Acrylonitrile	Not detected	20		ug/L	10	107-13-1	Y
2-Butanone (MEK)	Not detected	250		ug/L	10	78-93-3	Y
Dichlorodifluoromethane	Not detected	50		ug/L	10	75-71-8	Y
Chloromethane	Not detected	50		ug/L	10	74-87-3	Y
Vinyl chloride	Not detected	10		ug/L	10	75-01-4	Y
Bromomethane	Not detected	50		ug/L	10	74-83-9	Y
Chloroethane	Not detected	50		ug/L	10	75-00-3	Y
Trichlorofluoromethane	Not detected	10		ug/L	10	75-69-4	Y
1,1-Dichloroethene	Not detected	10		ug/L	10	75-35-4	Y
Methylene chloride	Not detected	50		ug/L	10	75-09-2	Y
trans-1,2-Dichloroethene	Not detected	10		ug/L	10	156-60-5	Y
1,1-Dichloroethane	Not detected	10		ug/L	10	75-34-3	Y
cis-1,2-Dichloroethene	Not detected	10		ug/L	10	156-59-2	Y
Tetrahydrofuran*	Not detected	900		ug/L	10	109-99-9	Y
Chloroform	Not detected	10		ug/L	10	67-66-3	Y
Bromochloromethane	Not detected	10		ug/L	10	74-97-5	Y
1,1,1-Trichloroethane	Not detected	10		ug/L	10	71-55-6	Y
4-Methyl-2-pentanone (MIBK)	Not detected	500		ug/L	10	108-10-1	Y
2-Hexanone	Not detected	500		ug/L	10	591-78-6	Y
Carbon tetrachloride	Not detected	10		ug/L	10	56-23-5	Y
Benzene	Not detected	10		ug/L	10	71-43-2	Y
1,2-Dichloroethane	Not detected	10		ug/L	10	107-06-2	Y
Trichloroethene	Not detected	10		ug/L	10	79-01-6	Y
1,2-Dichloropropane	Not detected	10		ug/L	10	78-87-5	Y
Bromodichloromethane	Not detected	10		ug/L	10	75-27-4	Y
Dibromomethane	Not detected	50		ug/L	10	74-95-3	Y
cis-1,3-Dichloropropene	Not detected	10		ug/L	10	10061-01-5	Y
Toluene	Not detected	10		ug/L	10	108-88-3	Y
trans-1,3-Dichloropropene	Not detected	10		ug/L	10	10061-02-6	Y
1,1,2-Trichloroethane	Not detected	10		ug/L	10	79-00-5	Y
Tetrachloroethene	390	10		ug/L	10	127-18-4	Y

Y-Elevated reporting limit due to high target concentration

Lab Sample ID: S66799.08 (continued)

Sample Tag: MWF16-05_GW-092524

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/02/24 21:43, Analyst: ACK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
trans-1,4-Dichloro-2-butene	Not detected	10		ug/L	10	110-57-6	Y
Dibromochloromethane	Not detected	50		ug/L	10	124-48-1	Y
1,2-Dibromoethane	Not detected	10		ug/L	10	106-93-4	Y
Chlorobenzene	Not detected	10		ug/L	10	108-90-7	Y
1,1,1,2-Tetrachloroethane	Not detected	10		ug/L	10	630-20-6	Y
Ethylbenzene	Not detected	10		ug/L	10	100-41-4	Y
p,m-Xylene*	Not detected	20		ug/L	10		Y
o-Xylene	Not detected	10		ug/L	10	95-47-6	Y
Styrene	Not detected	10		ug/L	10	100-42-5	Y
Isopropylbenzene	Not detected	50		ug/L	10	98-82-8	Y
Bromoform	Not detected	10		ug/L	10	75-25-2	Y
1,1,2,2-Tetrachloroethane	Not detected	10		ug/L	10	79-34-5	Y
1,2,3-Trichloropropane	Not detected	10		ug/L	10	96-18-4	Y
n-Propylbenzene	Not detected	10		ug/L	10	103-65-1	Y
Bromobenzene	Not detected	10		ug/L	10	108-86-1	Y
1,3,5-Trimethylbenzene	Not detected	10		ug/L	10	108-67-8	Y
tert-Butylbenzene	Not detected	10		ug/L	10	98-06-6	Y
1,2,4-Trimethylbenzene	Not detected	10		ug/L	10	95-63-6	Y
sec-Butylbenzene	Not detected	10		ug/L	10	135-98-8	Y
p-Isopropyltoluene	Not detected	50		ug/L	10	99-87-6	Y
1,3-Dichlorobenzene	Not detected	10		ug/L	10	541-73-1	Y
1,4-Dichlorobenzene	Not detected	10		ug/L	10	106-46-7	Y
1,2-Dichlorobenzene	Not detected	10		ug/L	10	95-50-1	Y
1,2,3-Trimethylbenzene	Not detected	10		ug/L	10	526-73-8	Y
n-Butylbenzene	Not detected	10		ug/L	10	104-51-8	Y
Hexachloroethane	Not detected	50		ug/L	10	67-72-1	Y
1,2-Dibromo-3-chloropropane	Not detected	50		ug/L	10	96-12-8	Y
1,2,4-Trichlorobenzene	Not detected	50		ug/L	10	120-82-1	Y
1,2,3-Trichlorobenzene	Not detected	50		ug/L	10	87-61-6	Y
Naphthalene	Not detected	50		ug/L	10	91-20-3	Y
2-Methylnaphthalene	Not detected	50		ug/L	10	91-57-6	Y

Y-Elevated reporting limit due to high target concentration



Analytical Laboratory Report

Lab Sample ID: S66799.09

Sample Tag: MW-09-22_GW-092624

Collected Date/Time: 09/26/2024 13:40

Matrix: Groundwater

COC Reference: 172334

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/02/24 11:45	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run #1: 10/02/24 07:06, #2: 10/02/24 22:07, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	Run #	Flags
Diethyl ether	Not detected	10		ug/L	1	Run #1	r
Acetone	Not detected	50		ug/L	1	Run #1	r
Methyl iodide	Not detected	1		ug/L	1	Run #1	r
Carbon disulfide	Not detected	5		ug/L	1	Run #1	r
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	Run #1	r
Acrylonitrile	Not detected	2		ug/L	1	Run #1	r
2-Butanone (MEK)	Not detected	25		ug/L	1	Run #1	r
Dichlorodifluoromethane	Not detected	5		ug/L	1	Run #1	r
Chloromethane	Not detected	5		ug/L	1	Run #1	r
Vinyl chloride	Not detected	1		ug/L	1	Run #1	r
Bromomethane	Not detected	5		ug/L	1	Run #1	r
Chloroethane	Not detected	5		ug/L	1	Run #1	r
Trichlorofluoromethane	Not detected	1		ug/L	1	Run #1	r
1,1-Dichloroethene	Not detected	1		ug/L	1	Run #1	r
Methylene chloride	Not detected	5		ug/L	1	Run #1	r
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	Run #1	r
1,1-Dichloroethane	Not detected	1		ug/L	1	Run #1	r
cis-1,2-Dichloroethene	2	1		ug/L	1	Run #1	r
Tetrahydrofuran*	Not detected	90		ug/L	1	Run #1	r
Chloroform	3	1		ug/L	1	Run #1	r
Bromochloromethane	Not detected	1		ug/L	1	Run #1	r
1,1,1-Trichloroethane	Not detected	1		ug/L	1	Run #1	r
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	Run #1	r
2-Hexanone	Not detected	50		ug/L	1	Run #1	r
Carbon tetrachloride	3	1		ug/L	1	Run #1	r
Benzene	Not detected	1		ug/L	1	Run #1	r
1,2-Dichloroethane	Not detected	1		ug/L	1	Run #1	r
Trichloroethene	7	1		ug/L	1	Run #1	r
1,2-Dichloropropane	Not detected	1		ug/L	1	Run #1	r
Bromodichloromethane	Not detected	1		ug/L	1	Run #1	r
Dibromomethane	Not detected	5		ug/L	1	Run #1	r
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	Run #1	r
Toluene	Not detected	1		ug/L	1	Run #1	r
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	Run #1	r
1,1,2-Trichloroethane	Not detected	1		ug/L	1	Run #1	r
Tetrachloroethene	310	10		ug/L	10	Run #2	Yr

r-This analyte is being reported as the best result from multiple runs

Y-Elevated reporting limit due to high target concentration

Lab Sample ID: S66799.09 (continued)

Sample Tag: MW-09-22_GW-092624

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run #1: 10/02/24 07:06, #2: 10/02/24 22:07, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	Run #	Flags
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	Run #1	r
Dibromochloromethane	Not detected	5		ug/L	1	Run #1	r
1,2-Dibromoethane	Not detected	1		ug/L	1	Run #1	r
Chlorobenzene	Not detected	1		ug/L	1	Run #1	r
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	Run #1	r
Ethylbenzene	Not detected	1		ug/L	1	Run #1	r
p,m-Xylene*	Not detected	2		ug/L	1	Run #1	r
o-Xylene	Not detected	1		ug/L	1	Run #1	r
Styrene	Not detected	1		ug/L	1	Run #1	r
Isopropylbenzene	Not detected	5		ug/L	1	Run #1	r
Bromoform	Not detected	1		ug/L	1	Run #1	r
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	Run #1	r
1,2,3-Trichloropropane	Not detected	1		ug/L	1	Run #1	r
n-Propylbenzene	Not detected	1		ug/L	1	Run #1	r
Bromobenzene	Not detected	1		ug/L	1	Run #1	r
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	Run #1	r
tert-Butylbenzene	Not detected	1		ug/L	1	Run #1	r
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	Run #1	r
sec-Butylbenzene	Not detected	1		ug/L	1	Run #1	r
p-Isopropyltoluene	Not detected	5		ug/L	1	Run #1	r
1,3-Dichlorobenzene	Not detected	1		ug/L	1	Run #1	r
1,4-Dichlorobenzene	Not detected	1		ug/L	1	Run #1	r
1,2-Dichlorobenzene	Not detected	1		ug/L	1	Run #1	r
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	Run #1	r
n-Butylbenzene	Not detected	1		ug/L	1	Run #1	r
Hexachloroethane	Not detected	5		ug/L	1	Run #1	r
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	Run #1	r
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	Run #1	r
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	Run #1	r
Naphthalene	Not detected	5		ug/L	1	Run #1	r
2-Methylnaphthalene	Not detected	5		ug/L	1	Run #1	r

r-This analyte is being reported as the best result from multiple runs



Analytical Laboratory Report

Lab Sample ID: S66799.10
Sample Tag: MWF16-12_GW-092724
Collected Date/Time: 09/27/2024 08:55
Matrix: Groundwater
COC Reference: 172334

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/02/24 11:45	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/02/24 20:32, Analyst: ACK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		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	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		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	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
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	2	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S66799.10 (continued)
Sample Tag: MWF16-12_GW-092724

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/02/24 20:32, Analyst: ACK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		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	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
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	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
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	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S66799.11
Sample Tag: MWF16-18_GW-092724
Collected Date/Time: 09/27/2024 09:55
Matrix: Groundwater
COC Reference: 172334

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/02/24 11:45	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/02/24 09:25, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	100		ug/L	10	60-29-7	Y
Acetone	Not detected	500		ug/L	10	67-64-1	Y
Methyl iodide	Not detected	10		ug/L	10	74-88-4	Y
Carbon disulfide	Not detected	50		ug/L	10	75-15-0	Y
tert-Methyl butyl ether (MTBE)	Not detected	50		ug/L	10	1634-04-4	Y
Acrylonitrile	Not detected	20		ug/L	10	107-13-1	Y
2-Butanone (MEK)	Not detected	250		ug/L	10	78-93-3	Y
Dichlorodifluoromethane	Not detected	50		ug/L	10	75-71-8	Y
Chloromethane	Not detected	50		ug/L	10	74-87-3	Y
Vinyl chloride	30	10		ug/L	10	75-01-4	Y
Bromomethane	Not detected	50		ug/L	10	74-83-9	Y
Chloroethane	Not detected	50		ug/L	10	75-00-3	Y
Trichlorofluoromethane	Not detected	10		ug/L	10	75-69-4	Y
1,1-Dichloroethene	Not detected	10		ug/L	10	75-35-4	Y
Methylene chloride	Not detected	50		ug/L	10	75-09-2	Y
trans-1,2-Dichloroethene	Not detected	10		ug/L	10	156-60-5	Y
1,1-Dichloroethane	Not detected	10		ug/L	10	75-34-3	Y
cis-1,2-Dichloroethene	210	10		ug/L	10	156-59-2	Y
Tetrahydrofuran*	Not detected	900		ug/L	10	109-99-9	Y
Chloroform	Not detected	10		ug/L	10	67-66-3	Y
Bromochloromethane	Not detected	10		ug/L	10	74-97-5	Y
1,1,1-Trichloroethane	Not detected	10		ug/L	10	71-55-6	Y
4-Methyl-2-pentanone (MIBK)	Not detected	500		ug/L	10	108-10-1	Y
2-Hexanone	Not detected	500		ug/L	10	591-78-6	Y
Carbon tetrachloride	Not detected	10		ug/L	10	56-23-5	Y
Benzene	Not detected	10		ug/L	10	71-43-2	Y
1,2-Dichloroethane	Not detected	10		ug/L	10	107-06-2	Y
Trichloroethene	40	10		ug/L	10	79-01-6	Y
1,2-Dichloropropane	Not detected	10		ug/L	10	78-87-5	Y
Bromodichloromethane	Not detected	10		ug/L	10	75-27-4	Y
Dibromomethane	Not detected	50		ug/L	10	74-95-3	Y
cis-1,3-Dichloropropene	Not detected	10		ug/L	10	10061-01-5	Y
Toluene	Not detected	10		ug/L	10	108-88-3	Y
trans-1,3-Dichloropropene	Not detected	10		ug/L	10	10061-02-6	Y
1,1,2-Trichloroethane	Not detected	10		ug/L	10	79-00-5	Y
Tetrachloroethene	1,070	10		ug/L	10	127-18-4	Y

Y-Elevated reporting limit due to high target concentration

Lab Sample ID: S66799.11 (continued)

Sample Tag: MWF16-18_GW-092724

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/02/24 09:25, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
trans-1,4-Dichloro-2-butene	Not detected	10		ug/L	10	110-57-6	Y
Dibromochloromethane	Not detected	50		ug/L	10	124-48-1	Y
1,2-Dibromoethane	Not detected	10		ug/L	10	106-93-4	Y
Chlorobenzene	Not detected	10		ug/L	10	108-90-7	Y
1,1,1,2-Tetrachloroethane	Not detected	10		ug/L	10	630-20-6	Y
Ethylbenzene	Not detected	10		ug/L	10	100-41-4	Y
p,m-Xylene*	Not detected	20		ug/L	10		Y
o-Xylene	Not detected	10		ug/L	10	95-47-6	Y
Styrene	Not detected	10		ug/L	10	100-42-5	Y
Isopropylbenzene	Not detected	50		ug/L	10	98-82-8	Y
Bromoform	Not detected	10		ug/L	10	75-25-2	Y
1,1,2,2-Tetrachloroethane	Not detected	10		ug/L	10	79-34-5	Y
1,2,3-Trichloropropane	Not detected	10		ug/L	10	96-18-4	Y
n-Propylbenzene	Not detected	10		ug/L	10	103-65-1	Y
Bromobenzene	Not detected	10		ug/L	10	108-86-1	Y
1,3,5-Trimethylbenzene	Not detected	10		ug/L	10	108-67-8	Y
tert-Butylbenzene	Not detected	10		ug/L	10	98-06-6	Y
1,2,4-Trimethylbenzene	Not detected	10		ug/L	10	95-63-6	Y
sec-Butylbenzene	Not detected	10		ug/L	10	135-98-8	Y
p-Isopropyltoluene	Not detected	50		ug/L	10	99-87-6	Y
1,3-Dichlorobenzene	Not detected	10		ug/L	10	541-73-1	Y
1,4-Dichlorobenzene	Not detected	10		ug/L	10	106-46-7	Y
1,2-Dichlorobenzene	Not detected	10		ug/L	10	95-50-1	Y
1,2,3-Trimethylbenzene	Not detected	10		ug/L	10	526-73-8	Y
n-Butylbenzene	Not detected	10		ug/L	10	104-51-8	Y
Hexachloroethane	Not detected	50		ug/L	10	67-72-1	Y
1,2-Dibromo-3-chloropropane	Not detected	50		ug/L	10	96-12-8	Y
1,2,4-Trichlorobenzene	Not detected	50		ug/L	10	120-82-1	Y
1,2,3-Trichlorobenzene	Not detected	50		ug/L	10	87-61-6	Y
Naphthalene	Not detected	50		ug/L	10	91-20-3	Y
2-Methylnaphthalene	Not detected	50		ug/L	10	91-57-6	Y

Y-Elevated reporting limit due to high target concentration



Analytical Laboratory Report

Lab Sample ID: S66799.12

Sample Tag: DUP-02_GW-092724

Collected Date/Time: 09/27/2024 00:01

Matrix: Groundwater

COC Reference: 172334

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/02/24 11:45	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run #1: 10/02/24 08:39, #2: 10/02/24 22:54, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	Run #	Flags
Diethyl ether	Not detected	10		ug/L	1	Run #1	r
Acetone	Not detected	50		ug/L	1	Run #1	r
Methyl iodide	Not detected	1		ug/L	1	Run #1	r
Carbon disulfide	Not detected	5		ug/L	1	Run #1	r
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	Run #1	r
Acrylonitrile	Not detected	2		ug/L	1	Run #1	r
2-Butanone (MEK)	Not detected	25		ug/L	1	Run #1	r
Dichlorodifluoromethane	Not detected	5		ug/L	1	Run #1	r
Chloromethane	Not detected	5		ug/L	1	Run #1	r
Vinyl chloride	31	1		ug/L	1	Run #1	r
Bromomethane	Not detected	5		ug/L	1	Run #1	r
Chloroethane	Not detected	5		ug/L	1	Run #1	r
Trichlorofluoromethane	Not detected	1		ug/L	1	Run #1	r
1,1-Dichloroethene	Not detected	1		ug/L	1	Run #1	r
Methylene chloride	Not detected	5		ug/L	1	Run #1	r
trans-1,2-Dichloroethene	2	1		ug/L	1	Run #1	r
1,1-Dichloroethane	3	1		ug/L	1	Run #1	r
cis-1,2-Dichloroethene	210	50		ug/L	50	Run #2	Yr
Tetrahydrofuran*	Not detected	90		ug/L	1	Run #1	r
Chloroform	Not detected	1		ug/L	1	Run #1	r
Bromochloromethane	Not detected	1		ug/L	1	Run #1	r
1,1,1-Trichloroethane	2	1		ug/L	1	Run #1	r
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	Run #1	r
2-Hexanone	Not detected	50		ug/L	1	Run #1	r
Carbon tetrachloride	Not detected	1		ug/L	1	Run #1	r
Benzene	Not detected	1		ug/L	1	Run #1	r
1,2-Dichloroethane	Not detected	1		ug/L	1	Run #1	r
Trichloroethene	41	1		ug/L	1	Run #1	r
1,2-Dichloropropane	Not detected	1		ug/L	1	Run #1	r
Bromodichloromethane	Not detected	1		ug/L	1	Run #1	r
Dibromomethane	Not detected	5		ug/L	1	Run #1	r
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	Run #1	r
Toluene	Not detected	1		ug/L	1	Run #1	r
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	Run #1	r
1,1,2-Trichloroethane	Not detected	1		ug/L	1	Run #1	r

r-This analyte is being reported as the best result from multiple runs

Y-Elevated reporting limit due to high target concentration



Analytical Laboratory Report

Lab Sample ID: S66799.12 (continued)
Sample Tag: DUP-02_GW-092724

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run #1: 10/02/24 08:39, #2: 10/02/24 22:54, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	Run #	Flags
Tetrachloroethene	1,000	50		ug/L	50	Run #2	Yr
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	Run #1	r
Dibromochloromethane	Not detected	5		ug/L	1	Run #1	r
1,2-Dibromoethane	Not detected	1		ug/L	1	Run #1	r
Chlorobenzene	Not detected	1		ug/L	1	Run #1	r
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	Run #1	r
Ethylbenzene	Not detected	1		ug/L	1	Run #1	r
p,m-Xylene*	Not detected	2		ug/L	1	Run #1	r
o-Xylene	Not detected	1		ug/L	1	Run #1	r
Styrene	Not detected	1		ug/L	1	Run #1	r
Isopropylbenzene	Not detected	5		ug/L	1	Run #1	r
Bromoform	Not detected	1		ug/L	1	Run #1	r
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	Run #1	r
1,2,3-Trichloropropane	Not detected	1		ug/L	1	Run #1	r
n-Propylbenzene	Not detected	1		ug/L	1	Run #1	r
Bromobenzene	Not detected	1		ug/L	1	Run #1	r
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	Run #1	r
tert-Butylbenzene	Not detected	1		ug/L	1	Run #1	r
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	Run #1	r
sec-Butylbenzene	Not detected	1		ug/L	1	Run #1	r
p-Isopropyltoluene	Not detected	5		ug/L	1	Run #1	r
1,3-Dichlorobenzene	Not detected	1		ug/L	1	Run #1	r
1,4-Dichlorobenzene	Not detected	1		ug/L	1	Run #1	r
1,2-Dichlorobenzene	Not detected	1		ug/L	1	Run #1	r
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	Run #1	r
n-Butylbenzene	Not detected	1		ug/L	1	Run #1	r
Hexachloroethane	Not detected	5		ug/L	1	Run #1	r
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	Run #1	r
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	Run #1	r
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	Run #1	r
Naphthalene	Not detected	5		ug/L	1	Run #1	r
2-Methylnaphthalene	Not detected	5		ug/L	1	Run #1	r

Y-Elevated reporting limit due to high target concentration r-This analyte is being reported as the best result from multiple runs



Analytical Laboratory Report

Lab Sample ID: S66799.13

Sample Tag: DUP-01_GW-092624

Collected Date/Time: 09/26/2024 00:01

Matrix: Groundwater

COC Reference: 172769

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/02/24 11:45	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run #1: 10/02/24 07:52, #2: 10/02/24 22:30, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	Run #	Flags
Diethyl ether	Not detected	10		ug/L	1	Run #1	r
Acetone	Not detected	50		ug/L	1	Run #1	r
Methyl iodide	Not detected	1		ug/L	1	Run #1	r
Carbon disulfide	Not detected	5		ug/L	1	Run #1	r
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	Run #1	r
Acrylonitrile	Not detected	2		ug/L	1	Run #1	r
2-Butanone (MEK)	Not detected	25		ug/L	1	Run #1	r
Dichlorodifluoromethane	Not detected	5		ug/L	1	Run #1	r
Chloromethane	Not detected	5		ug/L	1	Run #1	r
Vinyl chloride	Not detected	1		ug/L	1	Run #1	r
Bromomethane	Not detected	5		ug/L	1	Run #1	r
Chloroethane	Not detected	5		ug/L	1	Run #1	r
Trichlorofluoromethane	Not detected	1		ug/L	1	Run #1	r
1,1-Dichloroethene	Not detected	1		ug/L	1	Run #1	r
Methylene chloride	Not detected	5		ug/L	1	Run #1	r
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	Run #1	r
1,1-Dichloroethane	Not detected	1		ug/L	1	Run #1	r
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	Run #1	r
Tetrahydrofuran*	Not detected	90		ug/L	1	Run #1	r
Chloroform	1	1		ug/L	1	Run #1	r
Bromochloromethane	Not detected	1		ug/L	1	Run #1	r
1,1,1-Trichloroethane	Not detected	1		ug/L	1	Run #1	r
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	Run #1	r
2-Hexanone	Not detected	50		ug/L	1	Run #1	r
Carbon tetrachloride	2	1		ug/L	1	Run #1	r
Benzene	Not detected	1		ug/L	1	Run #1	r
1,2-Dichloroethane	Not detected	1		ug/L	1	Run #1	r
Trichloroethene	4	1		ug/L	1	Run #1	r
1,2-Dichloropropane	Not detected	1		ug/L	1	Run #1	r
Bromodichloromethane	Not detected	1		ug/L	1	Run #1	r
Dibromomethane	Not detected	5		ug/L	1	Run #1	r
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	Run #1	r
Toluene	Not detected	1		ug/L	1	Run #1	r
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	Run #1	r
1,1,2-Trichloroethane	Not detected	1		ug/L	1	Run #1	r
Tetrachloroethene	160	10		ug/L	10	Run #2	Yr

r-This analyte is being reported as the best result from multiple runs

Y-Elevated reporting limit due to high target concentration

Lab Sample ID: S66799.13 (continued)

Sample Tag: DUP-01_GW-092624

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run #1: 10/02/24 07:52, #2: 10/02/24 22:30, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	Run #	Flags
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	Run #1	r
Dibromochloromethane	Not detected	5		ug/L	1	Run #1	r
1,2-Dibromoethane	Not detected	1		ug/L	1	Run #1	r
Chlorobenzene	Not detected	1		ug/L	1	Run #1	r
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	Run #1	r
Ethylbenzene	Not detected	1		ug/L	1	Run #1	r
p,m-Xylene*	Not detected	2		ug/L	1	Run #1	r
o-Xylene	Not detected	1		ug/L	1	Run #1	r
Styrene	Not detected	1		ug/L	1	Run #1	r
Isopropylbenzene	Not detected	5		ug/L	1	Run #1	r
Bromoform	Not detected	1		ug/L	1	Run #1	r
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	Run #1	r
1,2,3-Trichloropropane	Not detected	1		ug/L	1	Run #1	r
n-Propylbenzene	Not detected	1		ug/L	1	Run #1	r
Bromobenzene	Not detected	1		ug/L	1	Run #1	r
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	Run #1	r
tert-Butylbenzene	Not detected	1		ug/L	1	Run #1	r
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	Run #1	r
sec-Butylbenzene	Not detected	1		ug/L	1	Run #1	r
p-Isopropyltoluene	Not detected	5		ug/L	1	Run #1	r
1,3-Dichlorobenzene	Not detected	1		ug/L	1	Run #1	r
1,4-Dichlorobenzene	Not detected	1		ug/L	1	Run #1	r
1,2-Dichlorobenzene	Not detected	1		ug/L	1	Run #1	r
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	Run #1	r
n-Butylbenzene	Not detected	1		ug/L	1	Run #1	r
Hexachloroethane	Not detected	5		ug/L	1	Run #1	r
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	Run #1	r
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	Run #1	r
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	Run #1	r
Naphthalene	Not detected	5		ug/L	1	Run #1	r
2-Methylnaphthalene	Not detected	5		ug/L	1	Run #1	r

r-This analyte is being reported as the best result from multiple runs



Analytical Laboratory Report

Lab Sample ID: S66799.14
Sample Tag: Trip Blank
Collected Date/Time: 09/27/2024 00:01
Matrix: Water
COC Reference: 172769

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40mL Glass	HCL	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/02/24 11:45	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/02/24 03:13, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		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	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		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	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
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	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S66799.14 (continued)

Sample Tag: Trip Blank

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/02/24 03:13, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		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	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
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	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
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	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	

Merit Laboratories Login Checklist

Lab Set ID:S66799

Client:ARCADIS_NOVI (Arcadis US, Inc.)

Project: 30214041.00005 / RACER - PNC

Submitted:09/27/2024 14:40 Login User: MMC

Attention: Lexi Nickerson

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

Phone: C: 248-994-1734 FAX:

Email: Alexis.Nickerson@arcadis.com

Selection	Description	Note
Sample Receiving		
01.	☒ Yes ☐ No ☐ N/A	Samples are received at 4C +/- 2C Thermometer # IR 4.6
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: _____



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

C.O.C. PAGE # _____ OF _____

172334

REPORT TO

CHAIN OF CUSTODY RECORD

INVOICE TO

CONTACT NAME <u>Alexis N. Cherson</u>			CONTACT NAME <u>Accounts Payable</u>			☐ SAME		
COMPANY <u>ARCADIS</u>			COMPANY <u>ARCADIS</u>					
ADDRESS <u>28550 Carrot Dr. #500</u>			ADDRESS <u>630 Plaza Dr #600</u>					
CITY <u>NOVI</u>		STATE <u>MI</u>	ZIP CODE <u>48377</u>		CITY <u>Highlands Ranch</u>		STATE <u>CO</u>	ZIP CODE <u>80129</u>
PHONE NO.	CELL NO.	P.O. NO.		PHONE NO.		E-MAIL ADDRESS <u>accountspayable.administration@arcadis.com</u>		
E-MAIL ADDRESS <u>alexis.n.cherson@arcadis.com</u> <u>tiffany.linder@arcadis.com</u>			QUOTE NO.					

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

PROJECT NO./NAME <u>302110411.00005/Racer PNC</u>			SAMPLER(S) - PLEASE PRINT/SIGN NAME <u>Ariana Balho / Ariana Balho</u>													Certifications ☐ OHIO VAP ☐ Drinking Water ☐ DoD ☐ NPDES									
TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER																Project Locations ☐ Detroit ☐ New York									
DELIVERABLES REQUIRED ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☒ EDD ☐ OTHER																Special Instructions									
MATRIX W=WATER GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID CODE: SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIFE A=AIR WS=WASTE						# Containers & Preservatives																			
MERIT LAB NO. FOR LAB USE ONLY		COLLECTION DATE TIME		SAMPLE TAG IDENTIFICATION-DESCRIPTION		MATRIX	# OF BOTTLES	NONE	HCl	HNO ₃	H ₂ SO ₄	NaOH	MeOH	OTHER											
66799.01		9/24/24 1105		MW-16-22-GW-092424		GW	3	X							X										
.02		9/24/24 1210		MWF16-07-GW-092424		GW	3	X							X										
.03		9/24/24 1300		MWF16-15-GW-092424		GW	3	X							X										
.04		9/24/24 1450		UNH10WN-01-GW-092424		GW	3	X							X										
.05		9/25/24 1225		MWF15-01-GW-092524		GW	3	X							X										
.06		9/25/24 1320		MWF7-02-GW-092524		GW	3	X							X										
.07		9/25/24 1455		MWF16-17-GW-092524		GW	3	X							X										
.08		9/25/24 1645		MWF16-05-GW-092524		GW	3	X							X										
.09		9/26/24 1340		MW-09-22-GW-092624		GW	3	X							X										
.10		9/27/24 0855		MWF16-12-GW-092724		GW	3	X							X										
.11		9/27/24 0955		MWF16-18-GW-092724		GW	3	X							X										
.12		9/27/24 —		DUP-02-GW-092724		GW	3	X							X										

Full VOC list method 8160

RELINQUISHED BY: <u>Ariana Balho/Arcadis</u>		☒ Sampler		DATE <u>9/27/24</u>	TIME <u>1100</u>	RELINQUISHED BY:		DATE	TIME
SIGNATURE/ORGANIZATION						SIGNATURE/ORGANIZATION			
RECEIVED BY: <u>J. Miller</u>				DATE <u>9/27/24</u>	TIME <u>1200</u>	RECEIVED BY:		DATE	TIME
SIGNATURE/ORGANIZATION						SIGNATURE/ORGANIZATION			
RELINQUISHED BY: <u>J. Miller</u>				DATE <u>9/27/24</u>	TIME <u>1400</u>	RELINQUISHED BY:		DATE	TIME
SIGNATURE/ORGANIZATION						SIGNATURE/ORGANIZATION			
RECEIVED BY: <u>M. Cherson</u>				DATE <u>9/27/24</u>	TIME <u>1440</u>	RECEIVED BY:		DATE	TIME
SIGNATURE/ORGANIZATION						SIGNATURE/ORGANIZATION			

SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	NOTES: TEMP. ON ARRIVAL <u>4.6</u>
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	

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

REPORT TO

CHAIN OF CUSTODY RECORD

INVOICE TO

CONTACT NAME		Alexis Nicholson	
COMPANY		Arcadus	
ADDRESS			
28550 Cabot Dr #500			
CITY		STATE	ZIP CODE
Novi		MI	48371
PHONE NO.	CELL NO.	P.O. NO.	
E-MAIL ADDRESS		QUOTE NO.	
alexis.nicholson@arcadus.com tiffany.linder@arcadus.com			

CONTACT NAME		Accounts Payable		☐ SAME	
COMPANY		Arcadis			
ADDRESS		630 Plaza Dr #600			
CITY		Highlands Ranch		STATE	ZIP CODE
				CO	80129
PHONE NO.		E-MAIL ADDRESS			
		accounts.payable.administration@arcadis.com			

PROJECT NO./NAME	30244041.00005/Racer PNC	SAMPLER(S) - PLEASE PRINT/SIGN NAME	Alana Balho/Alana Balho
TURNAROUND TIME REQUIRED	☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER _____		
DELIVERABLES REQUIRED	☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☒ BEDD ☐ 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: SIGNATURE/ORGANIZATION	<i>Deanne Puello/Arccadis</i>	☒ Sampler	DATE 9/27/24	TIME 1100
RECEIVED BY: SIGNATURE/ORGANIZATION	<i>Donnae</i>		DATE 9/27/24	TIME 1150
RELINQUISHED BY: SIGNATURE/ORGANIZATION	<i>Deanne</i>		DATE 9/27/24	TIME 1400
RECEIVED BY: SIGNATURE/ORGANIZATION	<i>m. Chiles</i>		DATE 9/27/24	TIME 1440

RELINQUISHED BY:			DATE	TIME
SIGNATURE/ORGANIZATION				
RECEIVED BY:			DATE	TIME
SIGNATURE/ORGANIZATION				
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	NOTES:	TEMP. ON ARRIVAL <u>4.6</u>
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS		

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

Rev 05/24



Analytical Laboratory Report

Report ID: S68472.01(01)
Generated on 11/26/2024

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

Phone: C: 248-994-1734 FAX:
Email: Alexis.Nickerson@arcadis.com

Additional Contacts: Ian Drost, Tiffany Linder

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): S68472.01
Project: 30214041 / Racer PNC Task 6
Collected Date(s): 11/08/2024
Submitted Date/Time: 11/12/2024 17:10
Sampled by: Alaina Raiko + Garrett Link
P.O. #: 30214041

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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

Report only sample .01 per client request

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
SW5030C/8260C	SW 846 Method 8260C Revision 3 August 2006 / 5030C Revision 3 May 2003



Analytical Laboratory Report

Sample Summary (1 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S68472.01	MWOS-10_GW-110824	Groundwater	11/08/24 13:20



Analytical Laboratory Report

Lab Sample ID: S68472.01

Sample Tag: MWOS-10_GW-110824

Collected Date/Time: 11/08/2024 13:20

Matrix: Groundwater

COC Reference: 176246

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40mL Glass	HCL	Yes	5.4	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	11/14/24 10:57	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 11/13/24 18:28, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		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	1	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	3	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		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	6	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	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
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	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S68472.01 (continued)
Sample Tag: MWOS-10_GW-110824

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 11/13/24 18:28, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		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	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
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	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
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	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	

Merit Laboratories Login Checklist

Lab Set ID:S68472

Client:ARCADIS_NOVI (Arcadis US, Inc.)

Project: 30214041 / Racer PNC Task 6

Submitted: 11/12/2024 17:10 Login User: PFD

Attention: Lexi Nickerson

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

Phone: C: 248-994-1734 FAX:

Email: Alexis.Nickerson@arcadis.com

Selection	Description	Note
Sample Receiving		
01.	☒ Yes ☐ No ☐ N/A	Samples are received at 4C +/- 2C Thermometer # IR 5.4
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 Analyte list not provided for metals lists and Site Specific list
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: S68472 Submitted: 11/12/2024 17:10

Client: ARCADIS_NOVI (Arcadis US, Inc.)

Project: 30214041 / Racer PNC Task 6

Attention: Lexi Nickerson

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

Initial Preservation Check: 11/13/2024 10:09 PFD

Preservation Recheck (E200.8): N/A

Phone: C: 248-994-1734 FAX:

Email: Alexis.Nickerson@arcadis.com

Sample ID	Bottle / Preservation	pH (Orig)	Add ml	pH (New)	Notes
S68472.02	125mL Plastic HNO3	<2			
S68472.03	125mL Plastic HNO3	<2			
S68472.04	125mL Plastic HNO3	<2			
S68472.05	125mL Plastic HNO3	<2			
S68472.06	125mL Plastic HNO3	<2			
S68472.07	125mL Plastic HNO3	<2			
S68472.08	125mL Plastic HNO3	<2			
S68472.09	125mL Plastic HNO3	<2			
S68472.10	125mL Plastic HNO3	<2			
S68472.11	125mL Plastic HNO3	<2			
S68472.12	125mL Plastic HNO3	<2			
S68472.13	125mL Plastic HNO3	<2			
S68472.17	125mL Plastic HNO3	<2			
S68472.20	125mL Plastic HNO3	<2			
S68472.21	125mL Plastic HNO3	<2			

4/2/2024

Ms. Lexi Crisp
Arcadis U.S., Inc.
7575 Huntington Park Drive
Suite 130
Columbus OH 43235

Project Name: Racer PNC
Project #: 30214041.00004
Workorder #: 2403720

Dear Ms. Lexi Crisp

The following report includes the data for the above referenced project for sample(s) received on 3/27/2024 at Eurofins Air Toxics LLC.

The data and associated QC analyzed by TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics LLC. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Jade White at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Jade White
Project Manager

WORK ORDER #: 2403720

Work Order Summary

CLIENT:	Ms. Lexi Crisp Arcadis U.S., Inc. 7575 Huntington Park Drive Suite 130 Columbus, OH 43235	BILL TO:	Accounts Payable Arcadis U.S., Inc. 630 Plaza Drive Suite 600 Highlands Ranch, CO 80129
PHONE:		P.O. #	30214041.00004
FAX:		PROJECT #	30214041.00004 Racer PNC
DATE RECEIVED:	03/27/2024	CONTACT:	Jade White
DATE COMPLETED:	04/02/2024		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	SV-06-21_SG-032524	TO-15	5.5 "Hg	9.9 psi
02A	SV-05-21_SG-032524	TO-15	4.3 "Hg	10 psi
03A	SV-04-21_SG-032524	TO-15	5.3 "Hg	10 psi
04A	SV-03-21_SG-032524	TO-15	4.9 "Hg	10 psi
05A	SV-02-21_SG-032524	TO-15	6.1 "Hg	9.9 psi
06A	SV-01-21_SG-032524	TO-15	5.9 "Hg	9.8 psi
07A	DUP-01_SG-032524	TO-15	5.3 "Hg	9.6 psi
08A	Lab Blank	TO-15	NA	NA
09A	CCV	TO-15	NA	NA
10A	LCS	TO-15	NA	NA
10AA	LCSD	TO-15	NA	NA

CERTIFIED BY:



Technical Director

DATE: 04/02/24

Certification numbers: AZ Licensure AZ0775, FL NELAP – E87680, LA NELAP – 02089, NH NELAP – 209222, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP – T104704434-22-18, UT NELAP – CA009332022-14, VA NELAP - 12240, WA ELAP - C935

Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program) CA300005-017

Eurofins Environment Testing Northern California, LLC certifies that the test results contained in this report meet all requirements of the 2016 TNI Standard.

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, LLC.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630

(916) 985-1000

LABORATORY NARRATIVE
EPA Method TO-15
Arcadis U.S., Inc.
Workorder# 2403720

Seven 1 Liter Summa Canister samples were received on March 27, 2024. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

Ten qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

M - Reported value may be biased due to apparent matrix interferences.

CN - See Case Narrative.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue



Air Toxics

Summary of Detected Compounds EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: SV-06-21_SG-032524

Lab ID#: 2403720-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	1.0	2.1	5.5	11

Client Sample ID: SV-05-21_SG-032524

Lab ID#: 2403720-02A

No Detections Were Found.

Client Sample ID: SV-04-21_SG-032524

Lab ID#: 2403720-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	1.0	2.5	5.5	13

Client Sample ID: SV-03-21_SG-032524

Lab ID#: 2403720-04A

No Detections Were Found.

Client Sample ID: SV-02-21_SG-032524

Lab ID#: 2403720-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	1.0	9.8	5.6	53
Tetrachloroethene	1.0	1.2	7.1	8.0

Client Sample ID: SV-01-21_SG-032524

Lab ID#: 2403720-06A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	1.0	3.8	5.6	20

Client Sample ID: DUP-01_SG-032524

Lab ID#: 2403720-07A



Air Toxics

Summary of Detected Compounds
EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: DUP-01_SG-032524

Lab ID#: 2403720-07A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	1.0	9.9	5.4	53
Tetrachloroethene	1.0	1.2	6.8	7.8



Air Toxics

Client Sample ID: SV-06-21_SG-032524

Lab ID#: 2403720-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	91033018	Date of Collection: 3/25/24 10:22:00 AM
Dil. Factor:	2.05	Date of Analysis: 3/30/24 07:10 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.0	Not Detected	2.6	Not Detected
1,1-Dichloroethene	1.0	Not Detected	4.1	Not Detected
cis-1,2-Dichloroethene	1.0	Not Detected	4.1	Not Detected
Trichloroethene	1.0	2.1	5.5	11
trans-1,2-Dichloroethene	1.0	Not Detected	4.1	Not Detected
Tetrachloroethene	1.0	Not Detected	7.0	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	108	70-130
4-Bromofluorobenzene	80	70-130



Air Toxics

Client Sample ID: SV-05-21_SG-032524

Lab ID#: 2403720-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	91033019	Date of Collection: 3/25/24 10:56:00 AM
Dil. Factor:	1.96	Date of Analysis: 3/30/24 07:36 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.98	Not Detected	2.5	Not Detected
1,1-Dichloroethene	0.98	Not Detected	3.9	Not Detected
cis-1,2-Dichloroethene	0.98	Not Detected	3.9	Not Detected
Trichloroethene	0.98	Not Detected	5.3	Not Detected
trans-1,2-Dichloroethene	0.98	Not Detected	3.9	Not Detected
Tetrachloroethene	0.98	Not Detected	6.6	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	109	70-130
4-Bromofluorobenzene	79	70-130



Air Toxics

Client Sample ID: SV-04-21_SG-032524

Lab ID#: 2403720-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	91033020	Date of Collection: 3/25/24 11:31:00 AM
Dil. Factor:	2.04	Date of Analysis: 3/30/24 08:02 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.0	Not Detected	2.6	Not Detected
1,1-Dichloroethene	1.0	Not Detected	4.0	Not Detected
cis-1,2-Dichloroethene	1.0	Not Detected	4.0	Not Detected
Trichloroethene	1.0	2.5	5.5	13
trans-1,2-Dichloroethene	1.0	Not Detected	4.0	Not Detected
Tetrachloroethene	1.0	Not Detected	6.9	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	108	70-130
4-Bromofluorobenzene	80	70-130



Air Toxics

Client Sample ID: SV-03-21_SG-032524

Lab ID#: 2403720-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	91033021	Date of Collection:	3/25/24 11:45:00 AM
Dil. Factor:	2.01	Date of Analysis:	3/30/24 08:28 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.0	Not Detected	2.6	Not Detected
1,1-Dichloroethene	1.0	Not Detected	4.0	Not Detected
cis-1,2-Dichloroethene	1.0	Not Detected	4.0	Not Detected
Trichloroethene	1.0	Not Detected	5.4	Not Detected
trans-1,2-Dichloroethene	1.0	Not Detected	4.0	Not Detected
Tetrachloroethene	1.0	Not Detected	6.8	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	111	70-130
4-Bromofluorobenzene	80	70-130



Air Toxics

Client Sample ID: SV-02-21_SG-032524

Lab ID#: 2403720-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	91033022	Date of Collection: 3/25/24 12:26:00 PM
Dil. Factor:	2.10	Date of Analysis: 3/30/24 08:58 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.0	Not Detected	2.7	Not Detected
1,1-Dichloroethene	1.0	Not Detected	4.2	Not Detected
cis-1,2-Dichloroethene	1.0	Not Detected	4.2	Not Detected
Trichloroethene	1.0	9.8	5.6	53
trans-1,2-Dichloroethene	1.0	Not Detected	4.2	Not Detected
Tetrachloroethene	1.0	1.2	7.1	8.0

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	110	70-130
4-Bromofluorobenzene	79	70-130



Air Toxics

Client Sample ID: SV-01-21_SG-032524

Lab ID#: 2403720-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	91033024	Date of Collection: 3/25/24 12:48:00 PM
Dil. Factor:	2.07	Date of Analysis: 3/30/24 09:50 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.0	Not Detected	2.6	Not Detected
1,1-Dichloroethene	1.0	Not Detected	4.1	Not Detected
cis-1,2-Dichloroethene	1.0	Not Detected	4.1	Not Detected
Trichloroethene	1.0	3.8	5.6	20
trans-1,2-Dichloroethene	1.0	Not Detected	4.1	Not Detected
Tetrachloroethene	1.0	Not Detected	7.0	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	108	70-130
4-Bromofluorobenzene	80	70-130



Air Toxics

Client Sample ID: DUP-01_SG-032524

Lab ID#: 2403720-07A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	91033023	Date of Collection:	3/25/24
Dil. Factor:	2.01	Date of Analysis:	3/30/24 09:24 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.0	Not Detected	2.6	Not Detected
1,1-Dichloroethene	1.0	Not Detected	4.0	Not Detected
cis-1,2-Dichloroethene	1.0	Not Detected	4.0	Not Detected
Trichloroethene	1.0	9.9	5.4	53
trans-1,2-Dichloroethene	1.0	Not Detected	4.0	Not Detected
Tetrachloroethene	1.0	1.2	6.8	7.8

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	110	70-130
4-Bromofluorobenzene	79	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 2403720-08A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	91033006c	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/30/24 11:29 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	108	70-130
4-Bromofluorobenzene	86	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 2403720-09A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	91033003	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/30/24 10:02 AM

Compound	%Recovery

Vinyl Chloride	117
1,1-Dichloroethene	93
cis-1,2-Dichloroethene	87
Trichloroethene	93
trans-1,2-Dichloroethene	94
Tetrachloroethene	84

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	100	70-130
4-Bromofluorobenzene	82	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 2403720-10A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	91033004	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/30/24 10:26 AM

Compound	%Recovery	Method Limits
Vinyl Chloride	119	70-130
1,1-Dichloroethene	91	70-130
cis-1,2-Dichloroethene	90	70-130
Trichloroethene	96	70-130
trans-1,2-Dichloroethene	94	70-130
Tetrachloroethene	85	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	102	70-130
4-Bromofluorobenzene	83	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 2403720-10AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	91033005	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/30/24 10:50 AM

Compound	%Recovery	Method Limits
Vinyl Chloride	118	70-130
1,1-Dichloroethene	91	70-130
cis-1,2-Dichloroethene	90	70-130
Trichloroethene	94	70-130
trans-1,2-Dichloroethene	93	70-130
Tetrachloroethene	85	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	101	70-130
4-Bromofluorobenzene	83	70-130

7/22/2024

Ms. Lexi Crisp
Arcadis U.S., Inc.
7575 Huntington Park Drive
Suite 130
Columbus OH 43235

Project Name: Racer - PNC
Project #: 30214041.00004
Workorder #: 2407383

Dear Ms. Lexi Crisp

The following report includes the data for the above referenced project for sample(s) received on 7/17/2024 at Eurofins Air Toxics LLC.

The data and associated QC analyzed by TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics LLC. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Jade White at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Jade White
Project Manager

WORK ORDER #: 2407383

Work Order Summary

CLIENT:	Ms. Lexi Crisp Arcadis U.S., Inc. 7575 Huntington Park Drive Suite 130 Columbus, OH 43235	BILL TO:	Accounts Payable Arcadis U.S., Inc. 630 Plaza Drive Suite 600 Highlands Ranch, CO 80129
PHONE:		P.O. #	30214041.00004
FAX:		PROJECT #	30214041.00004 Racer - PNC
DATE RECEIVED:	07/17/2024	CONTACT:	Jade White
DATE COMPLETED:	07/22/2024		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	SV-07-24_SG-071524	TO-15	8 "Hg	9.9 psi
02A	SV-08-24_SG-071524	TO-15	7.3 "Hg	9.7 psi
03A	DUP-01_SG-071524	TO-15	8.4 "Hg	9.9 psi
04A	Lab Blank	TO-15	NA	NA
05A	CCV	TO-15	NA	NA
06A	LCS	TO-15	NA	NA
06AA	LCSD	TO-15	NA	NA

CERTIFIED BY:



Technical Director

DATE: 07/22/24

Certification numbers: AZ Licensure AZ0775, FL NELAP – E87680, LA NELAP – 02089, NH NELAP – 209222, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP – T104704434-22-18, UT NELAP – CA009332022-14, VA NELAP - 12240, WA ELAP - C935

Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program) CA300005-017

Eurofins Environment Testing Northern California, LLC certifies that the test results contained in this report meet all requirements of the 2016 TNI Standard.

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, LLC.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630

(916) 985-1000

LABORATORY NARRATIVE
EPA Method TO-15
Arcadis U.S., Inc.
Workorder# 2407383

Three 1 Liter Summa Canister samples were received on July 17, 2024. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

Ten qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

M - Reported value may be biased due to apparent matrix interferences.

CN - See Case Narrative.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

Summary of Detected Compounds
EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: SV-07-24_SG-071524

Lab ID#: 2407383-01A

No Detections Were Found.

Client Sample ID: SV-08-24_SG-071524

Lab ID#: 2407383-02A

No Detections Were Found.

Client Sample ID: DUP-01_SG-071524

Lab ID#: 2407383-03A

No Detections Were Found.



Air Toxics

Client Sample ID: SV-07-24_SG-071524

Lab ID#: 2407383-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	a071807	Date of Collection: 7/15/24 12:50:00 PM
Dil. Factor:	2.28	Date of Analysis: 7/18/24 02:02 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.1	Not Detected	2.9	Not Detected
1,1-Dichloroethene	1.1	Not Detected	4.5	Not Detected
cis-1,2-Dichloroethene	1.1	Not Detected	4.5	Not Detected
Trichloroethene	1.1	Not Detected	6.1	Not Detected
trans-1,2-Dichloroethene	1.1	Not Detected	4.5	Not Detected
Tetrachloroethene	1.1	Not Detected	7.7	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	99	70-130
4-Bromofluorobenzene	99	70-130



Air Toxics

Client Sample ID: SV-08-24_SG-071524

Lab ID#: 2407383-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	a071808	Date of Collection: 7/15/24 2:04:00 PM
Dil. Factor:	2.19	Date of Analysis: 7/18/24 02:40 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.1	Not Detected	2.8	Not Detected
1,1-Dichloroethene	1.1	Not Detected	4.3	Not Detected
cis-1,2-Dichloroethene	1.1	Not Detected	4.3	Not Detected
Trichloroethene	1.1	Not Detected	5.9	Not Detected
trans-1,2-Dichloroethene	1.1	Not Detected	4.3	Not Detected
Tetrachloroethene	1.1	Not Detected	7.4	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	101	70-130
4-Bromofluorobenzene	102	70-130



Air Toxics

Client Sample ID: DUP-01_SG-071524

Lab ID#: 2407383-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	a071809	Date of Collection:	7/15/24
Dil. Factor:	2.32	Date of Analysis:	7/18/24 03:17 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.6	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Trichloroethene	1.2	Not Detected	6.2	Not Detected
trans-1,2-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Tetrachloroethene	1.2	Not Detected	7.9	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	101	70-130
4-Bromofluorobenzene	101	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 2407383-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	a071806d	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 7/18/24 10:31 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	99	70-130
4-Bromofluorobenzene	98	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 2407383-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	a071803	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 7/18/24 08:44 AM

Compound	%Recovery

Vinyl Chloride	106
1,1-Dichloroethene	90
cis-1,2-Dichloroethene	90
Trichloroethene	99
trans-1,2-Dichloroethene	96
Tetrachloroethene	98

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	101	70-130
4-Bromofluorobenzene	100	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 2407383-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	a071804	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 7/18/24 09:19 AM

Compound	%Recovery	Method Limits
Vinyl Chloride	104	70-130
1,1-Dichloroethene	86	70-130
cis-1,2-Dichloroethene	91	70-130
Trichloroethene	98	70-130
trans-1,2-Dichloroethene	93	70-130
Tetrachloroethene	97	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	100	70-130
4-Bromofluorobenzene	99	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 2407383-06AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	a071805	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 7/18/24 09:54 AM

Compound	%Recovery	Method Limits
Vinyl Chloride	106	70-130
1,1-Dichloroethene	87	70-130
cis-1,2-Dichloroethene	94	70-130
Trichloroethene	99	70-130
trans-1,2-Dichloroethene	97	70-130
Tetrachloroethene	97	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	104	70-130
4-Bromofluorobenzene	99	70-130

Method : TO-15 (Sh)-1,1-DCE, c/t-1,2-DCE, PCE, TCE & VC

CAS Number	Compound	Rpt. Limit (ppbv)
75-01-4	Vinyl Chloride	0.50
75-35-4	1,1-Dichloroethene	0.50
156-59-2	cis-1,2-Dichloroethene	0.50
79-01-6	Trichloroethene	0.50
156-60-5	trans-1,2-Dichloroethene	0.50
127-18-4	Tetrachloroethene	0.50

	Surrogate	Method Limits
2037-26-5	Toluene-d8	70-130
17060-07-0	1,2-Dichloroethane-d4	70-130
460-00-4	4-Bromofluorobenzene	70-130

10/4/2024

Ms. Lexi Crisp

Arcadis U.S., Inc.

7575 Huntington Park Drive

Suite 130

Columbus OH 43235

Project Name: RACER - Pontiac North Campus

Project #: 30214041

Workorder #: 2409693

Dear Ms. Lexi Crisp

The following report includes the data for the above referenced project for sample(s) received on 9/27/2024 at Eurofins Air Toxics LLC.

The data and associated QC analyzed by TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics LLC. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Jade White at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Jade White

Project Manager

WORK ORDER #: 2409693

Work Order Summary

CLIENT: Ms. Lexi Crisp
Arcadis U.S., Inc.
7575 Huntington Park Drive
Suite 130
Columbus, OH 43235

BILL TO: Accounts Payable
Arcadis U.S., Inc.
630 Plaza Drive
Suite 200
Highlands Ranch, CO 80129

PHONE:

P.O. # 30214041.00004

FAX:

PROJECT # 30214041 RACER - Pontiac North

DATE RECEIVED: 09/27/2024

CONTACT: Campus
Jade White

DATE COMPLETED: 10/04/2024

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	SV-07-24_SG-092524	TO-15	7.8 "Hg	9.9 psi
02A	SV-08-24_SG-092524	TO-15	7.6 "Hg	9.3 psi
03A	SV-01-21_SG-092524	TO-15	8.4 "Hg	9.9 psi
04A	SV-02-21_SG-092524	TO-15	8.4 "Hg	9.9 psi
05A	SV-03-21_SG-092524	TO-15	8 "Hg	9.8 psi
06A	SV-04-21_SG-092524	TO-15	9.2 "Hg	10 psi
07A	SV-05-21_SG-092524	TO-15	6.7 "Hg	10 psi
08A	DUP-01_SG-092524	TO-15	6.9 "Hg	10 psi
09A	SV-06-21_SG-092524	TO-15	9.4 "Hg	10 psi
10A	Lab Blank	TO-15	NA	NA
11A	CCV	TO-15	NA	NA
12A	LCS	TO-15	NA	NA
12AA	LCSD	TO-15	NA	NA

CERTIFIED BY:



Technical Director

DATE: 10/04/24

Cert. No.: AZ Licensure-AZ0775, FL NELAP-E87680, LA NELAP-02089, MN NELAP-2703122, NH NELAP-209223-B, NJ NELAP-CA016, NY NELAP-11291, TX NELAP-T104704434, UT NELAP-CA009332023-16, VA NELAP-12695, WA NELAP-C935

Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program) CA300005-20

Eurofins Environment Testing Northern California, LLC certifies that the test results contained in this report meet all requirements of the 2016 TNI Standard.

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, LLC.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630

(916) 985-1000

LABORATORY NARRATIVE
EPA Method TO-15
Arcadis U.S., Inc.
Workorder# 2409693

Nine 1 Liter Summa Canister samples were received on September 27, 2024. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

Receiving Notes

The number of samples received did not match the information on the Chain of Custody (COC). Sample SV-06-21_SG-092524 was added to the analytical request.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

Ten qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

M - Reported value may be biased due to apparent matrix interferences.

CN - See Case Narrative.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue



Air Toxics

Summary of Detected Compounds EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: SV-07-24_SG-092524

Lab ID#: 2409693-01A

No Detections Were Found.

Client Sample ID: SV-08-24_SG-092524

Lab ID#: 2409693-02A

No Detections Were Found.

Client Sample ID: SV-01-21_SG-092524

Lab ID#: 2409693-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	1.2	1.8	6.2	9.6
Tetrachloroethene	1.2	3.0	7.9	20

Client Sample ID: SV-02-21_SG-092524

Lab ID#: 2409693-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	1.2	11	6.2	57
Tetrachloroethene	1.2	1.6	7.9	11

Client Sample ID: SV-03-21_SG-092524

Lab ID#: 2409693-05A

No Detections Were Found.

Client Sample ID: SV-04-21_SG-092524

Lab ID#: 2409693-06A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	1.2	3.1	6.5	16

Client Sample ID: SV-05-21_SG-092524

Lab ID#: 2409693-07A

No Detections Were Found.



Air Toxics

Summary of Detected Compounds EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: DUP-01_SG-092524

Lab ID#: 2409693-08A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	1.1	10	5.8	56
Tetrachloroethene	1.1	1.7	7.4	12

Client Sample ID: SV-06-21_SG-092524

Lab ID#: 2409693-09A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	1.2	2.8	6.6	15



Air Toxics

Client Sample ID: SV-07-24_SG-092524

Lab ID#: 2409693-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3100314	Date of Collection:	9/25/24 11:31:00 AM
Dil. Factor:	2.26	Date of Analysis:	10/3/24 06:53 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.1	Not Detected	2.9	Not Detected
1,1-Dichloroethene	1.1	Not Detected	4.5	Not Detected
cis-1,2-Dichloroethene	1.1	Not Detected	4.5	Not Detected
Trichloroethene	1.1	Not Detected	6.1	Not Detected
trans-1,2-Dichloroethene	1.1	Not Detected	4.5	Not Detected
Tetrachloroethene	1.1	Not Detected	7.7	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	89	70-130
4-Bromofluorobenzene	106	70-130



Air Toxics

Client Sample ID: SV-08-24_SG-092524

Lab ID#: 2409693-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3100315	Date of Collection:	9/25/24 10:57:00 AM
Dil. Factor:	2.19	Date of Analysis:	10/3/24 07:22 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.1	Not Detected	2.8	Not Detected
1,1-Dichloroethene	1.1	Not Detected	4.3	Not Detected
cis-1,2-Dichloroethene	1.1	Not Detected	4.3	Not Detected
Trichloroethene	1.1	Not Detected	5.9	Not Detected
trans-1,2-Dichloroethene	1.1	Not Detected	4.3	Not Detected
Tetrachloroethene	1.1	Not Detected	7.4	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	93	70-130
4-Bromofluorobenzene	104	70-130



Air Toxics

Client Sample ID: SV-01-21_SG-092524

Lab ID#: 2409693-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3100316	Date of Collection:	9/25/24 12:20:00 PM
Dil. Factor:	2.32	Date of Analysis:	10/3/24 07:50 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.6	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Trichloroethene	1.2	1.8	6.2	9.6
trans-1,2-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Tetrachloroethene	1.2	3.0	7.9	20

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	90	70-130
4-Bromofluorobenzene	103	70-130



Air Toxics

Client Sample ID: SV-02-21_SG-092524

Lab ID#: 2409693-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3100317	Date of Collection:	9/25/24 1:06:00 PM
Dil. Factor:	2.32	Date of Analysis:	10/3/24 08:18 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.6	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Trichloroethene	1.2	11	6.2	57
trans-1,2-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Tetrachloroethene	1.2	1.6	7.9	11

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	92	70-130
4-Bromofluorobenzene	104	70-130



Air Toxics

Client Sample ID: SV-03-21_SG-092524

Lab ID#: 2409693-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3100318	Date of Collection:	9/25/24 1:58:00 PM
Dil. Factor:	2.27	Date of Analysis:	10/3/24 08:46 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.1	Not Detected	2.9	Not Detected
1,1-Dichloroethene	1.1	Not Detected	4.5	Not Detected
cis-1,2-Dichloroethene	1.1	Not Detected	4.5	Not Detected
Trichloroethene	1.1	Not Detected	6.1	Not Detected
trans-1,2-Dichloroethene	1.1	Not Detected	4.5	Not Detected
Tetrachloroethene	1.1	Not Detected	7.7	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	93	70-130
4-Bromofluorobenzene	105	70-130



Air Toxics

Client Sample ID: SV-04-21_SG-092524

Lab ID#: 2409693-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3100319	Date of Collection:	9/25/24 2:40:00 PM
Dil. Factor:	2.42	Date of Analysis:	10/3/24 09:14 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.1	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.8	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.8	Not Detected
Trichloroethene	1.2	3.1	6.5	16
trans-1,2-Dichloroethene	1.2	Not Detected	4.8	Not Detected
Tetrachloroethene	1.2	Not Detected	8.2	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	92	70-130
4-Bromofluorobenzene	106	70-130



Air Toxics

Client Sample ID: SV-05-21_SG-092524

Lab ID#: 2409693-07A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3100320	Date of Collection:	9/25/24 3:34:00 PM
Dil. Factor:	2.16	Date of Analysis:	10/3/24 09:42 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.1	Not Detected	2.8	Not Detected
1,1-Dichloroethene	1.1	Not Detected	4.3	Not Detected
cis-1,2-Dichloroethene	1.1	Not Detected	4.3	Not Detected
Trichloroethene	1.1	Not Detected	5.8	Not Detected
trans-1,2-Dichloroethene	1.1	Not Detected	4.3	Not Detected
Tetrachloroethene	1.1	Not Detected	7.3	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	89	70-130
4-Bromofluorobenzene	105	70-130



Air Toxics

Client Sample ID: DUP-01_SG-092524

Lab ID#: 2409693-08A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3100323	Date of Collection:	9/25/24
Dil. Factor:	2.18	Date of Analysis:	10/3/24 11:34 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.1	Not Detected	2.8	Not Detected
1,1-Dichloroethene	1.1	Not Detected	4.3	Not Detected
cis-1,2-Dichloroethene	1.1	Not Detected	4.3	Not Detected
Trichloroethene	1.1	10	5.8	56
trans-1,2-Dichloroethene	1.1	Not Detected	4.3	Not Detected
Tetrachloroethene	1.1	1.7	7.4	12

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	93	70-130
4-Bromofluorobenzene	105	70-130



Air Toxics

Client Sample ID: SV-06-21_SG-092524

Lab ID#: 2409693-09A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3100321	Date of Collection:	9/25/24 4:09:00 PM
Dil. Factor:	2.45	Date of Analysis:	10/3/24 10:39 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.1	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.8	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.8	Not Detected
Trichloroethene	1.2	2.8	6.6	15
trans-1,2-Dichloroethene	1.2	Not Detected	4.8	Not Detected
Tetrachloroethene	1.2	Not Detected	8.3	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	89	70-130
4-Bromofluorobenzene	104	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 2409693-10A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3100307	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/3/24 01:12 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	92	70-130
4-Bromofluorobenzene	105	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 2409693-11A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3100303	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/3/24 11:24 AM

Compound	%Recovery

Vinyl Chloride	99
1,1-Dichloroethene	94
cis-1,2-Dichloroethene	95
Trichloroethene	98
trans-1,2-Dichloroethene	95
Tetrachloroethene	101

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	94	70-130
4-Bromofluorobenzene	106	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 2409693-12A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3100304	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/3/24 11:51 AM

Compound	%Recovery	Method Limits
Vinyl Chloride	92	70-130
1,1-Dichloroethene	85	70-130
cis-1,2-Dichloroethene	91	70-130
Trichloroethene	90	70-130
trans-1,2-Dichloroethene	88	70-130
Tetrachloroethene	94	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	91	70-130
4-Bromofluorobenzene	106	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 2409693-12AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3100305	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/3/24 12:18 PM

Compound	%Recovery	Method Limits
Vinyl Chloride	93	70-130
1,1-Dichloroethene	81	70-130
cis-1,2-Dichloroethene	87	70-130
Trichloroethene	88	70-130
trans-1,2-Dichloroethene	85	70-130
Tetrachloroethene	90	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	92	70-130
4-Bromofluorobenzene	105	70-130

Method : TO-15 (Sh)-1,1-DCE, c/t-1,2-DCE, PCE, TCE & VC

CAS Number	Compound	Rpt. Limit (ppbv)
75-01-4	Vinyl Chloride	0.50
75-35-4	1,1-Dichloroethene	0.50
156-59-2	cis-1,2-Dichloroethene	0.50
79-01-6	Trichloroethene	0.50
156-60-5	trans-1,2-Dichloroethene	0.50
127-18-4	Tetrachloroethene	0.50

	Surrogate	Method Limits
2037-26-5	Toluene-d8	70-130
17060-07-0	1,2-Dichloroethane-d4	70-130
460-00-4	4-Bromofluorobenzene	70-130

11/19/2024

Ms. Lexi Crisp

Arcadis U.S., Inc.

7575 Huntington Park Drive

Suite 130

Columbus OH 43235

Project Name: Racer PNC

Project #: 30214041.00004

Workorder #: 2411216

Dear Ms. Lexi Crisp

The following report includes the data for the above referenced project for sample(s) received on 11/8/2024 at Eurofins Air Toxics LLC.

The data and associated QC analyzed by TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics LLC. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Jade White at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Jade White

Project Manager

WORK ORDER #: 2411216

Work Order Summary

CLIENT:	Ms. Lexi Crisp Arcadis U.S., Inc. 7575 Huntington Park Drive Suite 130 Columbus, OH 43235	BILL TO:	Accounts Payable Arcadis U.S., Inc. 630 Plaza Drive Suite 200 Highlands Ranch, CO 80129
PHONE:		P.O. #	30214041.00004
FAX:		PROJECT #	30214041.00004 Racer PNC
DATE RECEIVED:	11/08/2024	CONTACT:	Jade White
DATE COMPLETED:	11/19/2024		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	SV-07-24_SG-110524	TO-15	6.5 "Hg	9.9 psi
02A	SV-08-24_SG-110524	TO-15	13.3 "Hg	9.8 psi
03A	DUP-01-SG-110524	TO-15	7.6 "Hg	9.9 psi
04A	Lab Blank	TO-15	NA	NA
05A	CCV	TO-15	NA	NA
06A	LCS	TO-15	NA	NA
06AA	LCSD	TO-15	NA	NA

CERTIFIED BY:



Technical Director

DATE: 11/19/24

Cert. No.: AZ Licensure-AZ0775, FL NELAP-E87680, LA NELAP-02089, MN NELAP-2703122, NH NELAP-209223-B, NJ NELAP-CA016, NY NELAP-11291, TX NELAP-T104704434, UT NELAP-CA009332023-16, VA NELAP-12695, WA NELAP-C935

Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program) CA300005-20

Eurofins Environment Testing Northern California, LLC certifies that the test results contained in this report meet all requirements of the 2016 TNI Standard.

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, LLC.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630

(916) 985-1000

LABORATORY NARRATIVE
EPA Method TO-15
Arcadis U.S., Inc.
Workorder# 2411216

Three 1 Liter Summa Canister samples were received on November 08, 2024. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

Ten qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

M - Reported value may be biased due to apparent matrix interferences.

CN - See Case Narrative.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

Summary of Detected Compounds
EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: SV-07-24_SG-110524

Lab ID#: 2411216-01A

No Detections Were Found.

Client Sample ID: SV-08-24_SG-110524

Lab ID#: 2411216-02A

No Detections Were Found.

Client Sample ID: DUP-01-SG-110524

Lab ID#: 2411216-03A

No Detections Were Found.



Air Toxics

Client Sample ID: SV-07-24_SG-110524

Lab ID#: 2411216-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	a111823	Date of Collection: 11/5/24 10:40:00 AM
Dil. Factor:	2.14	Date of Analysis: 11/19/24 01:10 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.1	Not Detected	2.7	Not Detected
1,1-Dichloroethene	1.1	Not Detected	4.2	Not Detected
cis-1,2-Dichloroethene	1.1	Not Detected	4.2	Not Detected
Trichloroethene	1.1	Not Detected	5.8	Not Detected
trans-1,2-Dichloroethene	1.1	Not Detected	4.2	Not Detected
Tetrachloroethene	1.1	Not Detected	7.2	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	115	70-130
1,2-Dichloroethane-d4	90	70-130
4-Bromofluorobenzene	95	70-130



Air Toxics

Client Sample ID: SV-08-24_SG-110524

Lab ID#: 2411216-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	a111824	Date of Collection:	11/5/24 11:30:00 AM
Dil. Factor:	2.99	Date of Analysis:	11/19/24 01:47 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.5	Not Detected	3.8	Not Detected
1,1-Dichloroethene	1.5	Not Detected	5.9	Not Detected
cis-1,2-Dichloroethene	1.5	Not Detected	5.9	Not Detected
Trichloroethene	1.5	Not Detected	8.0	Not Detected
trans-1,2-Dichloroethene	1.5	Not Detected	5.9	Not Detected
Tetrachloroethene	1.5	Not Detected	10	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	91	70-130
4-Bromofluorobenzene	101	70-130



Air Toxics

Client Sample ID: DUP-01-SG-110524

Lab ID#: 2411216-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	a111825	Date of Collection:	11/5/24
Dil. Factor:	2.24	Date of Analysis:	11/19/24 02:24 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.1	Not Detected	2.9	Not Detected
1,1-Dichloroethene	1.1	Not Detected	4.4	Not Detected
cis-1,2-Dichloroethene	1.1	Not Detected	4.4	Not Detected
Trichloroethene	1.1	Not Detected	6.0	Not Detected
trans-1,2-Dichloroethene	1.1	Not Detected	4.4	Not Detected
Tetrachloroethene	1.1	Not Detected	7.6	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	105	70-130
4-Bromofluorobenzene	102	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 2411216-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	a111807d	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/18/24 01:16 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	112	70-130
1,2-Dichloroethane-d4	101	70-130
4-Bromofluorobenzene	96	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 2411216-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	a111803	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/18/24 10:33 AM

Compound	%Recovery

Vinyl Chloride	94
1,1-Dichloroethene	78
cis-1,2-Dichloroethene	103
Trichloroethene	94
trans-1,2-Dichloroethene	79
Tetrachloroethene	115

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	106	70-130
1,2-Dichloroethane-d4	93	70-130
4-Bromofluorobenzene	105	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 2411216-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	a111805	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/18/24 11:46 AM

Compound	%Recovery	Method Limits
Vinyl Chloride	100	70-130
1,1-Dichloroethene	80	70-130
cis-1,2-Dichloroethene	102	70-130
Trichloroethene	98	70-130
trans-1,2-Dichloroethene	92	70-130
Tetrachloroethene	94	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	95	70-130
1,2-Dichloroethane-d4	105	70-130
4-Bromofluorobenzene	104	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 2411216-06AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	a111806	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/18/24 12:28 PM

Compound	%Recovery	Method Limits
Vinyl Chloride	92	70-130
1,1-Dichloroethene	75	70-130
cis-1,2-Dichloroethene	103	70-130
Trichloroethene	96	70-130
trans-1,2-Dichloroethene	80	70-130
Tetrachloroethene	95	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	92	70-130
1,2-Dichloroethane-d4	98	70-130
4-Bromofluorobenzene	101	70-130

Method : TO-15 (Sh)-1,1-DCE, c/t-1,2-DCE, PCE, TCE & VC

CAS Number	Compound	Rpt. Limit (ppbv)
75-01-4	Vinyl Chloride	0.50
75-35-4	1,1-Dichloroethene	0.50
156-59-2	cis-1,2-Dichloroethene	0.50
79-01-6	Trichloroethene	0.50
156-60-5	trans-1,2-Dichloroethene	0.50
127-18-4	Tetrachloroethene	0.50

	Surrogate	Method Limits
2037-26-5	Toluene-d8	70-130
17060-07-0	1,2-Dichloroethane-d4	70-130
460-00-4	4-Bromofluorobenzene	70-130

Appendix B

Summary of 2024 Groundwater Analytical Results



Location ID: Date Collected: Sample Name:	Res Fiero SSVIAC SOG	Res Fiero SSVIAC BASE	NR Fiero SSVIAC <50k SOG	NR Fiero SSVIAC <50k BASE	NR Fiero SSVIAC >50k SOG	NR Fiero SSVIAC >50k BASE	Units	MW-02-17 3/27/2024	MW-02-17 9/26/2024	MW-05-18 3/27/2024	MW-05-18 9/25/2024	MW-06-20 3/29/2024	MW-06-20 9/24/2024	MW-07-20 3/27/2024	MW-07-20 9/25/2024	MW-08-21 3/29/2024	MW-08-21 9/24/2024	MW-09-22 3/26/2024	MW-09-22 3/26/2024
								MW-02-17_GW-032724	MW-02-17_GW-092624	MW-05-18_GW-032724	MW-05-18_GW-092524	MW-06-20_GW-032924	MW-06-20_GW-092424	MW-07-20_GW-032724	MW-07-20_GW-092524	MW-08-21_GW-032924	MW-08-21_GW-092424	MW-09-22_GW-032624	DUP-01_GW-032624
Volatile Organics																			
1,1,1,2-Tetrachloroethane	180	93	5,700	2,400	8,500	3,700	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
1,1,1-Trichloroethane	22,000	11,000	210,000	92,000	310,000	140,000	ug/L	<1 U	1	9	6	3	3	6	5	2	3	<1 U	<1 U
1,1,2,2-Tetrachloroethane	130	66	4,100	1,800	6,200	2,600	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
1,1,2-Trichloroethane	21	11	410	180	620	280	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
1,1-Dichloroethane	160	88	5,300	2,400	8,000	3,600	ug/L	2	2	6	3	4	5	9	6	5	7	<1 U	<1 U
1,1-Dichloroethene	410	220	8,300	3,800	13,000	5,700	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
1,2,3-Trichlorobenzene	4,100	2,100	18,000	18,000	18,000	18,000	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
1,2,3-Trichloropropane	91	47	1,800	790	2,700	1,200	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
1,2,3-Trimethylbenzene	2,000	1,100	41,000	18,000	61,000	27,000	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
1,2,4-Trichlorobenzene	270	130	5,100	2,200	7,700	3,300	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
1,2,4-Trimethylbenzene	1,100	590	22,000	9,900	34,000	15,000	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
1,2-Dibromo-3-chloropropane	0.00045	0.00045	0.042	0.029	0.061	0.042	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
1,2-Dibromoethane	8	4	250	110	370	160	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
1,2-Dichlorobenzene	19,000	9,900	160,000	160,000	160,000	160,000	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
1,2-Dichloroethane	50	27	1,600	750	2,500	1,100	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
1,2-Dichloropropane	100	56	2,100	950	3,200	1,400	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
1,3,5-Trimethylbenzene	800	420	16,000	7,000	24,000	10,000	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
1,3-Dichlorobenzene	130	70	2,700	1,200	4,000	1,700	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
1,4-Dichlorobenzene	310	160	9,800	4,300	15,000	6,400	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
2-Butanone	4,000,000	2,200,000	59,000,000	27,000,000	88,000,000	40,000,000	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
2-Hexanone	24,000	12,000	490,000	220,000	740,000	320,000	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
2-Methylnaphthalene	3,500	1,800	25,000	25,000	25,000	25,000	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
2-Phenylbutane	--	--	--	--	--	--	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
4-Methyl-2-pentanone	1,600,000	810,000	19,000,000	9,500,000	19,000,000	14,000,000	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
Acetone	32,000,000	18,000,000	240,000,000	110,000,000	360,000,000	160,000,000	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
Acrylonitrile	120	67	4,100	1,900	6,200	2,900	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
Benzene	34	18	1,100	510	1,700	760	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
Bromobenzene	3,300	1,700	66,000	29,000	99,000	43,000	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
Bromodichloromethane	60	31	1,700	760	2,600	1,100	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
Bromoform	6,400	3,200	200,000	83,000	300,000	120,000	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
Bromomethane	59	33	1,200	580	1,900	860	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
Carbon Disulfide	2,200	1,200	46,000	22,000	70,000	33,000	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
Carbon Tetrachloride	14	7.2	440	190	650	290	ug/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	1	1
CFC-11	300	160	6,000	2,700	9,000	4,000	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
CFC-12	71	38	1,400	640	2,100	960	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
Chlorobenzene	1,300	720	27,000	12,000	41,000	18,000	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
Chlorobromomethane	--	--	--	--	--	--	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
Chlorodibromomethane	58	29	4,400	1,800	6,600	2,800	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
Chloroethane	15,000	8,600	320,000	150,000	490,000	230,000	ug/L	&lt											

Location ID: Date Collected: Sample Name:	Res Fiero SSVIAC SOG	Res Fiero SSVIAC BASE	NR Fiero SSVIAC <50k SOG	NR Fiero SSVIAC <50k BASE	NR Fiero SSVIAC >50k SOG	NR Fiero SSVIAC >50k BASE	Units	MW-09-22 9/26/2024	MW-09-22 9/26/2024	MW-11-22 3/28/2024	MW-11-22 9/24/2024	MW-13-22 3/28/2024	MW-14-22 3/28/2024	MW-15-22 3/28/2024	MW-15-22 3/28/2024	MW-16-22 3/28/2024	MW-16-22 5/28/2024	MW-16-22 5/28/2024	MW-16-22 9/24/2024	
								MW-09-22_GW-092624	DUP-01_GW-092624	MW-11-22_GW-032824	MW-11-22_GW-092424	MW-13-22_20240328	MW-14-22_20240328	MW-15-22_20240328	DUP-02_20240328	MW-16-22_20240328	MW-16-22_GW-052824	DUP-01_GW-052824	MW-16-22_GW-092424	
Volatile Organics																				
1,1,1,2-Tetrachloroethane	180	93	5,700	2,400	8,500	3,700	ug/L	< 1 Ur	< 1 Ur	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1	< 1	< 1 Ur	
1,1,1-Trichloroethane	22,000	11,000	210,000	92,000	310,000	140,000	ug/L	< 1 Ur	< 1 Ur	2	2	< 1 U	13	< 1 U	< 1 U	3	5	5	3 r	
1,1,2,2-Tetrachloroethane	130	66	4,100	1,800	6,200	2,600	ug/L	< 1 Ur	< 1 Ur	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1	< 1	< 1 Ur	
1,1,2-Trichloroethane	21	11	410	180	620	280	ug/L	< 1 Ur	< 1 Ur	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1	< 1	< 1 Ur	
1,1-Dichloroethane	160	88	5,300	2,400	8,000	3,600	ug/L	< 1 Ur	< 1 Ur	< 1 U	< 1 U	< 1 U	13	< 1 U	< 1 U	4	4	4	6 r	
1,1-Dichloroethene	410	220	8,300	3,800	13,000	5,700	ug/L	< 1 Ur	< 1 Ur	< 1 U	< 1 U	< 1 U	1	< 1 U	< 1 U	< 1 U	< 1	< 1	< 1 Ur	
1,2,3-Trichlorobenzene	4,100	2,100	18,000	18,000	18,000	18,000	ug/L	< 5 Ur	< 5 Ur	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5	< 5	< 5 Ur	
1,2,3-Trichloropropane	91	47	1,800	790	2,700	1,200	ug/L	< 1 Ur	< 1 Ur	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1	< 1	< 1 Ur	
1,2,3-Trimethylbenzene	2,000	1,100	41,000	18,000	61,000	27,000	ug/L	< 1 Ur	< 1 Ur	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1	< 1	< 1 Ur	
1,2,4-Trichlorobenzene	270	130	5,100	2,200	7,700	3,300	ug/L	< 5 Ur	< 5 Ur	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5	< 5	< 5 Ur	
1,2,4-Trimethylbenzene	1,100	590	22,000	9,900	34,000	15,000	ug/L	< 1 Ur	< 1 Ur	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1	< 1	< 1 Ur	
1,2-Dibromo-3-chloropropane	0.00045	0.00045	0.042	0.029	0.061	0.042	ug/L	< 5 Ur	< 5 Ur	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5	< 5	< 5 Ur	
1,2-Dibromoethane	8	4	250	110	370	160	ug/L	< 1 Ur	< 1 Ur	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1	< 1	< 1 Ur	
1,2-Dichlorobenzene	19,000	9,900	160,000	160,000	160,000	160,000	ug/L	< 1 Ur	< 1 Ur	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1	< 1	< 1 Ur	
1,2-Dichloroethane	50	27	1,600	750	2,500	1,100	ug/L	< 1 Ur	< 1 Ur	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1	< 1	< 1 Ur	
1,2-Dichloropropane	100	56	2,100	950	3,200	1,400	ug/L	< 1 Ur	< 1 Ur	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1	< 1	< 1 Ur	
1,3,5-Trimethylbenzene	800	420	16,000	7,000	24,000	10,000	ug/L	< 1 Ur	< 1 Ur	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1	< 1	< 1 Ur	
1,3-Dichlorobenzene	130	70	2,700	1,200	4,000	1,700	ug/L	< 1 Ur	< 1 Ur	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1	< 1	< 1 Ur	
1,4-Dichlorobenzene	310	160	9,800	4,300	15,000	6,400	ug/L	< 1 Ur	< 1 Ur	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1	< 1	< 1 Ur	
2-Butanone	4,000,000	2,200,000	59,000,000	27,000,000	88,000,000	40,000,000	ug/L	< 25 Ur	< 25 Ur	< 25 U	< 25 U	< 25 U	< 25 U	< 25 U	< 25 U	< 25 U	< 25	< 25	< 25 Ur	
2-Hexanone	24,000	12,000	490,000	220,000	740,000	320,000	ug/L	< 50 Ur	< 50 Ur	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50	< 50	< 50 Ur	
2-Methylnaphthalene	3,500	1,800	25,000	25,000	25,000	25,000	ug/L	< 5 Ur	< 5 Ur	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5	< 5	< 5 Ur	
2-Phenylbutane	--	--	--	--	--	--	ug/L	< 1 Ur	< 1 Ur	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1	< 1	< 1 Ur	
4-Methyl-2-pentanone	1,600,000	810,000	19,000,000	9,500,000	19,000,000	14,000,000	ug/L	< 50 Ur	< 50 Ur	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50	< 50	< 50 Ur	
Acetone	32,000,000	18,000,000	240,000,000	110,000,000	360,000,000	160,000,000	ug/L	< 50 Ur	< 50 Ur	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50	< 50	< 50 Ur	
Acrylonitrile	120	67	4,100	1,900	6,200	2,900	ug/L	< 2 Ur	< 2 Ur	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2	< 2	< 2 Ur	
Benzene	34	18	1,100	510	1,700	760	ug/L	< 1 Ur	< 1 Ur	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1	< 1	< 1 Ur	
Bromobenzene	3,300	1,700	66,000	29,000	99,000	43,000	ug/L	< 1 Ur	< 1 Ur	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1	< 1	< 1 Ur	
Bromodichloromethane	60	31	1,700	760	2,600	1,100	ug/L	< 1 Ur	< 1 Ur	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1	< 1	< 1 Ur	
Bromoform	6,400	3,200	200,000	83,000	300,000	120,000	ug/L	< 1 Ur	< 1 Ur	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1	< 1	< 1 Ur	
Bromomethane	59	33	1,200	580	1,900	860	ug/L	< 5 Ur	< 5 Ur	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5	< 5	< 5 Ur	
Carbon Disulfide	2,200	1,200	46,000	22,000	70,000	33,000	ug/L	< 5 Ur	< 5 Ur	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5	< 5	< 5 Ur	
Carbon Tetrachloride	14	7.2	440	190	650	290	ug/L	3 r	2 r	1	< 1 U	< 1 U	5	< 1 U	< 1 U	< 1 U	1	1	< 1 Ur	
CFC-11	300	160	6,000	2,700	9,000	4,000	ug/L	< 1 Ur	< 1 Ur	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1	< 1	< 1 Ur	
CFC-12	71	38	1,400	640	2,100	960	ug/L	< 5 Ur	< 5 Ur	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5	< 5	< 5 Ur	
Chlorobenzene	1,300	720	27,000	12,000	41,000	18,000	ug/L	< 1 Ur	< 1 Ur	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1	< 1	< 1 Ur	
Chlorobromomethane	--	--	--	--	--	--	ug													

Location ID: Date Collected: Sample Name:	Res Fiero SSVIAC SOG	Res Fiero SSVIAC BASE	NR Fiero SSVIAC <50k SOG	NR Fiero SSVIAC <50k BASE	NR Fiero SSVIAC >50k SOG	NR Fiero SSVIAC >50k BASE	Units	MWF7-02 9/25/2024 MWF7-02_GW-092524	MWF15-01 3/26/2024 MWF15-01_GW-032624	MWF15-01 9/25/2024 MWF15-01_GW-092524	MWF16-05 3/26/2024 MWF16-05_GW-032624	MWF16-05 9/25/2024 MWF16-05_GW-092524	MWF16-06 3/27/2024 MWF16-06_GW-032724	MWF16-06 9/27/2024 MWF16-06_GW-092724	MWF16-07 3/27/2024 MWF16-07_GW-032724	MWF16-07 9/24/2024 MWF16-07_GW-092424	MWF16-12 3/28/2024 MWF16-12_GW-032824	MWF16-12 9/27/2024 MWF16-12_GW-092724	MWF16-15 3/26/2024 MWF16-15_GW-032624	
Volatile Organics																				
1,1,1,2-Tetrachloroethane	180	93	5,700	2,400	8,500	3,700	ug/L	< 1 U	< 1 U	< 1 U	< 10 UY	< 10 UY	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	
1,1,1-Trichloroethane	22,000	11,000	210,000	92,000	310,000	140,000	ug/L	68	5	4	< 10 UY	< 10 UY	98	74	< 1 U	< 1 U	< 1 U	< 1 U	12	
1,1,2,2-Tetrachloroethane	130	66	4,100	1,800	6,200	2,600	ug/L	< 1 U	< 1 U	< 1 U	< 10 UY	< 10 UY	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	
1,1,2-Trichloroethane	21	11	410	180	620	280	ug/L	< 1 U	< 1 U	< 1 U	< 10 UY	< 10 UY	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	
1,1-Dichloroethane	160	88	5,300	2,400	8,000	3,600	ug/L	18	1	< 1 U	< 10 UY	< 10 UY	70	18	< 1 U	< 1 U	< 1 U	< 1 U	1	
1,1-Dichloroethene	410	220	8,300	3,800	13,000	5,700	ug/L	9	< 1 U	< 1 U	< 10 UY	< 10 UY	7	2	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	
1,2,3-Trichlorobenzene	4,100	2,100	18,000	18,000	18,000	18,000	ug/L	< 5 U	< 5 U	< 5 U	< 50 UY	< 50 UY	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	
1,2,3-Trichloropropane	91	47	1,800	790	2,700	1,200	ug/L	< 1 U	< 1 U	< 1 U	< 10 UY	< 10 UY	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	
1,2,3-Trimethylbenzene	2,000	1,100	41,000	18,000	61,000	27,000	ug/L	< 1 U	< 1 U	< 1 U	< 10 UY	< 10 UY	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	
1,2,4-Trichlorobenzene	270	130	5,100	2,200	7,700	3,300	ug/L	< 5 U	< 5 U	< 5 U	< 50 UY	< 50 UY	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	
1,2,4-Trimethylbenzene	1,100	590	22,000	9,900	34,000	15,000	ug/L	< 1 U	< 1 U	< 1 U	< 10 UY	< 10 UY	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	
1,2-Dibromo-3-chloropropane	0.00045	0.00045	0.042	0.029	0.061	0.042	ug/L	< 5 U	< 5 U	< 5 U	< 50 UY	< 50 UY	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	
1,2-Dibromoethane	8	4	250	110	370	160	ug/L	< 1 U	< 1 U	< 1 U	< 10 UY	< 10 UY	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	
1,2-Dichlorobenzene	19,000	9,900	160,000	160,000	160,000	160,000	ug/L	< 1 U	< 1 U	< 1 U	< 10 UY	< 10 UY	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	
1,2-Dichloroethane	50	27	1,600	750	2,500	1,100	ug/L	< 1 U	< 1 U	< 1 U	< 10 UY	< 10 UY	1	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	
1,2-Dichloropropane	100	56	2,100	950	3,200	1,400	ug/L	< 1 U	< 1 U	< 1 U	< 10 UY	< 10 UY	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	
1,3,5-Trimethylbenzene	800	420	16,000	7,000	24,000	10,000	ug/L	< 1 U	< 1 U	< 1 U	< 10 UY	< 10 UY	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	
1,3-Dichlorobenzene	130	70	2,700	1,200	4,000	1,700	ug/L	< 1 U	< 1 U	< 1 U	< 10 UY	< 10 UY	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	
1,4-Dichlorobenzene	310	160	9,800	4,300	15,000	6,400	ug/L	< 1 U	< 1 U	< 1 U	< 10 UY	< 10 UY	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	
2-Butanone	4,000,000	2,200,000	59,000,000	27,000,000	88,000,000	40,000,000	ug/L	< 25 U	< 25 U	< 25 U	< 250 UY	< 250 UY	< 25 U	< 25 U	< 25 U	< 25 U	< 25 U	< 25 U	< 25 U	
2-Hexanone	24,000	12,000	490,000	220,000	740,000	320,000	ug/L	< 50 U	< 50 U	< 50 U	< 500 UY	< 500 UY	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	
2-Methylnaphthalene	3,500	1,800	25,000	25,000	25,000	25,000	ug/L	< 5 U	< 5 U	< 5 U	< 50 UY	< 50 UY	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	
2-Phenylbutane	--	--	--	--	--	--	ug/L	< 1 U	< 1 U	< 1 U	< 10 UY	< 10 UY	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	
4-Methyl-2-pentanone	1,600,000	810,000	19,000,000	9,500,000	19,000,000	14,000,000	ug/L	< 50 U	< 50 U	< 50 U	< 500 UY	< 500 UY	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	
Acetone	32,000,000	18,000,000	240,000,000	110,000,000	360,000,000	160,000,000	ug/L	< 50 U	< 50 U	< 50 U	< 500 UY	< 500 UY	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	
Acrylonitrile	120	67	4,100	1,900	6,200	2,900	ug/L	< 2 U	< 2 U	< 2 U	< 20 UY	< 20 UY	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	
Benzene	34	18	1,100	510	1,700	760	ug/L	< 1 U	< 1 U	< 1 U	< 10 UY	< 10 UY	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	
Bromobenzene	3,300	1,700	66,000	29,000	99,000	43,000	ug/L	< 1 U	< 1 U	< 1 U	< 10 UY	< 10 UY	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	
Bromodichloromethane	60	31	1,700	760	2,600	1,100	ug/L	< 1 U	< 1 U	< 1 U	< 10 UY	< 10 UY	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	
Bromoform	6,400	3,200	200,000	83,000	300,000	120,000	ug/L	< 1 U	< 1 U	< 1 U	< 10 UY	< 10 UY	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	
Bromomethane	59	33	1,200	580	1,900	860	ug/L	< 5 U	< 5 U	< 5 U	< 50 UY	< 50 UY	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	
Carbon Disulfide	2,200	1,200	46,000	22,000	70,000	33,000	ug/L	< 5 U	< 5 U	< 5 U	< 50 UY	< 50 UY	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	
Carbon Tetrachloride	14	7.2	440	190	650	290	ug/L	< 1 U	< 1 U	< 1 U	< 10 UY	< 10 UY	7	7	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	
CFC-11	300	160	6,000	2,700	9,000	4,000	ug/L	< 1 U	< 1 U	< 1 U	< 10 UY	< 10 UY	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	
CFC-12	71	38	1,400	640	2,100	960	ug/L	< 5 U	< 5 U	< 5 U	< 50 UY	< 50 UY	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	
Chlorobenzene	1,300	720	27,000	12,000	41,000	18,000	ug/L	< 1 U	< 1 U	< 1 U</										

Location ID: Date Collected: Sample Name:	Res Fiero SSVIAC SOG	Res Fiero SSVIAC BASE	NR Fiero SSVIAC <50k SOG	NR Fiero SSVIAC <50k BASE	NR Fiero SSVIAC >50k SOG	NR Fiero SSVIAC >50k BASE	Units	MWF16-15 9/24/2024 MWF16-15_GW-09242	MWF16-16 3/27/2024 MWF16-16_GW-03272	MWF16-16 9/26/2024 MWF16-16_GW-09262	MWF16-17 3/26/2024 MWF16-17_GW-03262	MWF16-17 9/25/2024 MWF16-17_GW-09252	MWF16-18 3/26/2024 MWF16-18_GW-03262	MWF16-18 9/27/2024 MWF16-18_GW-092724	MWF16-18 9/27/2024 DUP-02_GW-092724	MWF16-22 3/27/2024 MWF16-22_GW-03272	MWF16-22 5/28/2024 MWF16-22_GW-05282	MWF16-22 9/26/2024 MWF16-22_GW-09262	MWF16-23 3/29/2024 MWF16-23_GW-03292
Volatile Organics																			
1,1,1,2-Tetrachloroethane	180	93	5,700	2,400	8,500	3,700	ug/L	< 1 U	< 10 UY	< 1 Ur	< 1 U	< 1 U	< 10 UY	< 10 UY	< 1 Ur	< 1 U	< 1 U	< 1 U	< 1 U
1,1,1-Trichloroethane	22,000	11,000	210,000	92,000	310,000	140,000	ug/L	9	< 10 UY	6 r	2	2	< 10 UY	< 10 UY	2 r	3	3	3	5
1,1,2,2-Tetrachloroethane	130	66	4,100	1,800	6,200	2,600	ug/L	< 1 U	< 10 UY	< 1 Ur	< 1 U	< 1 U	< 10 UY	< 10 UY	< 1 Ur	< 1 U	< 1 U	< 1 U	< 1 U
1,1,2-Trichloroethane	21	11	410	180	620	280	ug/L	< 1 U	< 10 UY	< 1 Ur	< 1 U	< 1 U	< 10 UY	< 10 UY	< 1 Ur	< 1 U	< 1 U	< 1 U	< 1 U
1,1-Dichloroethane	160	88	5,300	2,400	8,000	3,600	ug/L	1	< 10 UY	4 r	< 1 U	< 1 U	< 10 UY	< 10 UY	3 r	< 1 U	< 1 U	< 1 U	2
1,1-Dichloroethene	410	220	8,300	3,800	13,000	5,700	ug/L	< 1 U	< 10 UY	< 1 Ur	< 1 U	< 1 U	< 10 UY	< 10 UY	< 1 Ur	< 1 U	< 1 U	< 1 U	< 1 U
1,2,3-Trichlorobenzene	4,100	2,100	18,000	18,000	18,000	18,000	ug/L	< 5 U	< 50 UY	< 5 Ur	< 5 U	< 5 U	< 50 UY	< 50 UY	< 5 Ur	< 5 U	< 5 U	< 5 U	< 5 U
1,2,3-Trichloropropane	91	47	1,800	790	2,700	1,200	ug/L	< 1 U	< 10 UY	< 1 Ur	< 1 U	< 1 U	< 10 UY	< 10 UY	< 1 Ur	< 1 U	< 1 U	< 1 U	< 1 U
1,2,3-Trimethylbenzene	2,000	1,100	41,000	18,000	61,000	27,000	ug/L	< 1 U	< 10 UY	< 1 Ur	< 1 U	< 1 U	< 10 UY	< 10 UY	< 1 Ur	< 1 U	< 1 U	< 1 U	< 1 U
1,2,4-Trichlorobenzene	270	130	5,100	2,200	7,700	3,300	ug/L	< 5 U	< 50 UY	< 5 Ur	< 5 U	< 5 U	< 50 UY	< 50 UY	< 5 Ur	< 5 U	< 5 U	< 5 U	< 5 U
1,2,4-Trimethylbenzene	1,100	590	22,000	9,900	34,000	15,000	ug/L	< 1 U	< 10 UY	< 1 Ur	< 1 U	< 1 U	< 10 UY	< 10 UY	< 1 Ur	< 1 U	< 1 U	< 1 U	< 1 U
1,2-Dibromo-3-chloropropane	0.00045	0.00045	0.042	0.029	0.061	0.042	ug/L	< 5 U	< 50 UY	< 5 Ur	< 5 U	< 5 U	< 50 UY	< 50 UY	< 5 Ur	< 5 U	< 5 U	< 5 U	< 5 U
1,2-Dibromoethane	8	4	250	110	370	160	ug/L	< 1 U	< 10 UY	< 1 Ur	< 1 U	< 1 U	< 10 UY	< 10 UY	< 1 Ur	< 1 U	< 1 U	< 1 U	< 1 U
1,2-Dichlorobenzene	19,000	9,900	160,000	160,000	160,000	160,000	ug/L	< 1 U	< 10 UY	< 1 Ur	< 1 U	< 1 U	< 10 UY	< 10 UY	< 1 Ur	< 1 U	< 1 U	< 1 U	< 1 U
1,2-Dichloroethane	50	27	1,600	750	2,500	1,100	ug/L	< 1 U	< 10 UY	< 1 Ur	< 1 U	< 1 U	< 10 UY	< 10 UY	< 1 Ur	< 1 U	< 1 U	< 1 U	< 1 U
1,2-Dichloropropane	100	56	2,100	950	3,200	1,400	ug/L	< 1 U	< 10 UY	< 1 Ur	< 1 U	< 1 U	< 10 UY	< 10 UY	< 1 Ur	< 1 U	< 1 U	< 1 U	< 1 U
1,3,5-Trimethylbenzene	800	420	16,000	7,000	24,000	10,000	ug/L	< 1 U	< 10 UY	< 1 Ur	< 1 U	< 1 U	< 10 UY	< 10 UY	< 1 Ur	< 1 U	< 1 U	< 1 U	< 1 U
1,3-Dichlorobenzene	130	70	2,700	1,200	4,000	1,700	ug/L	< 1 U	< 10 UY	< 1 Ur	< 1 U	< 1 U	< 10 UY	< 10 UY	< 1 Ur	< 1 U	< 1 U	< 1 U	< 1 U
1,4-Dichlorobenzene	310	160	9,800	4,300	15,000	6,400	ug/L	< 1 U	< 10 UY	< 1 Ur	< 1 U	< 1 U	< 10 UY	< 10 UY	< 1 Ur	< 1 U	< 1 U	< 1 U	< 1 U
2-Butanone	4,000,000	2,200,000	59,000,000	27,000,000	88,000,000	40,000,000	ug/L	< 25 U	< 250 UY	< 25 Ur	< 25 U	< 25 U	< 250 UY	< 250 UY	< 25 Ur	< 25 U	< 25 U	< 25 U	< 25 U
2-Hexanone	24,000	12,000	490,000	220,000	740,000	320,000	ug/L	< 50 U	< 500 UY	< 50 Ur	< 50 U	< 50 U	< 500 UY	< 500 UY	< 50 Ur	< 50 U	< 50 U	< 50 U	< 50 U
2-Methylnaphthalene	3,500	1,800	25,000	25,000	25,000	25,000	ug/L	< 5 U	< 50 UY	< 5 Ur	< 5 U	< 5 U	< 50 UY	< 50 UY	< 5 Ur	< 5 U	< 5 U	< 5 U	< 5 U
2-Phenylbutane	--	--	--	--	--	--	ug/L	< 1 U	< 10 UY	< 1 Ur	< 1 U	< 1 U	< 10 UY	< 10 UY	< 1 Ur	< 1 U	< 1 U	< 1 U	< 1 U
4-Methyl-2-pentanone	1,600,000	810,000	19,000,000	9,500,000	19,000,000	14,000,000	ug/L	< 50 U	< 500 UY	< 50 Ur	< 50 U	< 50 U	< 500 UY	< 500 UY	< 50 Ur	< 50 U	< 50 U	< 50 U	< 50 U
Acetone	32,000,000	18,000,000	240,000,000	110,000,000	360,000,000	160,000,000	ug/L	< 50 U	< 500 UY	< 50 Ur	< 50 U	< 50 U	< 500 UY	< 500 UY	< 50 Ur	< 50 U	< 50 U	< 50 U	< 50 U
Acrylonitrile	120	67	4,100	1,900	6,200	2,900	ug/L	< 2 U	< 20 UY	< 2 Ur	< 2 U	< 2 U	< 20 UY	< 20 UY	< 2 Ur	< 2 U	< 2 U	< 2 U	< 2 U
Benzene	34	18	1,100	510	1,700	760	ug/L	< 1 U	< 10 UY	< 1 Ur	< 1 U	< 1 U	< 10 UY	< 10 UY	< 1 Ur	< 1 U	< 1 U	< 1 U	< 1 U
Bromobenzene	3,300	1,700	66,000	29,000	99,000	43,000	ug/L	< 1 U	< 10 UY	< 1 Ur	< 1 U	< 1 U	< 10 UY	< 10 UY	< 1 Ur	< 1 U	< 1 U	< 1 U	< 1 U
Bromodichloromethane	60	31	1,700	760	2,600	1,100	ug/L	< 1 U	< 10 UY	< 1 Ur	< 1 U	< 1 U	< 10 UY	< 10 UY	< 1 Ur	< 1 U	< 1 U	< 1 U	< 1 U
Bromoform	6,400	3,200	200,000	83,000	300,000	120,000	ug/L	< 1 U	< 10 UY	< 1 Ur	< 1 U	< 1 U	< 10 UY	< 10 UY	< 1 Ur	< 1 U	< 1 U	< 1 U	< 1 U
Bromomethane	59	33	1,200	580	1,900	860	ug/L	< 5 U	< 50 UY	< 5 Ur	< 5 U	< 5 U	< 50 UY	< 50 UY	< 5 Ur	< 5 U	< 5 U	< 5 U	< 5 U
Carbon Disulfide	2,200	1,200	46,000	22,000	70,000	33,000	ug/L	< 5 U	< 50 UY	< 5 Ur	< 5 U	< 5 U	< 50 UY	< 50 UY	< 5 Ur	< 5 U	< 5 U	< 5 U	< 5 U
Carbon Tetrachloride	14	7.2	440	190	650	290	ug/L	< 1 U	< 10 UY	1 r	< 1 U	< 1 U	< 10 UY	< 10 UY	< 1 Ur	< 1 U	< 1 U	< 1 U	< 1 U
CFC-11	300	160	6,000	2,700	9,000	4,000	ug/L	< 1 U	< 10 UY	< 1 Ur	< 1 U	< 1 U	< 10 UY	< 10 UY	< 1 Ur	< 1 U	< 1 U	< 1 U	< 1 U
CFC-12	71	38	1,400	640	2,100	960	ug/L	< 5 U	< 50 UY	< 5 Ur	< 5 U	< 5 U	< 50 UY	< 50 UY	< 5 Ur	< 5 U	< 5 U	< 5 U	< 5 U
Chlorobenzene	1,300	720	27																

Location ID:								MWF16-23	MWF16-24	MWF16-25	MWF16-25	MWOS-08	MWOS-08	MWOS-09R	MWOS-09R	MWOS-09R	MWOS-10	MWOS-10	MWOS-10
Date Collected:	Res Fiero	Res Fiero	NR Fiero	NR Fiero	NR Fiero	NR Fiero		9/24/2024	3/27/2024	3/28/2024	9/24/2024	3/28/2024	9/25/2024	3/28/2024	3/28/2024	9/25/2024	3/28/2024	6/24/2024	9/25/2024
Sample Name:	SSVIAC SOG	SSVIAC BASE	SSVIAC <50k SOG	<50k BASE	>50k SOG	>50k BASE	Units	MWF16-23_GW-092424	MWF16-24_GW-032724	MWF16-25_GW-032824	MWF16-25_GW-092424	MWOS-08_GW-032824	MWOS-08_GW-092524	MWOS-09R_GW-032824	DUP-03_GW-032824	MWOS-09R_GW-092524	MSOS-10_GW-032824	MWOS-10_GW-062424	MWOS-10_GW-092524
Volatile Organics																			
1,1,1,2-Tetrachloroethane	180	93	5,700	2,400	8,500	3,700	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
1,1,1-Trichloroethane	22,000	11,000	210,000	92,000	310,000	140,000	ug/L	6	2	3	4	6	4	4	4	4	2	2	2
1,1,2,2-Tetrachloroethane	130	66	4,100	1,800	6,200	2,600	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
1,1,2-Trichloroethane	21	11	410	180	620	280	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
1,1-Dichloroethane	160	88	5,300	2,400	8,000	3,600	ug/L	<1 U	<1 U	2	2	1	<1 U	3	3	4	3	1	<1 U
1,1-Dichloroethene	410	220	8,300	3,800	13,000	5,700	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
1,2,3-Trichlorobenzene	4,100	2,100	18,000	18,000	18,000	18,000	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
1,2,3-Trichloropropane	91	47	1,800	790	2,700	1,200	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
1,2,3-Trimethylbenzene	2,000	1,100	41,000	18,000	61,000	27,000	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
1,2,4-Trichlorobenzene	270	130	5,100	2,200	7,700	3,300	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
1,2,4-Trimethylbenzene	1,100	590	22,000	9,900	34,000	15,000	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
1,2-Dibromo-3-chloropropane	0.00045	0.00045	0.042	0.029	0.061	0.042	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
1,2-Dibromoethane	8	4	250	110	370	160	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
1,2-Dichlorobenzene	19,000	9,900	160,000	160,000	160,000	160,000	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
1,2-Dichloroethane	50	27	1,600	750	2,500	1,100	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
1,2-Dichloropropane	100	56	2,100	950	3,200	1,400	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
1,3,5-Trimethylbenzene	800	420	16,000	7,000	24,000	10,000	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
1,3-Dichlorobenzene	130	70	2,700	1,200	4,000	1,700	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
1,4-Dichlorobenzene	310	160	9,800	4,300	15,000	6,400	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
2-Butanone	4,000,000	2,200,000	59,000,000	27,000,000	88,000,000	40,000,000	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
2-Hexanone	24,000	12,000	490,000	220,000	740,000	320,000	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
2-Methylnaphthalene	3,500	1,800	25,000	25,000	25,000	25,000	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
2-Phenylbutane	--	--	--	--	--	--	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
4-Methyl-2-pentanone	1,600,000	810,000	19,000,000	9,500,000	19,000,000	14,000,000	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
Acetone	32,000,000	18,000,000	240,000,000	110,000,000	360,000,000	160,000,000	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
Acrylonitrile	120	67	4,100	1,900	6,200	2,900	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
Benzene	34	18	1,100	510	1,700	760	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
Bromobenzene	3,300	1,700	66,000	29,000	99,000	43,000	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
Bromodichloromethane	60	31	1,700	760	2,600	1,100	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
Bromoform	6,400	3,200	200,000	83,000	300,000	120,000	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
Bromomethane	59	33	1,200	580	1,900	860	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
Carbon Disulfide	2,200	1,200	46,000	22,000	70,000	33,000	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
Carbon Tetrachloride	14	7.2	440	190	650	290	ug/L	<1 U	<1 U	<1 U	1	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
CFC-11	300	160	6,000	2,700	9,000	4,000	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
CFC-12	71	38	1,400	640	2,100	960	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
Chlorobenzene	1,300	720	27,000	12,000	41,000	18,000	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
Chlorobromomethane	--	--	--	--	--	--	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
Chlorodibromomethane	58	29	4,400	1,800	6,600	2,800	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
Chloroethane	15,000	8,600	320,000	150,000	490,000	230,000	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
Chloroform	19	10	610	270	910	410	ug/L	<1 U	<1 U	2	3	1	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Chloromethane	340	200	7,400	3,500	11,000	5,300	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
cis-1,2-Dichloroethene	110	62	2,300	1,100	3,500	1,600	ug/L	<1 U	<1 U	38	17	<1 U	1	17	19	18	5	2	<1 U
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
Cymene	--	--	--	--	--	--	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
Dibromomethane	450	230	9,000	3,900	13,000	5,900	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
Dichloromethane	9,100	5,000	190,000	88,000	280,000	130,000	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
Ethyl ether	44,000	24,000	900,000	410,000	1,400,000	620,000	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
Ethylbenzene	110	60	3,600	1,600	5,400	2,400	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
Hexachloroethane	130	64	3,900	1,600	5,900	2,500	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
Iodomethane	--	--	--	--	--	--	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
Isopropyl benzene	26	13	810	360	1,200	540	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
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
Methyl tert-butyl ether	10,000	5,300	320,000	150,000	490,000	220,000	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
Naphthalene	190	100	6,200	2,700	9,300	4,100	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
N-Butylbenzene	2,000	1,100	12,000	12,000	12,000	12,000	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
N-Propylbenzene	10,000	5,400	52,000	31,000	52,000	46,000	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
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
Styrene	1,400	740	45,000	20,000	67,000	30,000	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
tert-Butylbenzene	3.4	1.8	67	29	100	44	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
Tetrachloroethene	250	130	3,400	1,500	5,000	2,200	ug/L	7	<1 U	<1 U	<1 U	<1 U	<1 U	20	17	16	<1 U	<1 U	<1 U
Tetrahydrofuran	1,300,000	690,000	27,000,000	12,000,000	41,000,000	19,000,000	ug/L	<90 U	<90 U	<90 U	<90 U	<90 U	<90 U	<90 U	<90 U	<90 U	<90 U	<90 U	<90 U
Toluene	56,000	30,000	530,000	250,000	530,000	380,000	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
Total Xylenes	3,000	1,600	60,000	27,000	91,														

Location ID: Date Collected: Sample Name:	Res Fiero SSVIAC SOG	Res Fiero SSVIAC BASE	NR Fiero SSVIAC <50k SOG	NR Fiero SSVIAC <50k BASE	NR Fiero SSVIAC >50k SOG	NR Fiero SSVIAC >50k BASE	Units	MWOS-10 11/8/2024	TW-12-22 3/29/2024	TW-12-22 9/26/2024	UNKNOWN-1 3/26/2024	UNKNOWN-1 9/24/2024
								MWOS-10_GW-110824	TW-12-22_GW-032924	TW-12-22_GW-092624	UNKNOWN-01_GW-032624	UNKNOWN-01_GW-092424
Volatile Organics												
1,1,1,2-Tetrachloroethane	180	93	5,700	2,400	8,500	3,700	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,1,1-Trichloroethane	22,000	11,000	210,000	92,000	310,000	140,000	ug/L	3	18	12	51	49
1,1,2,2-Tetrachloroethane	130	66	4,100	1,800	6,200	2,600	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,1,2-Trichloroethane	21	11	410	180	620	280	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,1-Dichloroethane	160	88	5,300	2,400	8,000	3,600	ug/L	1	8	7	4	2
1,1-Dichloroethene	410	220	8,300	3,800	13,000	5,700	ug/L	< 1 U	1	< 1 U	< 1 U	< 1 U
1,2,3-Trichlorobenzene	4,100	2,100	18,000	18,000	18,000	18,000	ug/L	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
1,2,3-Trichloropropane	91	47	1,800	790	2,700	1,200	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,2,3-Trimethylbenzene	2,000	1,100	41,000	18,000	61,000	27,000	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,2,4-Trichlorobenzene	270	130	5,100	2,200	7,700	3,300	ug/L	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
1,2,4-Trimethylbenzene	1,100	590	22,000	9,900	34,000	15,000	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,2-Dibromo-3-chloropropane	0.00045	0.00045	0.042	0.029	0.061	0.042	ug/L	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
1,2-Dibromoethane	8	4	250	110	370	160	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,2-Dichlorobenzene	19,000	9,900	160,000	160,000	160,000	160,000	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,2-Dichloroethane	50	27	1,600	750	2,500	1,100	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,2-Dichloropropane	100	56	2,100	950	3,200	1,400	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,3,5-Trimethylbenzene	800	420	16,000	7,000	24,000	10,000	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,3-Dichlorobenzene	130	70	2,700	1,200	4,000	1,700	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,4-Dichlorobenzene	310	160	9,800	4,300	15,000	6,400	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
2-Butanone	4,000,000	2,200,000	59,000,000	27,000,000	88,000,000	40,000,000	ug/L	< 25 U	< 25 U	< 25 U	< 25 U	< 25 U
2-Hexanone	24,000	12,000	490,000	220,000	740,000	320,000	ug/L	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U
2-Methylnaphthalene	3,500	1,800	25,000	25,000	25,000	25,000	ug/L	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
2-Phenylbutane	--	--	--	--	--	--	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
4-Methyl-2-pentanone	1,600,000	810,000	19,000,000	9,500,000	19,000,000	14,000,000	ug/L	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U
Acetone	32,000,000	18,000,000	240,000,000	110,000,000	360,000,000	160,000,000	ug/L	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U
Acrylonitrile	120	67	4,100	1,900	6,200	2,900	ug/L	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U
Benzene	34	18	1,100	510	1,700	760	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Bromobenzene	3,300	1,700	66,000	29,000	99,000	43,000	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Bromodichloromethane	60	31	1,700	760	2,600	1,100	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Bromoform	6,400	3,200	200,000	83,000	300,000	120,000	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Bromomethane	59	33	1,200	580	1,900	860	ug/L	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
Carbon Disulfide	2,200	1,200	46,000	22,000	70,000	33,000	ug/L	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
Carbon Tetrachloride	14	7.2	440	190	650	290	ug/L	< 1 U	3	4	< 1 U	< 1 U
CFC-11	300	160	6,000	2,700	9,000	4,000	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
CFC-12	71	38	1,400	640	2,100	960	ug/L	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
Chlorobenzene	1,300	720	27,000	12,000	41,000	18,000	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Chlorobromomethane	--	--	--	--	--	--	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Chlorodibromomethane	58	29	4,400	1,800	6,600	2,800	ug/L	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
Chloroethane	15,000	8,600	320,000	150,000	490,000	230,000	ug/L	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
Chloroform	19	10	610	270	910	410	ug/L	< 1 U	8	6	< 1 U	< 1 U
Chloromethane	340	200	7,400	3,500	11,000	5,300	ug/L	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
cis-1,2-Dichloroethene	110	62	2,300	1,100	3,500	1,600	ug/L	< 1 U	190 Y	86	< 1 U	< 1 U
cis-1,3-Dichloropropene	--	--	--	--	--	--	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Cymene	--	--	--	--	--	--	ug/L	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
Dibromomethane	450	230	9,000	3,900	13,000	5,900	ug/L	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
Dichloromethane	9,100	5,000	190,000	88,000	280,000	130,000	ug/L	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
Ethyl ether	44,000	24,000	900,000	410,000	1,400,000	620,000	ug/L	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U
Ethylbenzene	110	60	3,600	1,600	5,400	2,400	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Hexachloroethane	130	64	3,900	1,600	5,900	2,500	ug/L	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
Iodomethane	--	--	--	--	--	--	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Isopropyl benzene	26	13	810	360	1,200	540	ug/L	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
m&p-Xylene	--	--	--	--	--	--	ug/L	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U
Methyl tert-butyl ether	10,000	5,300	320,000	150,000	490,000	220,000	ug/L	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
Naphthalene	190	100	6,200	2,700	9,300	4,100	ug/L	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
N-Butylbenzene	2,000	1,100	12,000	12,000	12,000	12,000	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
N-Propylbenzene	10,000	5,400	52,000	31,000	52,000	46,000	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
o-Xylene	--	--	--	--	--	--	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Styrene	1,400	740	45,000	20,000	67,000	30,000	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
tert-Butylbenzene	3.4	1.8	67	29	100	44	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Tetrachloroethene	250	130	3,400	1,500	5,000	2,200	ug/L	< 1 U	49	91	29	23
Tetrahydrofuran	1,300,000	690,000	27,000,000	12,000,000	41,000,000	19,000,000	ug/L	< 90 U	< 90 U	< 90 U	< 90 U	< 90 U
Toluene	56,000	30,000	530,000	250,000	530,000	380,000	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Total Xylenes	3,000	1,600	60,000	27,000	91,000	41,000	ug/L	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U
trans-1,2-Dichloroethene	480	260	9,800	4,500	15,000	6,700	ug/L	< 1 U	5	3	< 1 U	< 1 U
trans-1,3-Dichloropropene	--	--	--	--	--	--	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
trans-1,4-Dichloro-2-butene	--	--	--	--	--	--	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Trichloroethene	15	8.1	210	93	310	140	ug/L	6	24	51	< 1 U	< 1 U
Vinyl Chloride	2.2	1.2	260	120	390	180	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U

Appendix C

Groundwater and Soil Vapor Sampling Logs

Groundwater Sampling Form



Project Number	30214041	Well ID	MWF16-23	Date	3/29/2024
Project Name/Location	RACER Pontiac North Campus 2024		Weather(°F)	32.0 degrees F and Clear. The wind is blowing W at 4.7 mph.	
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2
Static Water Level (ft-bmp)	23.87	Total Depth (ft-bmp)	30.48	Water Column (ft)	6.61
Purge Start	10:17	Pump Intake (ft-bmp)	28	Purge Method	Low-Flow
Purge End	10:53	Volumes Purged	1.40	Sample ID	MWF16-23_GW-032924
Sample Time	10:50	Gallons Purged	1.5	Replicate/ Code No.	NA
				Well Casing Material	
				Gallons in Well	1.07
				Purge Equipment	Peristaltic
				Sampled by	Alaina Pitera
				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
10:17	0	0	120	23.87	0.00	6.93	0.82	17.8	2.92	12.4	164.5	Clear	None
10:22	5	5	120	23.87	0.00	6.89	0.83	15.4	3.05	12.2	165	Clear	None
10:27	5	10	120	23.87	0.00	6.97	0.85	12.3	2.93	11.8	152.6	Clear	None
10:32	5	15	120	23.87	0.00	6.97	0.85	10.5	2.83	11.8	152.2	Clear	None
10:37	5	20	120	23.87	0.00	6.98	0.85	4.26	2.62	11.6	148.5	Clear	None
10:42	5	25	120	23.87	0.00	6.97	0.85	4.11	2.61	11.6	148.3	Clear	None
10:47	5	30	120	23.87	0.00	6.97	0.85	3.97	2.61	11.6	148.3	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs	40 mL Glass	3	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: Northwestern side of FIERO, outside of gate.	Well Locked at Arrival: no
Condition of Well: 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	30214041	Well ID	MW-02-17	Date	3/27/2024
Project Name/Location	RACER Pontiac North Campus 2024		Weather(°F)	35.1 degrees F and Cloudy. The wind is blowing W at 12.8 mph.	
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2
				Well Casing Material	PVC
Static Water Level (ft-bmp)	25.79	Total Depth (ft-bmp)	29.7	Water Column (ft)	3.91
				Gallons in Well	0.64
Purge Start	12:15	Pump Intake (ft-bmp)	27.2	Purge Method	Low-Flow
				Purge Equipment	Peristaltic
Purge End	12:48	Volumes Purged	3.13	Sample ID	MW-02-17_GW-032624
				Sampled by	Alaina Pitera
Sample Time	12:45	Gallons Purged	2	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
12:16	0	0	160	25.79	0.00	6.88	1.07	28.1	3.66	10.8	-13.4	Clear	None
12:21	5	5	160	25.79	0.00	6.89	1.07	16	3.66	10.7	-22.7	Clear	None
12:26	5	10	160	25.79	0.00	7	1.32	5.33	2.55	11.2	-78.2	Clear	None
12:31	5	15	160	25.79	0.00	7	1.32	3.67	2.43	11.4	-78.5	Clear	None
12:36	5	20	160	25.79	0.00	7.01	1.33	3.06	2.33	11.5	-79	Clear	None
12:41	5	25	160	25.79	0.00	7.01	1.3	2.76	2.34	11.5	-80.1	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs	40 mL Glass	3	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: Southwestern side of FIERO	Well Locked at Arrival: no
Condition of Well: Good condition	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	30214041	Well ID	MW-05-18	Date	3/27/2024		
Project Name/Location	RACER Pontiac North Campus 2024		Weather(°F)	35.1 degrees F and Cloudy. The wind is blowing W at 12.8 mph.			
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2	Well Casing Material	PVC
Static Water Level (ft-bmp)	27.03	Total Depth (ft-bmp)	33.56	Water Column (ft)	6.53	Gallons in Well	1.06
Purge Start	13:21	Pump Intake (ft-bmp)	31	Purge Method	Low-Flow	Purge Equipment	Peristaltic
Purge End	14:03	Volumes Purged	1.23	Sample ID	MW-05-18_GW-032724	Sampled by	Alaina Pitera
Sample Time	13:55	Gallons Purged	1.3	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
13:23	0	0	160	27.03	0.00	7.41	0.76	18.9	1.73	9.7	31	Clear	None
13:28	5	5	160	27.03	0.00	7.35	0.74	9.43	1.07	8.7	28.4	Clear	None
13:33	5	10	160	27.03	0.00	7.34	0.74	2.04	1.03	8.8	29.2	Clear	None
13:38	5	15	160	27.03	0.00	7.36	0.74	0.02	0.94	9.1	28.2	Clear	None
13:43	5	20	160	27.03	0.00	7.36	0.74	0.02	0.97	9.2	28.1	Clear	None
13:48	5	25	160	27.03	0.00	7.37	0.74	0.02	0.93	9.2	27.8	Clear	None
13:53	5	30	160	27.03	0.00	7.37	0.75	0.02	0.95	9.1	27.4	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs	40 mL Glass	3	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: Western side of FIERO	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	30214041	Well ID	MW-06-20	Date	3/29/2024		
Project Name/Location	RACER Pontiac North Campus 2024		Weather(°F)	39.9 degrees F and Mostly Clear. The wind is blowing W/NW at 10.3 mph.			
Measuring Pt. Description	Top of Inner Casing	MP Elevation	Casing Diameter (in)	2	Well Casing Material	PVC	
Static Water Level (ft-bmp)	25.91	Total Depth (ft-bmp)	29.2	Water Column (ft)	3.29	Gallons in Well	0.53
Purge Start	11:29	Pump Intake (ft-bmp)	26.7	Purge Method	Low-Flow	Purge Equipment	Peristaltic
Purge End	12:08	Volumes Purged	3.77	Sample ID	MW-06-20_GW-032924	Sampled by	Alaina Pitera
Sample Time	12:05	Gallons Purged	2	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
11:31	0	0	120	25.91	0.00	7.48	0.79	14.9	9.17	12.2	155.2	Clear	None
11:36	5	5	120	25.91	0.00	7.45	0.79	12.3	9.04	12.3	154.7	Clear	None
11:41	5	10	120	25.91	0.00	7.32	0.81	4.78	8.41	11.7	153	Clear	None
11:46	5	15	120	25.91	0.00	7.3	0.81	2.79	8.27	11.6	153.4	Clear	None
11:51	5	20	120	25.91	0.00	7.33	0.81	1.57	7.84	11.8	149.3	Clear	None
11:56	5	25	120	25.91	0.00	7.34	0.81	1.4	7.36	11.6	148.1	Clear	None
12:01	5	30	120	25.91	0.00	7.33	0.81	1.39	7.36	11.6	147.9	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs	40 mL Glass	3	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:	Northwestern side of FIERO, outside of gate	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	30214041	Well ID	MW-07-20	Date	3/27/2024
Project Name/Location	RACER Pontiac North Campus 2024		Weather(°F)	35.1 degrees F and Cloudy. The wind is blowing W at 12.8 mph.	
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2
				Well Casing Material	PVC
Static Water Level (ft-bmp)	26.45	Total Depth (ft-bmp)	30.16	Water Column (ft)	3.71
				Gallons in Well	0.60
Purge Start	14:52	Pump Intake (ft-bmp)	27.4	Purge Method	Low-Flow
				Purge Equipment	Peristaltic
Purge End	15:28	Volumes Purged	2.50	Sample ID	MW-07-20_GW-032724
				Sampled by	Alaina Pitera
Sample Time	15:25	Gallons Purged	1.5	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
14:53	0	0	160	26.45	0.00	7.57	0.662	2.81	6.51	9.2	96.5	Clear	None
14:58	5	5	160	26.45	0.00	7.64	0.658	1.98	5.8	10.7	89	Clear	None
15:03	5	10	160	26.45	0.00	7.64	0.69	0.02	3.49	10.9	90.5	Clear	None
15:08	5	15	160	26.45	0.00	7.65	0.7	0.02	3.5	10.8	90.6	Clear	None
15:13	5	20	160	26.45	0.00	7.49	0.73	0.02	4.16	11.5	84.7	Clear	None
15:18	5	25	160	26.45	0.00	7.49	0.72	0.98	4.01	11.7	83.4	Clear	None
15:23	5	30	160	26.45	0.00	7.5	0.73	0.56	4.06	11.7	83.4	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs	40 mL Glass	3	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: Western side of FIERO	Well Locked at Arrival: no
Condition of Well: Good condition	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	30214041	Well ID	MW-08-21	Date	3/29/2024
Project Name/Location	RACER Pontiac North Campus 2024		Weather(°F)	39.9 degrees F and Mostly Clear. The wind is blowing W/NW at 10.3 mph.	
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2
Well Casing Material	PVC				
Static Water Level (ft-bmp)	26.65	Total Depth (ft-bmp)	30.3	Water Column (ft)	3.65
Gallons in Well	0.59				
Purge Start	11:30	Pump Intake (ft-bmp)	27.75	Purge Method	Low-Flow
Purge Equipment	Peristaltic				
Purge End	12:23	Volumes Purged	2.54	Sample ID	MW-08-21_GW-032924
Sampled by	Garrett Link				
Sample Time	12:20	Gallons Purged	1.5	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
11:33	0	0	120	26.65	0.00	7.38	0.75	0.52	3.51	12.2	67.5	Clear	None
11:38	5	5	120	26.65	0.00	7.37	0.75	0.97	2.84	12.4	65	Clear	None
11:43	5	10	120	26.65	0.00	7.39	0.77	2.17	2.48	12.5	63.3	Clear	None
11:48	5	15	120	26.65	0.00	7.38	0.77	0.95	0.84	11.9	63.4	Clear	None
11:53	5	20	120	26.65	0.00	7.39	0.77	0.8	0.81	12.1	62.7	Clear	None
11:58	5	25	120	26.65	0.00	7.4	0.77	1.02	0.78	12.2	62	Clear	None
12:03	5	30	120	26.65	0.00	7.39	0.78	0.02	0.78	11.7	61.8	Clear	None
12:08	5	35	120	26.65	0.00	7.4	0.77	0.12	0.85	11.7	61.4	Clear	None
12:13	5	40	120	26.65	0.00	7.41	0.78	0.02	0.86	11.7	60.7	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs	40 mL Glass	3	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: East side ROW of St. Clair St.	Well Locked at Arrival: no
Condition of Well: 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	30214041	Well ID	MW-09-22	Date	3/26/2024
Project Name/Location	RACER Pontiac North Campus 2024		Weather(°F)	48.0 degrees F and Cloudy. The wind is blowing S/SE at 18.3 mph.	
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2
				Well Casing Material	PVC
Static Water Level (ft-bmp)	21.01	Total Depth (ft-bmp)	32.86	Water Column (ft)	11.85
				Gallons in Well	1.93
Purge Start	14:37	Pump Intake (ft-bmp)	30.5	Purge Method	Low-Flow
				Purge Equipment	Peristaltic
Purge End	15:17	Volumes Purged	1.04	Sample ID	MW-09-22_GW-032624
				Sampled by	Garrett Link
Sample Time	15:15	Gallons Purged	2	Replicate/ Code No.	DUP-01
				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	180	21.02	0.00	7.37	1.37	0.02	1.32	12.9	36	Clear	None
14:45	5	5	180	21.02	0.00	7.33	0.91	15.3	0.33	12.9	34.9	Clear	None
14:50	5	10	180	21.02	0.00	7.33	0.9	12.1	0.24	12.9	32.9	Clear	None
14:55	5	15	180	21.02	0.00	7.33	0.89	4.08	0.24	13	31.5	Clear	None
15:00	5	20	180	21.02	0.00	7.32	0.89	0.89	0.25	13	30.6	Clear	None
15:05	5	25	180	21.02	0.00	7.31	0.89	0.02	0.23	13.1	29.5	Clear	None
15:10	5	30	180	21.02	0.00	7.31	0.89	0.02	0.24	13	28.7	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs	40 mL Glass	6	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: GFL property, west	Well Locked at Arrival: no
Condition of Well: Needs repairs	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	30214041	Well ID	MW-11-22	Date	3/28/2024		
Project Name/Location	RACER Pontiac North Campus 2024		Weather(°F)	36.0 degrees F and Mostly Clear. The wind is blowing W/SW at 11.4 mph.			
Measuring Pt. Description	Top of Inner Casing	MP Elevation	Casing Diameter (in)	2	Well Casing Material	PVC	
Static Water Level (ft-bmp)	27.41	Total Depth (ft-bmp)	34.7	Water Column (ft)	7.29	Gallons in Well	1.18
Purge Start	10:37	Pump Intake (ft-bmp)	32.25	Purge Method	Low-Flow	Purge Equipment	Peristaltic
Purge End	11:19	Volumes Purged	0.85	Sample ID	MW-11-22_GW-032824	Sampled by	Garrett Link
Sample Time	11:15	Gallons Purged	1	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
10:42	0	0	172	27.41	0.00	7.42	0.573	6.73	7.7	10.7	62.2	Clear	None
10:47	5	5	172	27.41	0.00	7.42	0.584	4.99	7.81	11	62.1	Clear	None
10:52	5	10	172	27.41	0.00	7.41	0.593	3.87	7.69	11.2	61.3	Clear	None
10:57	5	15	172	27.41	0.00	7.4	0.596	2.04	7.58	11.3	60.2	Clear	None
11:02	5	20	172	27.41	0.00	7.4	0.601	0.02	7.55	11.4	58.1	Clear	None
11:07	5	25	172	27.41	0.00	7.4	0.61	0.02	7.37	11.4	56.4	Clear	None
11:12	5	30	172	27.41	0.00	7.4	0.616	0.02	7.34	11.4	55.7	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs	40 mL Glass	3	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: North side ROW of E Kennett Rd.	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	30214041	Well ID	MW-13-22	Date	3/28/2024
Project Name/Location	RACER Pontiac North Campus 2024		Weather(°F)	39.9 degrees F and Mostly Clear. The wind is blowing SW at 11.4 mph.	
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2
				Well Casing Material	PVC
Static Water Level (ft-bmp)	21.11	Total Depth (ft-bmp)	26.7	Water Column (ft)	5.59
				Gallons in Well	0.91
Purge Start	12:10	Pump Intake (ft-bmp)	24.2	Purge Method	Low-Flow
				Purge Equipment	Peristaltic
Purge End	12:56	Volumes Purged	1.65	Sample ID	MW-13-22_GW-032824
				Sampled by	Alaina Pitera
Sample Time	12:50	Gallons Purged	1.5	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
12:12	0	0	120	21.11	0.00	7.06	0.375		6.18	10.7	-23.2	Clear	None
12:17	5	5	120	21.11	0.00	7.08	0.42	19.8	6.2	10.8	-26.7	Clear	None
12:22	5	10	120	21.11	0.00	7.07	0.47	16.9	6.8	10.7	-28.7	Clear	None
12:27	5	15	120	21.11	0.00	7.08	0.52	15.6	6.9	10.6	-28.6	Clear	None
12:32	5	20	120	21.11	0.00	6.89	0.64	2.9	0.52	10.9	-55.8	Clear	None
12:37	5	25	120	21.11	0.00	6.77	0.93	1.82	0.48	10.5	-77.1	Clear	None
12:42	5	30	120	21.11	0.00	6.76	0.94	1.16	0.49	10.5	-77.3	Clear	None
12:47	5	35	120	21.11	0.00	6.77	0.95	1.09	0.51	10.6	-77.9	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs	40 mL Glass	3	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: Northwestern side of FIERO	Well Locked at Arrival: no
Condition of Well: Good condition	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	30214041	Well ID	MW-14-22	Date	3/28/2024
Project Name/Location	RACER Pontiac North Campus 2024		Weather(°F)	46.0 degrees F and Mostly Clear.	
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2
Static Water Level (ft-bmp)	22.40	Total Depth (ft-bmp)	34.62	Water Column (ft)	12.22
Purge Start	13:20	Pump Intake (ft-bmp)		Purge Method	No-Purge
Purge End	NA	Volumes Purged	NA	Sample ID	MW-14-22_GW-032824
Sample Time	14:00	Gallons Purged	2	Replicate/ Code No.	NA
				Well Casing Material	PVC
				Gallons in Well	1.99
				Purge Equipment	Peristaltic
				Sampled by	Alaina Pitera
				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
13:21	0	0	120	22.40	0.00	7.46	0.392	13.8	7.16	10.5	-29.9	Clear	None
13:26	5	5	120	22.40	0.00	7.62	0.381	11	6.76	10.2	-32	Clear	None
13:31	5	10	120	22.40	0.00	7.63	0.34	9.89	3.98	10.3	-33.46	Clear	None
13:36	5	15	120	22.40	0.00	7.63	0.356	7.67	2.78	10.3	-33.98	Clear	None
13:41	5	20	120	22.40	0.00	7.63	0.59	1.98	2.79	10.8	23.5	Clear	None
13:46	5	25	120	22.40	0.00	7.93	0.61	1.43	4.1	11	21.6	Clear	None
13:51	5	30	120	22.40	0.00	7.88	0.6	1.12	3.8	11	21.1	Clear	None
13:56	5	35	120	22.40	0.00	7.83	0.61	1.48	3.9	11	21.1	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs	40 mL Glass	9	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: Northwestern side of FIERO	Well Locked at Arrival: no
Condition of Well: Good condition	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	30214041	Well ID	MW-15-22	Date	3/28/2024		
Project Name/Location	RACER Pontiac North Campus 2024		Weather(°F)	36.0 degrees F and Mostly Clear. The wind is blowing W/SW at 11.4 mph.			
Measuring Pt. Description	Top of Inner Casing	MP Elevation	Casing Diameter (in)	2	Well Casing Material	PVC	
Static Water Level (ft-bmp)	22.50	Total Depth (ft-bmp)	35.93	Water Column (ft)	13.43	Gallons in Well	2.18
Purge Start	10:44	Pump Intake (ft-bmp)	33.4	Purge Method	Low-Flow	Purge Equipment	Peristaltic
Purge End	11:43	Volumes Purged	0.92	Sample ID	MW-15-22_GW-032824	Sampled by	Alaina Pitera
Sample Time	11:40	Gallons Purged	2	Replicate/Code No.	DUP-02	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
10:46	0	0	120	22.50	0.00	8.51	0.171	23.3	9.8	10.5	155.6	Clear	None
10:51	5	5	120	22.50	0.00	8.76	0.131	19.3	10.02	10	158.4	Clear	None
10:56	5	10	120	22.50	0.00	7.58	0.35	16.4	5.89	9.6	84.9	Clear	None
11:01	5	15	120	22.50	0.00	7.14	0.47	14.9	4.45	9.4	4.7	Clear	None
11:06	5	20	120	22.50	0.00	7.13	0.53	13.4	4.79	9.4	-12.9	Clear	None
11:11	5	25	120	22.50	0.00	7.17	0.662	3.61	1.87	10.02	-73.6	Clear	None
11:16	5	30	120	22.50	0.00	7.16	0.672	2.43	2.2	10.1	-75.5	Clear	None
11:21	5	35	120	22.50	0.00	7.16	0.673	1.76	2.49	10.1	-76.1	Clear	None
11:26	5	40	120	22.50	0.00	7.13	0.684	1.35	2.23	10.1	-87.6	Clear	None
11:31	5	45	120	22.50	0.00	7.13	0.686	1.18	2.07	10.1	-87.7	Clear	None
11:36	5	50	120	22.50	0.00	7.14	0.688	1.09	2.08	10.1	-87.9	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs	40 mL Glass	6	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: Northwestern side of FIERO

Well Locked at Arrival: no

Condition of Well: Good condition

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	30214041	Well ID	MW-16-22	Date	3/28/2024		
Project Name/Location	RACER Pontiac North Campus 2024		Weather(°F)	46.0 degrees F and Mostly Clear.			
Measuring Pt. Description	Top of Inner Casing	MP Elevation	Casing Diameter (in)	2	Well Casing Material	PVC	
Static Water Level (ft-bmp)	26.88	Total Depth (ft-bmp)	34.57	Water Column (ft)	7.69	Gallons in Well	1.25
Purge Start	16:02	Pump Intake (ft-bmp)	32	Purge Method	Low-Flow	Purge Equipment	Peristaltic
Purge End	16:29	Volumes Purged	0.80	Sample ID	MW-16-22_GW-032824	Sampled by	Alaina Pitera
Sample Time	16:25	Gallons Purged	1	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
16:02	0	0	120	26.88	0.00	7.91	0.46	34.2	6.93	11.7	98	Clear	None
16:07	5	5	120	26.88	0.00	7.79	0.48	23.7	5.13	11.9	98.2	Clear	None
16:12	5	10	120	26.88	0.00	7.39	0.607	12.9	0.58	12.9	65.8	Clear	None
16:17	5	15	120	26.88	0.00	7.39	0.608	10	0.59	12.4	63.3	Clear	None
16:22	5	20	120	26.88	0.00	7.4	0.608	4.71	0.54	12.3	44.2	Clear	None
16:27	5	25	120	26.88	0.00	7.36	0.611	4.65	0.54	12.1	47	Clear	None
16:32	5	30	120	26.88	0.00	7.36	0.613	4.16	0.54	12.1	47.3	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs	40 mL Glass	3	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: Northwestern side of FIERO	Well Locked at Arrival: no
Condition of Well: Good condition	Well Locked at Departure: no
Well Completion: Stick-up	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	30214041	Well ID	MWF15-01	Date	3/26/2024		
Project Name/Location	RACER Pontiac North Campus 2024		Weather(°F)	48.0 degrees F and Cloudy. The wind is blowing S/SE at 18.3 mph.			
Measuring Pt. Description	Top of Inner Casing	MP Elevation	Casing Diameter (in)	2	Well Casing Material	PVC	
Static Water Level (ft-bmp)	18.60	Total Depth (ft-bmp)	28.7	Water Column (ft)	10.10	Gallons in Well	1.64
Purge Start	12:28	Pump Intake (ft-bmp)	26.2	Purge Method	Low-Flow	Purge Equipment	Peristaltic
Purge End	13:08	Volumes Purged	0.85	Sample ID	MWF15-01_GW-032624	Sampled by	Alaina Pitera
Sample Time	13:05	Gallons Purged	1.4	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
12:28	0	0	120	18.60	0.00	7.16	1.4	39.5	1.11	12.7	126.4	Clear	None
12:33	5	5	120	18.60	0.00	7.15	1.4	28.5	0.98	12.6	126.8	Clear	None
12:38	5	10	120	18.60	0.00	7.16	1.42	12.9	0.56	12.6	129.5	Clear	None
12:43	5	15	120	18.60	0.00	7.16	1.58	2	0.58	12.9	131.8	Clear	None
12:48	5	20	120	18.60	0.00	7.18	1.33	0.02	1.06	12.7	117.4	Clear	None
12:53	5	25	120	18.60	0.00	7.18	1.33	0.02	0.67	12.7	116.7	Clear	None
12:58	5	30	120	18.60	0.00	7.19	1.33	0.02	0.65	12.6	116.2	Clear	None
13:03	5	35	120	18.60	0.00	7.18	1.34	0.02	0.66	12.7	116.8	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs	40 mL Glass	3	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: Eastern side of FIERO	Well Locked at Arrival: no
Condition of Well: Needs repairs,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	30214041	Well ID	MWF16-06	Date	3/27/2024
Project Name/Location	RACER Pontiac North Campus 2024		Weather(°F)	35.1 degrees F and Cloudy.	
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2
Static Water Level (ft-bmp)	14.57	Total Depth (ft-bmp)	28.65	Water Column (ft)	14.08
Purge Start	09:48	Pump Intake (ft-bmp)	26	Purge Method	Low-Flow
Purge End	10:30	Volumes Purged	0.66	Sample ID	MWF16-06_GW-032724
Sample Time	10:25	Gallons Purged	1.5	Replicate/ Code No.	NA
				Well Casing Material	PVC
				Gallons in Well	2.29
				Purge Equipment	Peristaltic
				Sampled by	Garrett Link
				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
09:51	0	0	134	14.82	0.00	7.91	0.488	16.9	11.98	8.8	98	Clear	None
09:56	5	5	134	14.82	0.00	7.9	0.481	8.78	6.93	8.6	87.2	Clear	None
10:01	5	10	134	14.82	0.00	7.9	0.479	7.85	5.13	8.7	82.5	Clear	None
10:06	5	15	134	14.84	0.00	7.89	0.48	5.07	5.01	8.6	81	Clear	None
10:11	5	20	134	14.84	0.00	7.89	0.479	2.92	5.2	8.7	78.9	Clear	None
10:16	5	25	134	14.86	0.00	7.89	0.481	3.27	5.06	8.7	77.2	Clear	None
10:21	5	30	134	14.86	0.00	7.9	0.482	2.5	5.19	8.8	75.4	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs	40 mL Glass	3	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: GFL property, south	Well Locked at Arrival: yes
Condition of Well: Missing bolts	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	30214041	Well ID	MWF16-07	Date	3/27/2024		
Project Name/Location	RACER Pontiac North Campus 2024		Weather(°F)	35.1 degrees F and Cloudy. The wind is blowing W at 12.8 mph.			
Measuring Pt. Description	Top of Inner Casing	MP Elevation	Casing Diameter (in)	2	Well Casing Material	PVC	
Static Water Level (ft-bmp)	5.40	Total Depth (ft-bmp)	17.45	Water Column (ft)	12.05	Gallons in Well	1.96
Purge Start	10:38	Pump Intake (ft-bmp)	15	Purge Method	Low-Flow	Purge Equipment	Peristaltic
Purge End	11:28	Volumes Purged	1.02	Sample ID	MWF16-07_GW-032724	Sampled by	Alaina Pitera
Sample Time	11:25	Gallons Purged	2	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
10:38	0	0	160	5.40	0.00	6.3	1.3	16	3.5	9.8	5.3	Clear	None
10:43	5	5	160	5.40	0.00	6.28	1.31	12.9	2.68	9.3	-3.2	Clear	None
10:48	5	10	160	5.40	0.00	6.32	1.31	8.11	1.58	8.8	-36.1	Clear	None
10:53	5	15	160	5.40	0.00	6.31	1.31	6.56	1.62	8.8	-36.3	Clear	None
10:58	5	20	160	5.40	0.00	6.31	1.31	5.88	1.56	8.7	-36.5	Clear	None
11:03	5	25	160	5.40	0.00	6.31	1.31	5.46	1.58	8.7	-36.5	Clear	None
11:08	5	30	160	5.40	0.00	6.33	1.3	5.25	1.48	8.6	-42.1	Clear	None
11:13	5	35	160	5.40	0.00	6.34	1.31	4.34	1.49	8.3	-43.3	Clear	None
11:18	5	40	160	5.40	0.00	6.36	1.3	4.4	1.45	8.2	-45.5	Clear	None
11:23	5	45	160	5.40	0.00	6.37	1.3	4.26	1.45	8.2	-45.5	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs	40 mL Glass	3	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: Northwestern side of FIERO	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	30214041	Well ID	MWF16-12	Date	3/26/2024		
Project Name/Location	RACER Pontiac North Campus 2024		Weather(°F)	48.0 degrees F and Cloudy. The wind is blowing S/SE at 18.3 mph.			
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2	Well Casing Material	PVC
Static Water Level (ft-bmp)	13.64	Total Depth (ft-bmp)	18.95	Water Column (ft)	5.31	Gallons in Well	0.86
Purge Start	12:22	Pump Intake (ft-bmp)	16.5	Purge Method	Low-Flow	Purge Equipment	Peristaltic
Purge End		Volumes Purged	1.45	Sample ID	MWF16-12_GW-032624	Sampled by	Garrett Link
Sample Time	09:05	Gallons Purged	1.25	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
09:00	1215	1235	140	13.26	0.00	8.39	0.474	762	8.11	8.3	90.4	Cloudy/white	None
12:25	0	0	170	14.75	0.00	8.03	0.31	174	0.55	10.4	47.7	Cloudy/white	None
12:30	5	5	144	15.65	0.00	8.03	0.31	155	0.51	10.5	49.3	Cloudy/white	None
12:35	5	10	110	16.51	0.00	8.03	0.31	143	0.6	10.5	49.5	Cloudy/white	None
12:40	5	15	110	16.51	0.00	8.04	0.311	253	0.58	10.5	49.4	Cloudy/white	None
12:45	5	20	110	18.15	0.00	8.05	0.31	256	0.61	10.6	48.8	Cloudy/white	None

Constituent Sampled	Container	Number	Preservative
VOCs	40 mL Glass	3	HCL

Comments: Lowered pump intake to 18.5 due to water level dropping below 16.5. Well went dry at 12:48. Returned to well at 8:45 on 3/27/24 and well appears impacted by overnight rain - pumped dry and allowed to recharge. At 8:51 on 3/28/24, SWL is 13.20' btoc - collected one parameter before sampling.

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: GFL property, southeast	Well Locked at Arrival: no
Condition of Well: _____	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	30214041	Well ID	MWF16-15	Date	3/26/2024		
Project Name/Location	RACER Pontiac North Campus 2024		Weather(°F)	48.0 degrees F and Cloudy. The wind is blowing S/SE at 18.3 mph.			
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2	Well Casing Material	Stainless Steel
Static Water Level (ft-bmp)	21.80	Total Depth (ft-bmp)	35.44	Water Column (ft)	13.64	Gallons in Well	2.22
Purge Start	13:30	Pump Intake (ft-bmp)	33	Purge Method	Low-Flow	Purge Equipment	Peristaltic
Purge End	14:14	Volumes Purged	0.90	Sample ID	MWF16-15_GW-032624	Sampled by	Alaina Pitera
Sample Time	14:10	Gallons Purged	2	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
13:34	0	0	160	21.80	0.00	7.33	0.87	1.01	1.11	13.1	137.1	Clear	None
13:39	5	5	160	21.80	0.00	7.22	0.85	0.02	0.88	12.8	136	Clear	None
13:44	5	10	160	21.80	0.00	7.16	1.18	0.02	0.62	13.1	109.5	Clear	None
13:49	5	15	160	21.80	0.00	7.17	1.19	0.02	0.47	13.1	108.4	Clear	None
13:54	5	20	160	21.80	0.00	7.17	1.19	0.02	0.4	13.1	107.8	Clear	None
13:59	5	25	160	21.80	0.00	7.17	1.18	0.02	0.41	13.1	107.4	Clear	None
14:04	5	30	160	21.80	0.00	7.16	1.18	0.02	0.42	13.1	106.7	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs	40 mL Glass	3	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: Western side of FIERO	Well Locked at Arrival: no
Condition of Well: Good condition	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	30214041	Well ID	MWF16-16	Date	3/27/2024		
Project Name/Location	RACER Pontiac North Campus 2024		Weather(°F)	35.1 degrees F and Cloudy. The wind is blowing W at 12.8 mph.			
Measuring Pt. Description	Top of Inner Casing	MP Elevation	Casing Diameter (in)	2	Well Casing Material	PVC	
Static Water Level (ft-bmp)	22.50	Total Depth (ft-bmp)	31.25	Water Column (ft)	8.75	Gallons in Well	1.42
Purge Start	13:48	Pump Intake (ft-bmp)	28.75	Purge Method	Low-Flow	Purge Equipment	Peristaltic
Purge End	14:38	Volumes Purged		Sample ID	MWF16-16_GW-032724	Sampled by	Garrett Link
Sample Time	14:35	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
13:51	0	0	145	22.51	0.00	7.39	0.86	6.25	3.07	9.7	58.6	Clear	None
13:56	5	5	145	22.51	0.00	7.4	0.89	3.41	0.88	9.5	51.6	Clear	None
14:01	5	10	145	22.51	0.00	7.4	0.89	4.15	0.54	10	48.9	Clear	None
14:06	5	15	145	22.51	0.00	7.4	0.89	3.78	0.41	10.1	47.3	Clear	None
14:11	5	20	145	22.51	0.00	7.41	0.87	4.95	0.33	10.1	45.1	Clear	None
14:16	5	25	145	22.51	0.00	7.41	0.85	4.05	0.31	10.3	43.8	Clear	None
14:21	5	30	145	22.51	0.00	7.41	0.84	0.68	0.2	10.3	43	Clear	None
14:26	5	35	145	22.51	0.00	7.41	0.83	0.02	0.21	10.3	42.1	Clear	None
14:31	5	40	145	22.51	0.00	7.41	0.83	0.81	0.19	10.4	41.5	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs	40 mL Glass	3	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: GFL property, south	Well Locked at Arrival: yes
Condition of Well: Missing bolts	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	30214041	Well ID	MWF16-17	Date	3/26/2024		
Project Name/Location	RACER Pontiac North Campus 2024		Weather(°F)	45.0 degrees F and Cloudy. The wind is blowing S/SE at 17.2 mph.			
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2	Well Casing Material	PVC
Static Water Level (ft-bmp)	19.96	Total Depth (ft-bmp)	31.81	Water Column (ft)	11.85	Gallons in Well	1.93
Purge Start	09:26	Pump Intake (ft-bmp)	29.5	Purge Method	Low-Flow	Purge Equipment	Peristaltic
Purge End	10:35	Volumes Purged	1.04	Sample ID	MWF16-17_GW-032624	Sampled by	Garrett Link
Sample Time	10:30	Gallons Purged	2	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
09:29	0	0	140	19.96	0.00	7.12	1.67	16.8	2.67	10.8	79	Clear	None
09:34	5	5	140	19.96	0.00	7.16	1.73	21.3	1.65	11.2	66.4	Clear	None
09:39	5	10	140	19.96	0.00	7.16	1.72	23.3	1.53	11.2	63.9	Clear	None
09:44	5	15	140	19.96	0.00	7.17	1.72	11.5	1.6	11.3	60.9	Clear	None
09:49	5	20	140	19.97	0.00	7.16	1.73	9.36	1.53	11.2	60.4	Clear	None
09:54	5	25	140	19.97	0.00	7.16	1.73	11	1.53	10.6	59.8	Clear	None
09:59	5	30	140	19.97	0.00	7.17	1.72	10.9	1.52	10.6	59.5	Clear	None
10:04	5	35	140	19.97	0.00	7.17	1.73	7.97	1.48	10.8	59.1	Clear	None
10:09	5	40	140	19.97	0.00	7.17	1.73	6.91	1.42	10.8	57.2	Clear	None
10:14	5	45	140	19.97	0.00	7.17	1.73	4.78	1.44	11.1	55.9	Clear	None
10:19	5	50	140	19.97	0.00	7.17	1.73	0.02	1.37	11.2	54.9	Clear	None
10:24	5	55	140	19.97	0.00	7.17	1.73	0.02	1.31	11.1	54.1	Clear	None
10:29	5	60	140	19.97	0.00	7.17	1.73	0.02	1.29	11.2	53.6	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs	40 mL Glass	3	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: GLF East	Well Locked at Arrival: yes
Condition of Well: Needs repairs	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	30214041	Well ID	MWF16-18	Date	3/26/2024		
Project Name/Location	RACER Pontiac North Campus 2024		Weather(°F)	48.0 degrees F and Cloudy. The wind is blowing S/SE at 18.3 mph.			
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2	Well Casing Material	PVC
Static Water Level (ft-bmp)	20.82	Total Depth (ft-bmp)	31.97	Water Column (ft)	11.15	Gallons in Well	1.81
Purge Start	13:14	Pump Intake (ft-bmp)	29.5	Purge Method	Low-Flow	Purge Equipment	Peristaltic
Purge End	14:22	Volumes Purged	1.38	Sample ID	MWF16-18_GW-032624	Sampled by	Garrett Link
Sample Time	14:20	Gallons Purged	2.5	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
13:17	0	0	170	20.83	0.00	7.06	1.04	4.67	0.6	12.2	37.7	Clear	None
13:22	5	5	170	20.83	0.00	7.08	1.05	18.1	0.32	12.2	34.2	Clear	None
13:27	5	10	170	20.83	0.00	7.09	1.06	22.3	0.29	11.5	33.1	Clear	None
13:32	5	15	170	20.83	0.00	7.09	1.05	42.2	0.27	12.1	31.5	Clear	None
13:37	5	20	170	20.83	0.00	7.09	1.05	40	0.19	12.4	29.9	Clear	None
13:42	5	25	120	20.83	0.00	7.09	1.06	35.3	0.18	11.9	29.4	Clear	None
13:47	5	30	120	20.83	0.00	7.09	1.05	36.9	0.21	11.8	28.6	Clear	None
13:52	5	35	120	20.83	0.00	7.09	1.05	23.2	0.2	12	27.6	Clear	None
13:57	5	40	120	20.83	0.00	7.09	1.05	18.9	0.2	12.1	26.6	Clear	None
14:02	5	45	120	20.83	0.00	7.09	1.05	15.8	0.2	12.1	25.8	Clear	None
14:07	5	50	120	20.83	0.00	7.09	1.05	10.6	0.2	12.1	24.8	Clear	None
14:12	5	55	120	20.83	0.00	7.09	1.05	10.6	0.21	12.1	24.1	Clear	None
14:17	5	60	120	20.83	0.00	7.09	1.05	5.46	0.26	12.1	23.2	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs	40 mL Glass	3	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: GFL property, south.	Well Locked at Arrival: no
Condition of Well: Needs repairs	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	30214041	Well ID	MWF16-22	Date	3/27/2024		
Project Name/Location	RACER Pontiac North Campus 2024		Weather(°F)	35.1 degrees F and Cloudy. The wind is blowing W at 12.8 mph.			
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2	Well Casing Material	PVC
Static Water Level (ft-bmp)	23.26	Total Depth (ft-bmp)	33.91	Water Column (ft)	10.65	Gallons in Well	1.73
Purge Start	15:06	Pump Intake (ft-bmp)	31.5	Purge Method	Low-Flow	Purge Equipment	Peristaltic
Purge End	16:14	Volumes Purged	1.45	Sample ID	MWF16-22_GW-032724	Sampled by	Garrett Link
Sample Time	16:10	Gallons Purged	2.5	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
15:09	0	0	164	23.26	0.00	7.51	0.592	86.2	2.33	12.1	34.9	Clear	None
15:14	5	5	164	23.26	0.00	7.5	0.608	71.8	2.62	12	33.9	Clear	None
15:19	5	10	164	23.26	0.00	7.49	0.605	51.8	2.65	11.5	34.1	Clear	None
15:24	5	15	164	23.26	0.00	7.5	0.602	41	2.95	12.3	32.4	Clear	None
15:29	5	20	164	23.26	0.00	7.5	0.593	38.5	3.65	12.3	31.9	Clear	None
15:34	5	25	164	23.26	0.00	7.5	0.595	31.2	3.77	12	31.6	Clear	None
15:39	5	30	164	23.26	0.00	7.49	0.596	22.4	4.37	11.7	32.2	Clear	None
15:44	5	35	164	23.26	0.00	7.49	0.597	18.5	4.49	10.7	32.7	Clear	None
15:49	5	40	164	23.26	0.00	7.5	0.595	18.4	4.44	10.8	32.2	Clear	None
15:54	5	45	140	23.26	0.00	7.5	0.597	11.5	4.41	10.7	31.9	Clear	None
15:59	5	50	140	23.26	0.00	7.51	0.598	11.1	4.4	10.6	31.4	Clear	None
16:04	5	55	140	23.26	0.00	7.51	0.597	9.6	4.39	10.5	31.2	Clear	None
16:09	5	60	140	23.26	0.00	7.51	0.596	7.42	4.36	10.6	31	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs	40 mL Glass	3	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: GFL property, southwest.	Well Locked at Arrival: no
Condition of Well: 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	30214041	Well ID	MWF16-24	Date	3/27/2024
Project Name/Location	RACER Pontiac North Campus 2024		Weather(°F)	35.1 degrees F and Cloudy. The wind is blowing W at 12.8 mph.	
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2
				Well Casing Material	PVC
Static Water Level (ft-bmp)	23.02	Total Depth (ft-bmp)	29.9	Water Column (ft)	6.88
				Gallons in Well	1.12
Purge Start	11:08	Pump Intake (ft-bmp)	27.5	Purge Method	Low-Flow
				Purge Equipment	Peristaltic
Purge End	11:48	Volumes Purged	1.34	Sample ID	MWF16-24_GW-032724
				Sampled by	Garrett Link
Sample Time	11:45	Gallons Purged	1.5	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	140	23.07	0.00	7.55	0.498	4.63	7.05	10.8	42.3	Clear	None
11:15	5	5	140	23.07	0.00	7.54	0.506	4.94	6.38	10.7	40.8	Clear	None
11:20	5	10	140	23.07	0.00	7.54	0.506	6.31	6.02	10.9	40.2	Clear	None
11:25	5	15	140	23.07	0.00	7.53	0.506	4.24	7.17	11.2	39.9	Clear	None
11:30	5	20	140	23.07	0.00	7.53	0.506	2.67	5.82	11.4	39.5	Clear	None
11:35	5	25	140	23.07	0.00	7.53	0.508	3.51	5.94	11.4	39.6	Clear	None
11:40	5	30	140	23.07	0.00	7.53	0.509	3.42	5.58	11.5	39.3	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs	40 mL Glass	3	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: GFL property, west	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	30214041	Well ID	MWF16-25	Date	3/28/2024		
Project Name/Location	RACER Pontiac North Campus 2024		Weather(°F)	32.0 degrees F and Mostly Clear. The wind is blowing W/SW at 6.9 mph.			
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2	Well Casing Material	PVC
Static Water Level (ft-bmp)	25.90	Total Depth (ft-bmp)	37.2	Water Column (ft)	11.30	Gallons in Well	1.84
Purge Start	09:37	Pump Intake (ft-bmp)	34.75	Purge Method	Low-Flow	Purge Equipment	Peristaltic
Purge End	10:19	Volumes Purged	1.09	Sample ID	MWF16-25_GW-032824	Sampled by	Garrett Link
Sample Time	10:15	Gallons Purged	2	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
09:41	0	0	172	25.91	0.00	7.42	0.601	14.4	4.46	11.3	50.3	Clear	None
09:46	5	5	172	25.91	0.00	7.4	0.607	9.7	3.95	11.8	46.9	Clear	None
09:51	5	10	172	25.91	0.00	7.38	0.607	8.84	3.74	12.1	44.9	Clear	None
09:56	5	15	172	25.91	0.00	7.36	0.613	6.23	3.63	12.1	45.3	Clear	None
10:01	5	20	172	25.91	0.00	7.35	0.641	3.84	2.94	12.3	44.6	Clear	None
10:06	5	25	172	25.91	0.00	7.34	0.652	4.6	2.85	12.3	43.2	Clear	None
10:11	5	30	172	25.91	0.00	7.34	0.655	2.74	2.73	12.5	41.9	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs	40 mL Glass	3	HCL

Comments: Turbidity stable per Arcadis TGI (three readings below 5 NTU)

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: North side ROW of E. Kennett Rd.	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	30214041	Well ID	MWOS-08	Date	3/28/2024
Project Name/Location	RACER Pontiac North Campus 2024		Weather(°F)	46.0 degrees F and Mostly Clear.	
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2
				Well Casing Material	PVC
Static Water Level (ft-bmp)	25.85	Total Depth (ft-bmp)	28.82	Water Column (ft)	2.97
				Gallons in Well	0.48
Purge Start	15:47	Pump Intake (ft-bmp)	27	Purge Method	Low-Flow
				Purge Equipment	Peristaltic
Purge End	16:35	Volumes Purged	4.17	Sample ID	MWOS-08_GW-032824
				Sampled by	Garrett Link
Sample Time	16:33	Gallons Purged	2	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
15:50	0	0	154	25.85	0.00	7.25	0.79	2.42	4.05	12.8	35.7	Clear	None
15:55	5	5	164	25.87	0.00	7.21	0.77	2.11	3.11	12.8	33.1	Clear	None
16:00	5	10	164	25.87	0.00	7.21	0.77	1.13	2.73	13	32.3	Clear	None
16:05	5	15	164	25.87	0.00	7.21	0.77	1.08	2.36	13.1	30.8	Clear	None
16:10	5	20	164	25.87	0.00	7.21	0.76	0.83	2.33	12.7	29.9	Clear	None
16:15	5	25	164	25.87	0.00	7.22	0.75	0.76	2.15	13	28.7	Clear	None
16:20	5	30	164	25.87	0.00	7.22	0.75	0.61	1.95	12.8	27.6	Clear	None
16:25	5	35	164	25.87	0.00	7.23	0.76	0.84	1.85	12.7	26.9	Clear	None
16:30	5	40	164	25.87	0.00	7.22	0.75	0.02	1.89	12.7	24.8	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs	40 mL Glass	3	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: Corner of St. Clair St and E. Kennett Rd ROW	Well Locked at Arrival: yes
Condition of Well: Good condition,Missing bolts	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	30214041	Well ID	MWOS-09R	Date	3/28/2024
Project Name/Location	RACER Pontiac North Campus 2024		Weather(°F)	39.9 degrees F and Mostly Clear. The wind is blowing SW at 11.4 mph.	
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2
				Well Casing Material	PVC
Static Water Level (ft-bmp)	27.09	Total Depth (ft-bmp)	32.21	Water Column (ft)	5.12
				Gallons in Well	0.83
Purge Start	13:20	Pump Intake (ft-bmp)	29.75	Purge Method	Low-Flow
				Purge Equipment	Peristaltic
Purge End	14:14	Volumes Purged		Sample ID	MWOS-09R_GW-032824
				Sampled by	Garrett Link
Sample Time	14:10	Gallons Purged		Replicate/ Code No.	DUP-03
				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
13:22	0	0	154	27.09	0.00	7.4	0.71	15.4	1.55	13	36.7	Clear	None
13:27	5	5	154	27.10	0.00	7.34	0.73	15.4	0.89	13.2	32.7	Clear	None
13:32	5	10	154	27.10	0.00	7.31	0.76	10.6	0.76	13.2	31	Clear	None
13:37	5	15	154	27.10	0.00	7.3	0.78	10.1	0.84	13.3	30.8	Clear	None
13:42	5	20	154	27.10	0.00	7.29	0.78	9.52	0.6	13.4	29.8	Clear	None
13:47	5	25	154	27.10	0.00	7.29	0.79	6.41	0.51	13.3	28.8	Clear	None
13:52	5	30	154	27.10	0.00	7.28	0.82	7.03	0.44	13.4	27.6	Clear	None
13:57	5	35	154	27.10	0.00	7.28	0.82	4.61	0.47	13.5	26.3	Clear	None
14:02	5	40	154	27.10	0.00	7.29	0.8	2.55	0.24	13.4	25.4	Clear	None
14:07	5	45	154	27.10	0.00	7.29	0.81	2.77	0.24	13.4	23.8	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs	40 mL Glass	6	HCL

Comments: J-plug not tightly seated in well casing upon arrival. DO stable per Arcadis TGI with 3 readings <0.5 mg/L. Turbidity stable per Arcadis TGI with 3 readings <5 NTU.

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: West side ROW of St. Claire St.	Well Locked at Arrival: no
Condition of Well: Good condition	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	30214041	Well ID	MWOS-10	Date	3/28/2024
Project Name/Location	RACER Pontiac North Campus 2024		Weather(°F)	37.9 degrees F and Mostly Clear. The wind is blowing W/SW at 11.4 mph.	
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2
Static Water Level (ft-bmp)	28.26	Total Depth (ft-bmp)	32.79	Water Column (ft)	4.53
Purge Start	11:45	Pump Intake (ft-bmp)	30.5	Purge Method	Low-Flow
Purge End	12:59	Volumes Purged	2.03	Sample ID	MWOS-10_GW-032824
Sample Time	12:55	Gallons Purged	1.5	Replicate/ Code No.	NA
				Well Casing Material	PVC
				Gallons in Well	0.74
				Purge Equipment	Peristaltic
				Sampled by	Garrett Link
				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
11:53	0	0	115	28.27	0.00	7.3	1.03	22.8	4.49	10.7	70.2	Clear	None
11:58	5	5	115	28.27	0.00	7.37	1.03	22.9	4	11.4	66	Clear	None
12:03	5	10	115	28.27	0.00	7.37	1.03	17.8	4.03	11.5	64.6	Clear	None
12:08	5	15	115	28.27	0.00	7.36	1.03	15.1	4.1	10.9	64.1	Clear	None
12:13	5	20	115	28.27	0.00	7.36	1.03	8.06	3.79	11.7	61.3	Clear	None
12:18	5	25	115	28.27	0.00	7.36	1.03	7.41	3.86	11.7	60.3	Clear	None
12:23	5	30	115	28.27	0.00	7.36	1.03	6.15	3.76	11.7	59.2	Clear	None
12:28	5	35	115	28.27	0.00	7.36	1.03	7.15	3.59	12	57.9	Clear	None
12:33	5	40	115	28.27	0.00	7.35	1.03	3.83	3.5	11.8	57.3	Clear	None
12:38	5	45	115	28.27	0.00	7.36	1.04	6.46	3.5	11.7	56.3	Clear	None
12:43	5	50	115	28.27	0.00	7.36	1.03	6.22	3.35	11.6	55.9	Clear	None
12:48	5	55	115	28.27	0.00	7.36	1.03	4.41	3.3	11.6	55	Clear	None
12:53	5	60	115	28.27	0.00	7.36	1.03	1.62	3.14	11.8	54	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs	40 mL Glass	3	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: West side ROW on St. Claire St.	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	30214041	Well ID	TW-12-22		Date	3/29/2024
Project Name/Location	RACER Pontiac North Campus 2024		Weather(°F)	26.1 degrees F and Clear. The wind is blowing undefined at 0.0 mph.		
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	1	Well Casing Material PVC
Static Water Level (ft-bmp)	22.91	Total Depth (ft-bmp)	32.69	Water Column (ft)	9.78	Gallons in Well 0.40
Purge Start	08:48	Pump Intake (ft-bmp)	30.25	Purge Method	Low-Flow	Purge Equipment Peristaltic
Purge End		Volumes Purged	10.00	Sample ID	TW-12-22_GW-032924	Sampled by Garrett Link
Sample Time	10:25	Gallons Purged	4	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
08:51	0	0	150	22.96	0.00	7.97	0.337	849	2.16	11.1	72.4	Clear	None
08:56	5	5	150	22.96	0.00	7.76	0.413	610	1.18	11.8	65.9	Clear	None
09:01	5	10	150	22.96	0.00	7.72	0.454	247	0.8	11.7	61.3	Clear	None
09:06	5	15	150	22.96	0.00	7.69	0.47	155	0.78	11.9	58.5	Clear	None
09:11	5	20	150	22.96	0.00	7.67	0.492	115	0.79	11.8	57.2	Clear	None
09:16	5	25	150	22.96	0.00	7.66	0.504	90	0.75	11.8	54.5	Clear	None
09:21	5	30	150	22.96	0.00	7.66	0.514	70.1	0.6	12	51.3	Clear	None
09:26	5	35	150	22.96	0.00	7.65	0.52	57.7	0.58	11.9	49.4	Clear	None
09:31	5	40	150	22.96	0.00	7.64	0.527	43.4	0.58	11.5	48.1	Clear	None
09:36	5	45	150	22.96	0.00	7.63	0.524	37.5	0.55	11.8	45.4	Clear	None
09:41	5	50	150	22.96	0.00	7.63	0.529	27.8	0.57	11.7	44.2	Clear	None
09:46	5	55	150	22.96	0.00	7.63	0.531	26	0.53	11.7	43	Clear	None
09:51	5	60	150	22.96	0.00	7.62	0.534	23.9	0.55	11.5	41.6	Clear	None
09:56	5	65	150	22.96	0.00	7.62	0.533	23.3	0.52	11.7	40.4	Clear	None
10:01	5	70	150	22.96	0.00	7.62	0.534	17.3	0.51	12	38.7	Clear	None
10:06	5	75	150	22.96	0.00	7.62	0.535	15	0.5	11.9	37.9	Clear	None
10:11	5	80	130	22.96	0.00	7.92	0.539	11.8	0.51	11.8	37.5	Clear	None
10:16	5	85	130	22.96	0.00	7.62	0.54	11.1	0.53	11.6	36.7	Clear	None
10:21	5	90	130	22.96	0.00	7.62	0.54	13.8	0.56	11.6	35.8	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs	40 mL Glass	3	HCL

Comments: Well vault flooded upon arrival, j-plug not securely seated in casing.

Well Casing Volume Conversion

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



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:	GFL property southwest	Well Locked at Arrival:	no
Condition of Well:	Good condition	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	30214041	Well ID	Unknown-01		Date	3/26/2024
Project Name/Location	RACER Pontiac North Campus 2024		Weather(°F)	46.0 degrees F and Cloudy. The wind is blowing S/SE at 16.1 mph.		
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2	Well Casing Material PVC
Static Water Level (ft-bmp)	18.45	Total Depth (ft-bmp)	24.06	Water Column (ft)	5.61	Gallons in Well 0.91
Purge Start	10:46	Pump Intake (ft-bmp)	21.5	Purge Method	Low-Flow	Purge Equipment Peristaltic
Purge End	11:23	Volumes Purged	1.98	Sample ID	Unknown-01_GW-032624	Sampled by Alaina Pitera
Sample Time	11:20	Gallons Purged	1.8	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
10:46	0	0	130	18.45	0.00	6.97	1.62	2	5.18	12.4	108.7	Clear	None
10:51	5	5	130	18.45	0.00	6.92	1.63	2	4.94	12.1	109.7	Clear	None
10:56	5	10	130	18.45	0.00	6.91	1.6	1.83	4.22	11.9	110.9	Clear	None
11:01	5	15	130	18.45	0.00	6.92	1.59	1.55	4.19	12	110.8	Clear	None
11:06	5	20	130	18.45	0.00	6.97	1.61	0.02	4.22	12.01	119.7	Clear	None
11:11	5	25	130	18.45	0.00	6.99	1.62	0.02	4.26	12.02	120.1	Clear	None
11:16	5	30	130	18.45	0.00	6.98	1.64	0.02	4.32	12.01	120.2	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs	40 mL Glass	3	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: Mid Eastern side of Fiero property.	Well Locked at Arrival: no
Condition of Well: Good condition	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



Soil Vapor Collection Log Sheet

Office Name & Address (Reporting Information): Novi, MI 28550 Cabot Dr #500									Project Name: RACER Pontiac North Campus 2023						
Field Manager: Alexis Crisp									Project Number: 30167840						
Phone: 937-206-4005			Special Instructions: TO-15						Site Address: 200 E Montcalm Pontiac MI 48340 US						
Email Address for Result Reporting:									Sampler Name: Sommer Guy				Phone Number: 947-465-3421		
Alexis.crisp@arcadis.com									Email: Alexis.crisp@arcadis.com						
Helium Detector Used: MGD-2002					Helium Leak Method: Helium Tracer Test				Summa Canister Size (1L, 2.7 L, 6L): 1 L					Lab: Eurofins	
Sample ID	Sample Location Description	Date	Leak/Tracer Test completed prior to sample collection						Canister Number	Flow Controller Number	Sample Collection Start Time	Beginning Canister Pressure (in. Hg)	Sample Collection End Time	Ending Canister Pressure (in. Hg)	Notes
			Shut in Test Pass/Fail?	Purge Reading (ppm)	Shroud Helium Concentration (%)	Helium Test Pass/Fail?	Purge Volume (mL)	Purge Rate (mL/min)							
DUP-01_SG-032524	Western ROW	03/25/2024	Pass	0	44.2	Pass	312.51	100	1L2526	23651	12:19	-29	12:27	-5	N/A
SV-01-21_SG-032524	Eastern ROW	03/25/2024	Pass	0	43.4	Pass	200.91	100	1L1768	23500	12:42	-29.5	12:48	-5	N/A
SV-02-21_SG-032524	Eastern ROW	03/25/2024	Pass	0	44.2	Pass	312.51	100	1L3937	23484	12:19	-30	12:26	-5	N/A
SV-03-21_SG-032524	Western ROW	03/25/2024	Pass	0	44.2	Pass	167.43	100	1L1931	23957	11:38	-29.5	11:45	-5	N/A
SV-04-21_SG-032524	Western ROW	03/25/2024	Pass	0	45.5	Pass	323.67	100	1L3847	24143	11:24	-30	11:31	-5	N/A
SV-05-21_SG-032524	Western ROW	03/25/2024	Pass	0	51.5	Pass	167.43	100	1L1544	23218	10:47	-29	10:56	-5	NA
SV-06-21_SG-032524	Western ROW	03/25/2024	Pass	0	47.7	Pass	323.67	100	1L2845	26677	10:15	-29	10:22	-5	N/A

Meteorological Data							General Notes or Observations
Date	Time	Temp		Relative Humidity (%)	Barometric Pressure (in.Hg)	Weather source	
		Indoor	Outdoor				
03/25/2024	07:53		35	69	30	35.1 degrees F and Mostly Cloudy. The wind is blowing undefined at 9.2 mph.	N/A

Air Parameters (completed after sample collection)						
Location ID	CH4 %	CH4 LEL %	O2 %	PID (ppm)	Differential Pressure (in. Water Column)	
--	0	NM	14.7	NM	NM	
SV-01-21_SG-032524	0	NM	14.7	NM	NM	
SV-02-21	0	NM	14.7	NM	NM	
SV-03-21_SG-032524	0	NM	12.9	NM	NM	
SV-04-21	0	NM	12.3	NM	NM	



Soil Vapor Collection Log Sheet

SV-05-21	0	NM	11.2	NM	NM
SV-06-21	0	NM	13.1	NM	NM

Groundwater Sampling Form



Project Number	30214041	Well ID	MW-16-22	Date	5/28/2024		
Project Name/Location	RACER Pontiac North Campus 2024		Weather(°F)	66.9 degrees F and Mostly Cloudy.			
Measuring Pt. Description	Top of Inner Casing	MP Elevation	Casing Diameter (in)	2	Well Casing Material	PVC	
Static Water Level (ft-bmp)	26.46	Total Depth (ft-bmp)	26.46	Water Column (ft)	0.00	Gallons in Well	0.00
Purge Start	12:43	Pump Intake (ft-bmp)	32	Purge Method	Low-Flow	Purge Equipment	Peristaltic
Purge End	14:30	Volumes Purged		Sample ID	MW-16-22_GW-052824	Sampled by	Garrett Link
Sample Time	14:25	Gallons Purged	3	Replicate/ Code No.	DUP-01_GW-052824	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
12:50	0	0	100	26.46	0.00	7.28	0.604	964	4.12	15.8	86	Clear	Mild
12:55	5	5	100	26.46	0.00	7.27	0.602	970	4.12	15.6	86.4	Clear	Mild
13:00	5	10	100	26.48	0.00	7.27	0.601	956	3.89	15.7	86.6	Clear	Mild
13:05	5	15	100	26.48	0.00	7.25	0.606	741	3.16	16.6	84.3	Clear	Mild
13:10	5	20	100	26.49	0.00	7.22	0.61	666	3.04	15.7	81.9	Clear	Mild
13:15	5	25	100	26.49	0.00	7.2	0.61	508	3.3	17.2	78.3	Clear	Mild
13:20	5	30	100	26.49	0.00	7.19	0.62	419	3.23	17.9	74.7	Clear	Mild
13:25	5	35	100	26.49	0.00	7.18	0.62	297	2.84	18.1	71.1	Clear	Mild
13:30	5	40	100	26.49	0.00	7.17	0.63	196	2.6	18.2	70.9	Clear	Mild
13:35	5	45	100	26.49	0.00	7.16	0.64	194	2.49	17.8	53	Clear	Mild
13:40	5	50	100	26.49	0.00	7.16	0.63	117	2.23	17.7	44.9	Clear	Mild
13:45	5	55	100	26.49	0.00	7.16	0.64	109	2.18	17.7	34.9	Clear	Mild
13:50	5	60	100	26.49	0.00	7.15	0.63	74	1.77	16.1	23.3	Clear	Mild
13:55	5	65	100	26.49	0.00	7.17	0.63	63	1.42	17.2	13.5	Clear	Mild
14:00	5	70	100	26.49	0.00	7.16	0.63	50.9	1.68	17.9	8.9	Clear	Mild
14:05	5	75	100	26.49	0.00	7.16	0.63	45.7	1.43	17.4	3.8	Clear	Mild
14:10	5	80	100	26.49	0.00	7.15	0.62	48.2	1.43	17.7	2	Clear	Mild
14:15	5	85	100	26.49	0.00	7.14	0.63	44.7	1.63	18.1	-0.7	Clear	Mild
14:19	4	89	100	26.49	0.00	7.15	0.62	39.6	1.47	18.1	-1.1	Clear	Mild

Constituent Sampled	Container	Number	Preservative
VOCs	40 mL Glass	3	HCL

Comments: Turbidity would not drop below 10 NTU - discussed with team before sampling.

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: Fiero property, NW	Well Locked at Arrival: no
Condition of Well: Good condition	Well Locked at Departure: no
Well Completion: 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	Key Number To Well: NA

mV = milliv

Groundwater Sampling Form



Project Number	30214041	Well ID	MWF16-22	Date	5/28/2024		
Project Name/Location	RACER Pontiac North Campus 2024		Weather(°F)	69.1 degrees F and Mostly Cloudy. The wind is blowing NW at 9.2 mph.			
Measuring Pt. Description	Top of Inner Casing	MP Elevation	Casing Diameter (in)	2	Well Casing Material	PVC	
Static Water Level (ft-bmp)	23.22	Total Depth (ft-bmp)	33.91	Water Column (ft)	10.69	Gallons in Well	1.74
Purge Start	15:15	Pump Intake (ft-bmp)	31.5	Purge Method	Low-Flow	Purge Equipment	Peristaltic
Purge End	16:15	Volumes Purged		Sample ID	MWF16-22	Sampled by	Garrett Link
Sample Time	16:05	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
15:18	0	0	142	23.23	0.00	7.18	0.61	30.3	4.28	16.9	67.7	Clear	None
15:23	5	5	142	23.23	0.00	7.18	0.61	34.2	4.29	17	66.8	Clear	None
15:28	5	10	142	23.23	0.00	7.2	0.61	22	4.05	17.2	67.6	Clear	None
15:33	5	15	142	23.23	0.00	7.2	0.61	26.6	2	17	70.1	Clear	None
15:38	5	20	142	23.23	0.00	7.21	0.61	10	2.02	17.4	72.1	Clear	None
15:43	5	25	142	23.23	0.00	7.21	0.61	7.57	2.01	17.2	73.6	Clear	None
15:48	5	30	142	23.23	0.00	7.21	0.6	6.43	2.02	17.3	74.7	Clear	None
15:53	5	35	142	23.23	0.00	7.21	0.6	3.94	2.19	17.2	76.3	Clear	None
15:58	5	40	142	23.23	0.00	7.21	0.6	4.82	2.16	17.3	77.4	Clear	None
16:03	5	45	142	23.23	0.00	7.21	0.61	2.39	2	17.3	78.3	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs	40 mL Glass	9	HCL

Comments: Turbidity stabilized per Arcadis TGI (3 readings less than 5 NTU)

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: GFL property SW	Well Locked at Arrival: no
Condition of Well: 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 = milliv

Groundwater Sampling Form



Project Number	30214041	Well ID	MWOS-10	Date	6/24/2024		
Project Name/Location	RACER Pontiac North Campus 2024		Weather(°F)	66.0 degrees F and Partly Cloudy. The wind is blowing N/NW at 5.8 mph			
Measuring Pt. Description	Top of Inner Casing	MP Elevation	Casing Diameter (in)	2	Well Casing Material	PVC	
Static Water Level (ft-bmp)	28.39	Total Depth (ft-bmp)	32.75	Water Column (ft)	4.36	Gallons in Well	0.71
Purge Start	08:55	Pump Intake (ft-bmp)	30.75	Purge Method	Low-Flow	Purge Equipment	Peristaltic
Purge End	09:58	Volumes Purged	2.11	Sample ID	MWOS-10_GW-062424	Sampled by	Garrett Link
Sample Time	09:45	Gallons Purged	1.5	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
09:01	0	0	130	28.39	0.00	7.31	1.13	19.8	7.09	15.6	28.1	Clear	None
09:06	5	5	130	28.39	0.00	7.33	1.14	7.52	1.61	15.3	13.5	Clear	None
09:11	5	10	130	28.39	0.00	7.32	1.13	13	1.55	15.3	9.4	Clear	None
09:16	5	15	130	28.39	0.00	7.32	1.13	8.7	1.61	15.3	8.8	Clear	None
09:21	5	20	130	28.39	0.00	7.31	1.13	6.07	1.6	15.2	9.2	Clear	None
09:26	5	25	130	28.39	0.00	7.31	1.14	6.89	1.61	15.5	10.4	Clear	None
09:31	5	30	130	28.39	0.00	7.31	1.15	3.12	1.6	15.5	11.7	Clear	None
09:36	5	35	130	28.39	0.00	7.3	1.15	2.97	1.63	15.4	13.1	Clear	None
09:41	5	40	130	28.39	0.00	7.31	1.15	1.79	1.62	15.3	14.8	Clear	None

Constituent Sampled	Container	Number	Preservative
PFAS	250mL HDPE Plastic	2	None
VOCs	40 mL Glass	3	HCL

Comments: Purge is stable per Arcadis TGI - three consecutive turbidity readings below 5 NTU

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: West side of St. Clair St. ROW	Well Locked at Arrival: yes
Condition of Well:	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 = milliv

Groundwater Sampling Form



Project Number	30214041	Well ID	MW-02-17	Date	9/26/2024
Project Name/Location	RACER Pontiac North Campus 2024		Weather(°F)	57.0 degrees F and Partly Cloudy. The wind is blowing undefined at 0.0 mph.	
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2
				Well Casing Material	PVC
Static Water Level (ft-bmp)	25.63	Total Depth (ft-bmp)	29.71	Water Column (ft)	4.08
				Gallons in Well	0.66
Purge Start	09:27	Pump Intake (ft-bmp)	27.2	Purge Method	Low-Flow
				Purge Equipment	Peristaltic
Purge End	10:05	Volumes Purged		Sample ID	MW-02-17_GW-092624
				Sampled by	Jeremy Myers
Sample Time	10:00	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
09:30	0	0	100	25.65	0.00	7.09	1.21	1.43	1.56	16.5	-89.7	Clear	None
09:35	5	5	100	25.65	0.00	7.04	1.21	3.16	1.53	16.9	-102.9	Clear	None
09:40	5	10	100	25.65	0.00	7.05	1.22	0.58	1.5	16.8	-106.1	Clear	None
09:45	5	15	100	25.65	0.00	7.04	1.22	0.02	1.3	16.7	-106.8	Clear	None
09:50	5	20	100	25.65	0.00	7.05	1.23	0.02	1.29	16.6	-106.4	Clear	None
09:55	5	25	100	25.65	0.00	7.06	1.23	0.02	1.23	16.6	-104.9	Clear	None
10:00	5	30	100	25.65	0.00	7.05	1.23	0.02	1.23	16.6	-106	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs	40 mL Glass	3	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: no
Condition of Well: Good condition	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	30214041	Well ID	MW-05-18	Date	9/25/2024
Project Name/Location	RACER Pontiac North Campus 2024		Weather(°F)	72.0 degrees F and Mostly Cloudy. The wind is blowing W/NW at 11.4 mph.	
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2
				Well Casing Material	PVC
Static Water Level (ft-bmp)	26.96	Total Depth (ft-bmp)	33.59	Water Column (ft)	6.63
				Gallons in Well	1.08
Purge Start	13:47	Pump Intake (ft-bmp)	31.09	Purge Method	Low-Flow
				Purge Equipment	Peristaltic
Purge End	14:38	Volumes Purged		Sample ID	MW-05-18_GW-092524
				Sampled by	Jeremy Myers
Sample Time	14:35	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
13:50	0	0	110	26.96	0.00	7.31	0.74	22	7.78	17.3	259.6	Clear	None
13:55	5	5	110	26.96	0.00	7.28	0.73	19.7	7.26	16.9	251.6	Clear	None
14:00	5	10	110	26.96	0.00	7.32	0.73	11.7	6.99	16.9	241.6	Clear	None
14:05	5	15	110	26.96	0.00	7.3	0.75	10.8	6.27	16.5	231.8	Clear	None
14:10	5	20	110	26.96	0.00	7.32	0.75	2.9	5.53	16.6	225.3	Clear	None
14:15	5	25	110	26.96	0.00	7.31	0.78	1.95	4.92	16.7	216.5	Clear	None
14:20	5	30	110	26.96	0.00	7.34	0.78	0.02	4.89	16.6	213.4	Clear	None
14:25	5	35	110	26.96	0.00	7.35	0.79	0.02	0.8	16.4	207.2	Clear	None
14:30	5	40	110	26.96	0.00	7.32	0.8	0.02	0.79	16.4	203.7	Clear	None
14:35	5	45	110	26.96	0.00	7.3	0.81	0.02	0.73	16.3	199.2	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs	40 mL Glass	3	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: Inside gate along St Clair street	Well Locked at Arrival: yes
Condition of Well: Good condition,Missing bolts	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	30214041	Well ID	MW-06-20	Date	9/24/2024
Project Name/Location	RACER Pontiac North Campus 2024		Weather(°F)	61.0 degrees F and Fog/Mist. The wind is blowing E at 3.4 mph.	
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2
				Well Casing Material	PVC
Static Water Level (ft-bmp)	25.74	Total Depth (ft-bmp)	29.24	Water Column (ft)	3.50
				Gallons in Well	0.57
Purge Start	10:32	Pump Intake (ft-bmp)	26.74	Purge Method	Low-Flow
				Purge Equipment	Peristaltic
Purge End	11:13	Volumes Purged		Sample ID	MW-06-20_GW-092424
				Sampled by	Jeremy Myers
Sample Time	11:10	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
10:39	0	0	120	25.74	0.00	7.2	0.79	8.62	5.97	17	191.4	Clear	None
10:44	5	5	120	25.74	0.00	7.3	0.79	3.67	5.81	16.8	197.7	Clear	None
10:49	5	10	120	25.74	0.00	7.32	0.79	1.14	6.1	16.8	204.5	Clear	None
10:54	5	15	120	25.74	0.00	7.31	0.8	0.05	6.22	16.5	209.7	Clear	None
10:59	5	20	120	25.74	0.00	7.35	0.8	0.02	5.8	16.6	214.1	Clear	None
11:04	5	25	120	25.74	0.00	7.35	0.8	0.02	5.7	16.6	216.6	Clear	None
11:09	5	30	120	25.74	0.00	7.39	0.81	0.02	5.53	16.7	220.5	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs	40 mL Glass	3	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: Corner of St Clair and E. Kennet	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	30214041	Well ID	MW-07-20	Date	9/25/2024		
Project Name/Location	RACER Pontiac North Campus 2024		Weather(°F)	73.0 degrees F and Mostly Cloudy. The wind is blowing W/NW at 9.2 mph.			
Measuring Pt. Description	Top of Inner Casing	MP Elevation	Casing Diameter (in)	2	Well Casing Material	PVC	
Static Water Level (ft-bmp)	26.35	Total Depth (ft-bmp)	30.19	Water Column (ft)	3.84	Gallons in Well	0.62
Purge Start	14:52	Pump Intake (ft-bmp)	27.69	Purge Method	Low-Flow	Purge Equipment	Peristaltic
Purge End	15:29	Volumes Purged		Sample ID	MW-07-20_GW-092524	Sampled by	Jeremy Myers
Sample Time	15:25	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
14:55	0	0	120	26.35	0.00	7.51	0.64	0.02	2.11	18.3	271.4	Clear	None
15:00	5	5	120	26.35	0.00	7.51	0.64	0.02	1.96	18.4	271.3	Clear	None
15:05	5	10	120	26.35	0.00	7.48	0.65	0.02	1.86	18.2	270.5	Clear	None
15:10	5	15	120	26.35	0.00	7.52	0.66	0.02	1.8	18	270	Clear	None
15:15	5	20	120	26.35	0.00	7.48	0.66	0.02	1.78	17.8	269.7	Clear	None
15:20	5	25	120	26.35	0.00	7.5	0.66	0.02	1.9	18.1	269.1	Clear	None
15:25	5	30	120	26.35	0.00	7.51	0.67	0.02	1.95	18	269.3	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs	40 mL Glass	3	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: Inside gate on St Clair street, NE of MW-05-18	Well Locked at Arrival: yes
Condition of Well: Good condition, Missing bolts	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	30214041	Well ID	MW-08-21	Date	9/24/2024		
Project Name/Location	RACER Pontiac North Campus 2024		Weather(°F)	61.0 degrees F and Fog/Mist. The wind is blowing E at 3.4 mph.			
Measuring Pt. Description	Top of Inner Casing	MP Elevation	Casing Diameter (in)	2	Well Casing Material	PVC	
Static Water Level (ft-bmp)	26.50	Total Depth (ft-bmp)	30.33	Water Column (ft)	3.83	Gallons in Well	0.62
Purge Start	09:33	Pump Intake (ft-bmp)	27.83	Purge Method	Low-Flow	Purge Equipment	Peristaltic
Purge End		Volumes Purged		Sample ID	MW-08-21_GW-092424	Sampled by	Jeremy Myers
Sample Time	10:10	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
09:39	0	0	100	26.53	0.00	7.21	1.01	3	1.57	17.3	240.1	Clear	None
09:44	5	5	100	26.53	0.00	7.26	1	0.33	1.64	17.2	234.5	Clear	None
09:49	5	10	100	26.53	0.00	7.28	1	0.02	2.38	17.1	230.2	Clear	None
09:54	5	15	100	26.53	0.00	7.3	0.99	0.02	2.58	16.8	226.5	Clear	None
09:59	5	20	100	26.53	0.00	7.3	0.99	0.02	2.59	16.6	224.6	Clear	None
10:04	5	25	100	26.53	0.00	7.33	0.99	0.02	2.52	16.5	222.5	Clear	None
10:09	5	30	100	26.53	0.00	7.32	0.99	0.02	2.48	16.5	220.9	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs	40 mL Glass	3	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: Near corner of St Clair and E. Kennet	Well Locked at Arrival: no
Condition of Well: Good condition	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	30214041	Well ID	MW-11-22	Date	9/24/2024
Project Name/Location	RACER Pontiac North Campus 2024		Weather(°F)	66.9 degrees F and Light Rain. The wind is blowing E/SE at 8.1 mph.	
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2
Static Water Level (ft-bmp)	27.29	Total Depth (ft-bmp)	34.75	Water Column (ft)	7.46
Purge Start	14:25	Pump Intake (ft-bmp)	32.25	Purge Method	Low-Flow
Purge End	15:09	Volumes Purged		Sample ID	MW-11-22_GW-092424
Sample Time	15:05	Gallons Purged		Replicate/ Code No.	NA
				Well Casing Material	PVC
				Gallons in Well	1.21
				Purge Equipment	Peristaltic
				Sampled by	Jeremy Myers
				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
14:30	0	0	100	27.29	0.00	7.35	0.539	26.9	9.63	16.8	228.4	Clear	None
14:35	5	5	100	27.29	0.00	7.36	0.54	18	9.41	16.8	233.1	Clear	None
14:40	5	10	100	27.29	0.00	7.42	0.542	13.8	9.2	16.7	239.1	Clear	None
14:45	5	15	100	27.29	0.00	7.42	0.543	8.52	8.55	16.7	244.7	Clear	None
14:50	5	20	100	27.29	0.00	7.42	0.545	8.13	8.51	16.6	250.2	Clear	None
14:55	5	25	100	27.29	0.00	7.45	0.545	8.31	8.41	16.4	255.3	Clear	None
15:00	5	30	100	27.29	0.00	7.42	0.544	8.23	8.33	16.4	258	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs	40 mL Glass	3	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: E Kennet ROW	Well Locked at Arrival: yes
Condition of Well: Good condition,Missing bolts	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	30214041	Well ID	MW-16-22	Date	9/24/2024
Project Name/Location	RACER Pontiac North Campus 2024		Weather(°F)	63.0 degrees F and Fog/Mist. The wind is blowing E/NE at 4.7 mph.	
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2
Static Water Level (ft-bmp)	26.22	Total Depth (ft-bmp)	34.52	Water Column (ft)	8.30
Purge Start	10:20	Pump Intake (ft-bmp)	32	Purge Method	Low-Flow
Purge End	11:11	Volumes Purged		Sample ID	MW-16-22_GW-092424
Sample Time	11:05	Gallons Purged		Replicate/ Code No.	NA
				Well Casing Material	PVC
				Gallons in Well	1.35
				Purge Equipment	Peristaltic
				Sampled by	Alaina Pitera
				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
10:24	0	0	120	26.22	0.00	7.05	0.64	40.5	2.67	16.5	7.1	Clear	None
10:29	5	5	120	26.22	0.00	7.34	0.59	19.3	1.44	16.7	-68.8	Clear	None
10:34	5	10	120	26.22	0.00	7.34	0.59	14.3	1.43	16.8	-68.9	Clear	None
10:39	5	15	120	26.25	0.00	7.35	0.59	13.1	1.42	16.8	-69	Clear	None
10:44	5	20	120	26.28	0.00	7.35	0.59	11.3	1.44	16.8	-68.8	Clear	None
10:49	5	25	120	26.46	0.00	7.36	0.59	8.24	1.45	16.9	-67.6	Clear	None
10:54	5	30	120	26.46	0.00	7.34	0.58	4.98	1.44	16.9	-67.7	Clear	None
10:59	5	35	120	26.51	0.00	7.35	0.59	4.56	1.44	16.9	-67.7	Clear	None
11:04	5	40	120	26.51	0.00	7.34	0.58	4.34	1.45	16.8	-67.8	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs SW-846 8260B	40 mL Glass	3	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: Stick-up	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	30214041	Well ID	MW-16-22	Date	9/23/2024
Project Name/Location	RACER Pontiac North Campus 2024		Weather(°F)	63.0 degrees F and Light Drizzle and Fog/Mist. The wind is blowing N/NW at 5.8 mph.	
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2
Static Water Level (ft-bmp)	26.22	Total Depth (ft-bmp)	34.49	Water Column (ft)	8.27
Purge Start	14:58	Pump Intake (ft-bmp)	32	Purge Method	Low-Flow
Purge End	15:55	Volumes Purged	1.12	Sample ID	MWF-16-22
Sample Time	15:50	Gallons Purged	1.5	Replicate/ Code No.	NA
				Well Casing Material	PVC
				Gallons in Well	1.34
				Purge Equipment	Peristaltic
				Sampled by	Garrett Link
				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
15:02	0	0	140	26.22	0.00	7.4	0.594	74.2	0.97	15.9	64	Clear	None
15:07	5	5	140	26.22	0.00	7.43	0.589	51.1	0.41	15.7	47.3	Clear	None
15:12	5	10	140	26.22	0.00	7.45	0.593	26	0.43	15.8	36.6	Clear	None
15:17	5	15	140	26.22	0.00	7.46	0.59	12.6	0.35	15.7	25.8	Clear	None
15:22	5	20	140	26.22	0.00	7.45	0.588	11	0.34	15.5	18	Clear	None
15:27	5	25	140	26.22	0.00	7.46	0.587	6.08	0.31	15.6	10	Clear	None
15:32	5	30	140	26.22	0.00	7.46	0.587	6.85	0.37	15.7	7.8	Clear	None
15:37	5	35	140	26.22	0.00	7.45	0.587	5.47	0.31	15.6	2.4	Clear	None
15:42	5	40	140	26.22	0.00	7.46	0.586	5.12	0.31	15.6	-1.5	Clear	None
15:47	5	45	140	26.22	0.00	7.46	0.587	5.64	0.3	15.5	-5.1	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs	40 mL Glass	3	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: NW Fiero property.	Well Locked at Arrival: no
Condition of Well: Good condition	Well Locked at Departure: no
Well Completion: Stick-up	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	30214041	Well ID	MW-09-22	Date	9/26/2024		
Project Name/Location	RACER Pontiac North Campus 2024		Weather(°F)	66.9 degrees F and Mostly Cloudy. The wind is blowing NE at 8.1 mph.			
Measuring Pt. Description	Top of Inner Casing	MP Elevation	Casing Diameter (in)	2	Well Casing Material	PVC	
Static Water Level (ft-bmp)	20.95	Total Depth (ft-bmp)	32.8	Water Column (ft)	11.85	Gallons in Well	1.93
Purge Start	13:06	Pump Intake (ft-bmp)	18.4	Purge Method	Low-Flow	Purge Equipment	Peristaltic
Purge End	13:47	Volumes Purged		Sample ID	MW-09-02_GW-092624	Sampled by	Alaina Pitera
Sample Time	13:40	Gallons Purged		Replicate/ Code No.	DUP-01	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
13:10	0	0	120	21.23	0.00	7.58	0.534	2.06	1.54	18.5	-100.4	Clear	None
13:15	5	5	120	21.35	0.00	7.53	0.549	1.98	1.57	18	-99.3	Clear	None
13:20	5	10	120	21.59	0.00	7.49	0.569	1.64	1.69	17.5	-96.8	Clear	None
13:25	5	15	120	21.74	0.00	7.46	0.578	1.34	1.91	17.3	-89.6	Clear	None
13:30	5	20	120	21.68	0.00	7.33	0.593	1.56	1.67	16.7	-58.5	Clear	None
13:35	5	25	120	21.69	0.00	7.34	0.6	1.28	1.54	16.7	-58.7	Clear	None
13:40	5	30	120	21.68	0.00	7.35	0.6	1.48	1.65	16.8	-58.7	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs SW-846 8260B	40 mL Glass	6	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	30214041	Well ID	MWF15-01	Date	9/25/2024
Project Name/Location	RACER Pontiac North Campus 2024		Weather(°F)	68.0 degrees F and Mostly Cloudy. The wind is blowing W/SW at 11.4 mph.	
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2
				Well Casing Material	PVC
Static Water Level (ft-bmp)	18.58	Total Depth (ft-bmp)	28.57	Water Column (ft)	9.99
				Gallons in Well	1.62
Purge Start	11:04	Pump Intake (ft-bmp)	26	Purge Method	Low-Flow
				Purge Equipment	Peristaltic
Purge End		Volumes Purged		Sample ID	MWF15-01_GW-092524
				Sampled by	Alaina Pitera
Sample Time	12:25	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
11:08	0	0	120	18.58	0.00	6.95	1.68	118	3.33	18.2	-10	Clear	None
11:13	5	5	120	18.58	0.00	6.95	1.68	98.7	1.48	18.4	-11.5	Clear	None
11:13	1440	5	120	18.62	0.00	6.97	1.68	129	1.41	18	-16.2	Clear	None
11:18	5	10	120	18.60	0.00	7.11	1.57	58.6	0.49	17.2	-52.1	Clear	None
11:23	5	15	120	18.65	0.00	7.11	1.56	49.7	0.59	17.3	-52	Clear	None
11:28	5	20	120	18.64	0.00	7.12	1.55	46.5	0.56	17.4	-52.2	Clear	None
11:33	5	25	120	18.64	0.00	7.12	1.55	46.5	0.56	17.4	-52.2	Clear	None
11:38	5	30	120	18.64	0.00	7.14	1.52	47.6	0.51	17.8	-56.5	Clear	None
11:43	5	35	120	18.70	0.00	7.14	1.51	46.5	0.48	17.8	-57.5	Clear	None
11:48	5	40	120	18.76	0.00	7.15	1.51	46.5	0.5	17.8	-57.9	Clear	None
11:53	5	45	120	18.87	0.00	7.15	1.5	45.7	0.5	17.8	-58.1	Clear	None
11:58	5	50	120	18.87	0.00	7.15	1.48	37.3	0.46	17.9	-59.1	Clear	None
12:03	5	55	120	18.87	0.00	7.18	1.31	26.5	0.86	18.2	-72.3	Clear	None
12:08	5	60	120	18.98	0.00	7.18	1.31	26.9	0.87	18.2	-72.4	Clear	None
12:13	5	65	120	19.23	0.00	7.18	1.31	26.9	0.59	18.1	-72.6	Clear	None
12:18	5	70	120	19.23	0.00	7.16	1.29	26.5	0.55	18.1	-72.2	Clear	None
12:23	5	75	120	19.20	0.00	7.16	1.28	26.5	0.49	18.1	-73.1	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs SW-846 8260B	40 mL Glass	3	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

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



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	30214041	Well ID	MWF16-05	Date	9/25/2024		
Project Name/Location	RACER Pontiac North Campus 2024		Weather(°F)	72.0 degrees F and Mostly Cloudy. The wind is blowing W/NW at 11.4 mph.			
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2	Well Casing Material	PVC
Static Water Level (ft-bmp)	20.22	Total Depth (ft-bmp)	22.72	Water Column (ft)	2.50	Gallons in Well	0.41
Purge Start	15:12	Pump Intake (ft-bmp)	21.4	Purge Method	Low-Flow	Purge Equipment	Peristaltic
Purge End	16:48	Volumes Purged		Sample ID	MWF16-05_GW-092524	Sampled by	Alaina Pitera
Sample Time	16:45	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
15:15	0	0	120	20.22	0.00	7.61	1	143	5.77	17.2	11.2	Clear	None
15:20	5	5	120	20.22	0.00	7.31	1.25	87	2.44	17.5	-3.8	Clear	None
15:25	5	10	120	20.22	0.00	7.32	1.26	67.3	2.27	17.6	-5.5	Clear	None
15:30	5	15	120	20.22	0.00	7.34	1.26	37.1	2.31	17.6	-6.9	Clear	None
15:35	5	20	120	20.22	0.00	7.35	1.22	33.2	2.39	17.3	-14.4	Clear	None
15:40	5	25	120	20.22	0.00	7.35	1.2	22.3	1.95	17	-16.4	Clear	None
15:45	5	30	120	20.23	0.00	7.34	1.22	25.5	1.96	17.2	-16.5	Clear	None
15:50	5	35	120	20.24	0.00	7.35	1.23	21.2	1.98	17.3	-16.8	Clear	None
15:55	5	40	120	20.24	0.00	7.36	1.14	57.5	2.14	17.1	-20.1	Clear	None
16:00	5	45	120	20.24	0.00	7.36	1.14	85.8	1.98	17.2	-20.6	Clear	None
16:05	5	50	120	20.24	0.00	7.4	1.12	78.8	1.97	17.5	-20.9	Clear	None
16:10	5	55	120	20.23	0.00	7.4	1.13	87.8	1.97	17.5	-19.3	Clear	None
16:15	5	60	120	20.25	0.00	7.38	1.1	148	2.74	17.5	-19.9	Clear	None
16:20	5	65	120	20.25	0.00	7.39	1.12	137	2.7	17.5	-19.9	Clear	None
16:25	5	70	120	20.26	0.00	7.4	1.11	94.7	2.21	17.6	-20.2	Clear	None
16:30	5	75	120	20.26	0.00	7.4	1.11	87.9	2.08	17.6	-20	Clear	None
16:35	5	80	120	20.25	0.00	7.41	1.11	71.4	2.21	17.7	-19.7	Clear	None
16:40	5	85	120	20.25	0.00	7.41	1.11	65.8	2.17	17.7	-19.7	Clear	None
16:45	5	90	120	20.25	0.00	7.42	1.11	61	2.09	17.8	-19.6	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs SW-846 8260B	40 mL Glass	3	HCL

Comments:

Well Casing Volume Conversion

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



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	30214041	Well ID	MWF16-06	Date	9/27/2024		
Project Name/Location	RACER Pontiac North Campus 2024		Weather(°F)	61.0 degrees F and Cloudy. The wind is blowing E at 8.1 mph.			
Measuring Pt. Description	Top of Inner Casing	MP Elevation	Casing Diameter (in)	2	Well Casing Material	PVC	
Static Water Level (ft-bmp)	14.60	Total Depth (ft-bmp)	28.69	Water Column (ft)	14.09	Gallons in Well	2.29
Purge Start	08:46	Pump Intake (ft-bmp)	26.19	Purge Method	Low-Flow	Purge Equipment	Peristaltic
Purge End	09:28	Volumes Purged		Sample ID	MWF16-06_GW-092724	Sampled by	Jeremy Myers
Sample Time	09:20	Gallons Purged		Replicate/Code No.	MWF16-06_GW-092724	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
08:49	0	0	100	14.98	0.00	7.94	0.423	53.7	9.81	15.5	282.3	Clear	None
08:54	5	5	100	14.95	0.00	7.92	0.418	64.9	9.73	15.4	286	Clear	None
08:59	5	10	100	14.95	0.00	7.9	0.411	30.5	7.29	15.4	288.3	Clear	None
09:04	5	15	100	14.95	0.00	7.92	0.409	9.08	7.35	15.5	289.2	Clear	None
09:09	5	20	100	14.95	0.00	7.91	0.414	0.68	7.31	15.4	291.8	Clear	None
09:14	5	25	100	14.95	0.00	7.9	0.419	0.02	7.19	15.3	293.7	Clear	None
09:19	5	30	100	14.95	0.00	7.93	0.421	0.02	7.2	15.3	295.5	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs	40 mL Glass	9	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,Missing bolts	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	30214041	Well ID	MWF16-07	Date	9/24/2024
Project Name/Location	RACER Pontiac North Campus 2024		Weather(°F)	64.0 degrees F and Cloudy. The wind is blowing E/NE at 5.8 mph.	
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2
				Well Casing Material	PVC
Static Water Level (ft-bmp)	5.36	Total Depth (ft-bmp)	17.45	Water Column (ft)	12.09
				Gallons in Well	1.96
Purge Start	11:38	Pump Intake (ft-bmp)	15	Purge Method	Low-Flow
				Purge Equipment	Peristaltic
Purge End	12:13	Volumes Purged		Sample ID	MWF16-07_GW-092424
				Sampled by	Alaina Pitera
Sample Time	12:10	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
11:40	0	0	120	5.36	0.00	7.08	1.22	10.5	6.65	18.1	-52.3	Clear	None
11:45	5	5	120	5.49	0.00	7.23	1.26	9.98	6.56	18.1	-54.2	Clear	None
11:50	5	10	120	5.57	0.00	7.21	1.25	6.76	5.06	18.8	-77.3	Clear	None
11:55	5	15	120	5.56	0.00	7.21	1.25	5.43	5.02	18.8	-77	Clear	None
12:00	5	20	120	5.94	0.00	7.21	1.25	5.76	4.99	18.8	-77.4	Clear	None
12:05	5	25	120	5.93	0.00	7.22	1.27	5.21	4.97	18.8	-77.3	Clear	None
12:10	5	30	120	5.93	0.00	7.23	1.26	5.13	4.98	18.8	-77.3	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs SW-846 8260B	40 mL Glass	3	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	30214041	Well ID	MWF16-12	Date	9/26/2024		
Project Name/Location	RACER Pontiac North Campus 2024		Weather(°F)	60.1 degrees F and . The wind is blowing NE at 4.7 mph.			
Measuring Pt. Description	Top of Inner Casing	MP Elevation	Casing Diameter (in)	2	Well Casing Material	PVC	
Static Water Level (ft-bmp)	13.21	Total Depth (ft-bmp)	18.77	Water Column (ft)	5.56	Gallons in Well	0.90
Purge Start	10:21	Pump Intake (ft-bmp)	16.2	Purge Method	Low-Flow	Purge Equipment	Peristaltic
Purge End	09:02	Volumes Purged		Sample ID	MWF16-12_GW-092724	Sampled by	Alaina Pitera
Sample Time	08:55	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
08:54	1323	1351	120	17.56	0.00	7.76	0.76	127	1.46	15.9	-119.6	Clear	None
10:23	0	0	120	14.43	0.00	7.78	0.625	614	1.2	15.5	-121.8	Clear	None
10:28	5	5	120	15.12	0.00	7.64	0.485	222	1.02	16.2	-120.8	Clear	None
10:33	5	10	120	15.45	0.00	7.8	0.52	186	0.91	15.8	-136.1	Clear	None
10:38	5	15	120	15.79	0.00	7.9	0.53	143	0.92	15.9	-136.2	Clear	None
10:46	8	23	120	17.67	0.00	7.73	0.52	156	0.99	16.1	-136.9	Clear	None
10:51	5	28	120	18.35	0.00	7.74	0.53	148	0.99	16.2	-134.8	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs SW-846 8260B	40 mL Glass	3	HCL

Comments: Ran dry 9/26/24; Sampled recharge 9/27/24

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: Missing bolts	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	30214041	Well ID	MWF16-15	Date	9/24/2024		
Project Name/Location	RACER Pontiac North Campus 2024		Weather(°F)	64.9 degrees F and Cloudy. The wind is blowing E at 6.9 mph.			
Measuring Pt. Description	Top of Inner Casing	MP Elevation	Casing Diameter (in)	2	Well Casing Material	PVC	
Static Water Level (ft-bmp)	21.63	Total Depth (ft-bmp)	35.46	Water Column (ft)	13.83	Gallons in Well	2.25
Purge Start	12:33	Pump Intake (ft-bmp)	33	Purge Method	Low-Flow	Purge Equipment	Peristaltic
Purge End		Volumes Purged		Sample ID	MWF16-15_GW-092424	Sampled by	Alaina Pitera
Sample Time	13:00	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
12:35	0	0	120	21.63	0.00	7.35	0.33	4.13	1.26	18	-56.7	Clear	None
12:40	5	5	120	21.63	0.00	6.95	0.33	4.05	0.95	17.6	-55.5	Clear	None
12:45	5	10	120	21.63	0.00	7	1.43	3.03	0.42	17.2	-83.4	Clear	None
12:50	5	15	120	21.63	0.00	7.07	1.44	2.98	0.45	17.1	-83	Clear	None
12:55	5	20	120	21.63	0.00	7.07	1.43	2.76	0.44	17.1	-84.4	Clear	None
12:55	1440	20	120	21.63	0.00	7.08	1.44	2.77	0.43	17.1	-84.4	Clear	None
13:00	5	25	120	21.63	0.00	7.08	1.42	2.45	0.4	17	-85.1	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs SW-846 8260B	40 mL Glass	3	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	30214041	Well ID	MWF16-16	Date	9/26/2024		
Project Name/Location	RACER Pontiac North Campus 2024		Weather(°F)	66.9 degrees F and Mostly Cloudy. The wind is blowing NE at 8.1 mph.			
Measuring Pt. Description	Top of Inner Casing	MP Elevation	Casing Diameter (in)	2	Well Casing Material	PVC	
Static Water Level (ft-bmp)	22.32	Total Depth (ft-bmp)	31.25	Water Column (ft)	8.93	Gallons in Well	1.45
Purge Start	13:01	Pump Intake (ft-bmp)	28.75	Purge Method	Low-Flow	Purge Equipment	Peristaltic
Purge End	13:37	Volumes Purged		Sample ID	MWF16-16_GW-092624	Sampled by	Jeremy Myers
Sample Time	13:35	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
13:04	0	0	100	22.32	0.00	7.29	0.82	3.02	9.87	15.7	262.8	Clear	Mild
13:09	5	5	100	22.32	0.00	7.26	0.83	2.13	9.2	15.6	255	Clear	Mild
13:14	5	10	100	22.32	0.00	7.28	0.83	1.91	8.99	15.4	246.4	Clear	Mild
13:19	5	15	100	22.32	0.00	7.31	0.84	0.3	8.76	15.4	238.9	Clear	Mild
13:24	5	20	100	22.32	0.00	7.33	0.84	0.02	8.54	15.3	232.5	Clear	Mild
13:29	5	25	100	22.32	0.00	7.31	0.84	0.02	8.39	15.4	226.2	Clear	Mild
13:34	5	30	100	22.32	0.00	7.31	0.84	0.02	8.29	15.4	222.9	Clear	Mild

Constituent Sampled	Container	Number	Preservative
VOCs	40 mL Glass	3	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: Inside GFL near center of north gate	Well Locked at Arrival: yes
Condition of Well: Good condition,Missing bolts	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	30214041	Well ID	MWF16-17	Date	9/25/2024		
Project Name/Location	RACER Pontiac North Campus 2024		Weather(°F)	72.0 degrees F and Mostly Cloudy. The wind is blowing W/NW at 11.4 mph.			
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2	Well Casing Material	PVC
Static Water Level (ft-bmp)	19.82	Total Depth (ft-bmp)	31.8	Water Column (ft)	11.98	Gallons in Well	1.95
Purge Start	14:09	Pump Intake (ft-bmp)	29.3	Purge Method	Low-Flow	Purge Equipment	Peristaltic
Purge End	14:57	Volumes Purged		Sample ID	MWF16-17_GW-092524	Sampled by	Alaina Pitera
Sample Time	14:55	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
14:11	0	0	120	19.82	0.00	7.12	1.68	29.9	2.53	17.9	12.3	Clear	None
14:16	5	5	120	19.82	0.00	7.05	1.72	22.3	1.6	17.4	9.2	Clear	None
14:21	5	10	120	19.86	0.00	6.99	1.76	21.4	1.02	17.6	6	Clear	None
14:26	5	15	120	19.93	0.00	7.04	1.85	19.7	1.85	17.6	-33.6	Clear	None
14:31	5	20	120	19.91	0.00	7.04	1.86	18.4	1.86	17.6	-33.6	Clear	None
14:36	5	25	120	19.98	0.00	7.05	1.86	9.98	1.86	17.6	-36.1	Clear	None
14:41	5	30	120	20.13	0.00	7.02	1.88	3.45	1.87	17	-53.7	Clear	None
14:46	5	35	120	20.12	0.00	7.05	1.88	3.33	1.88	17.1	-55.9	Clear	None
14:51	5	40	120	20.12	0.00	7.05	1.88	3.21	1.88	17.1	-56	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs SW-846 8260B	40 mL Glass	3	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	30214041	Well ID	MWF16-18	Date	9/26/2024
Project Name/Location	RACER Pontiac North Campus 2024		Weather(°F)	61.0 degrees F and Cloudy. The wind is blowing E at 8.1 mph.	
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2
Static Water Level (ft-bmp)	20.70	Total Depth (ft-bmp)	31.95	Water Column (ft)	11.25
Purge Start	09:14	Pump Intake (ft-bmp)	16.2	Purge Method	Low-Flow
Purge End		Volumes Purged		Sample ID	MWF16-12_GW-092724
Sample Time	08:55	Gallons Purged		Replicate/ Code No.	NA
				Well Casing Material	PVC
				Gallons in Well	1.83
				Purge Equipment	Peristaltic
				Sampled by	Alaina Pitera
				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
09:16	0	0	120	20.73	0.00	7.02	1.03	9.81	2.39	16.5	-25.7	Clear	None
09:21	5	5	120	20.73	0.00	6.96	1.04	7.87	2.25	16.1	-24.4	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs SW-846 8260B	40 mL Glass	3	HCL

Comments: Ran dry 9/26/24; Sampled recharge 9/27/24

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: Missing bolts _____	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	30214041	Well ID	MWF16-22	Date	9/26/2024		
Project Name/Location	RACER Pontiac North Campus 2024		Weather(°F)	64.9 degrees F and . The wind is blowing E at 4.7 mph.			
Measuring Pt. Description	Top of Inner Casing	MP Elevation	Casing Diameter (in)	2	Well Casing Material	PVC	
Static Water Level (ft-bmp)	23.10	Total Depth (ft-bmp)	33.92	Water Column (ft)	10.82	Gallons in Well	1.76
Purge Start	11:51	Pump Intake (ft-bmp)	31.42	Purge Method	Low-Flow	Purge Equipment	Peristaltic
Purge End	12:35	Volumes Purged		Sample ID	MWF16-22_GW-092624	Sampled by	Jeremy Myers
Sample Time	12:30	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
11:53	0	0	100	23.10	0.00	7.47	0.6	42.2	9.57	16.9	132.8	Clear	None
11:58	5	5	100	23.10	0.00	7.43	0.6	31.3	9.1	16.9	134.9	Clear	None
12:03	5	10	100	23.10	0.00	7.43	0.6	25.4	9.07	16.5	141.8	Clear	None
12:08	5	15	100	23.10	0.00	7.43	0.6	16	8.78	16.5	152.9	Clear	None
12:13	5	20	100	23.10	0.00	7.5	0.6	8.12	8.56	16.4	161.3	Clear	None
12:18	5	25	100	23.10	0.00	7.46	0.6	6.82	8.38	16.3	173.2	Clear	None
12:23	5	30	100	23.10	0.00	7.49	0.6	6.31	8.16	16.3	176.1	Clear	None
12:28	5	35	100	23.10	0.00	7.45	0.61	6.11	7.92	16.3	181.7	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs	40 mL Glass	3	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:	no
Condition of Well: Good condition	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	30214041	Well ID	MWF16-23	Date	9/24/2024		
Project Name/Location	RACER Pontiac North Campus 2024		Weather(°F)	64.9 degrees F and Cloudy. The wind is blowing E at 6.9 mph.			
Measuring Pt. Description	Top of Inner Casing	MP Elevation	Casing Diameter (in)	2	Well Casing Material	PVC	
Static Water Level (ft-bmp)	23.66	Total Depth (ft-bmp)	30.52	Water Column (ft)	6.86	Gallons in Well	1.11
Purge Start	11:36	Pump Intake (ft-bmp)	28.02	Purge Method	Low-Flow	Purge Equipment	Peristaltic
Purge End	12:27	Volumes Purged		Sample ID	MWF16-23_GW-092424	Sampled by	Jeremy Myers
Sample Time	12:25	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
11:39	0	0	120	23.69	0.00	6.94	0.79	47.7	5.26	16.9	211.9	Clear	None
11:44	5	5	120	23.69	0.00	6.91	0.79	47	4.89	17	208.1	Clear	None
11:49	5	10	120	23.69	0.00	6.93	0.78	42.2	4.01	16.7	201.4	Clear	None
11:54	5	15	120	23.69	0.00	6.93	0.78	27.3	3.16	16.7	196.3	Clear	None
11:59	5	20	120	23.69	0.00	6.93	0.78	20	2.64	16.6	192	Clear	None
12:04	5	25	120	23.69	0.00	6.94	0.78	14.5	2.41	16.6	188.3	Clear	None
12:09	5	30	120	23.69	0.00	6.95	0.79	11.3	2.4	16.6	184.9	Clear	None
12:14	5	35	120	23.69	0.00	6.94	0.79	6.89	2.25	16.5	181.2	Clear	None
12:19	5	40	120	23.69	0.00	6.96	0.78	6.78	2.21	16.6	177.4	Clear	None
12:24	5	45	120	23.69	0.00	6.95	0.79	6.52	2.13	16.7	174.1	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs	40 mL Glass	3	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:	Corner of St Clair and E. Kennet	Well Locked at Arrival:	yes
Condition of Well:	Good condition,Missing bolts	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	30214041	Well ID	MWF16-25	Date	9/24/2024		
Project Name/Location	RACER Pontiac North Campus 2024		Weather(°F)	66.0 degrees F and Cloudy. The wind is blowing E/SE at 5.8 mph.			
Measuring Pt. Description	Top of Inner Casing	MP Elevation	Casing Diameter (in)	2	Well Casing Material	PVC	
Static Water Level (ft-bmp)	25.75	Total Depth (ft-bmp)	37.22	Water Column (ft)	11.47	Gallons in Well	1.86
Purge Start	12:56	Pump Intake (ft-bmp)	34.72	Purge Method	Low-Flow	Purge Equipment	Peristaltic
Purge End	13:45	Volumes Purged		Sample ID	MWF16-25_GW-092424	Sampled by	Jeremy Myers
Sample Time	13:40	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
12:59	0	0	100	25.77	0.00	7.32	0.581	19.8	8.97	16.9	206.3	Clear	None
13:04	5	5	100	25.77	0.00	7.31	0.576	20.1	8.4	17.3	212	Clear	None
13:09	5	10	100	25.77	0.00	7.34	0.576	11	8.37	17.1	217.3	Clear	None
13:14	5	15	100	25.77	0.00	7.33	0.576	7.28	8.28	16.7	222.8	Clear	None
13:19	5	20	100	25.77	0.00	7.35	0.578	7.67	8.11	16.8	227.1	Clear	None
13:24	5	25	100	25.77	0.00	7.35	0.581	5.19	8.1	16.8	230.4	Clear	None
13:29	5	30	100	25.77	0.00	7.35	0.583	5.84	7.99	16.7	234.3	Clear	None
13:34	5	35	100	25.77	0.00	7.36	0.587	5.27	8.01	16.4	238.2	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs	40 mL Glass	3	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	30214041	Well ID	MWF7-02	Date	9/25/2024		
Project Name/Location	RACER Pontiac North Campus 2024		Weather(°F)	68.0 degrees F and Mostly Cloudy. The wind is blowing W/SW at 11.4 mph.			
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2	Well Casing Material	PVC
Static Water Level (ft-bmp)	18.28	Total Depth (ft-bmp)	19.76	Water Column (ft)	1.48	Gallons in Well	0.24
Purge Start	12:45	Pump Intake (ft-bmp)	19	Purge Method	Low-Flow	Purge Equipment	Peristaltic
Purge End	13:37	Volumes Purged		Sample ID	MWF7-02_GW-092524	Sampled by	Alaina Pitera
Sample Time	13:20	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
12:50	0	0	120	18.28	0.00	7.32	0.87	13	2.55	18.3	-15	Clear	None
12:55	5	5	120	18.28	0.00	7	0.85	12	2.58	18.3	-16.2	Clear	None
13:00	5	10	120	18.28	0.00	7.18	0.87	1.18	2.41	18.8	-27.4	Clear	None
13:05	5	15	120	18.28	0.00	7.22	0.85	1.21	2.18	18.9	-31.5	Clear	None
13:10	5	20	120	18.28	0.00	7.23	0.89	1.13	2.18	18.9	-31.6	Clear	None
13:15	5	25	120	18.28	0.00	7.24	0.88	1.12	2.19	18.9	-31.5	Clear	None
13:20	5	30	120	18.28	0.00	7.24	0.89	1.16	2.2	18.8	-31.6	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs SW-846 8260B	40 mL Glass	3	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	30214041	Well ID	MWOS-08	Date	9/25/2024
Project Name/Location	RACER Pontiac North Campus 2024		Weather(°F)	64.9 degrees F and Cloudy. The wind is blowing SW at 13.9 mph.	
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2
				Well Casing Material	PVC
Static Water Level (ft-bmp)	25.76	Total Depth (ft-bmp)	28.69	Water Column (ft)	2.93
				Gallons in Well	0.48
Purge Start	09:36	Pump Intake (ft-bmp)	26.19	Purge Method	Low-Flow
				Purge Equipment	Peristaltic
Purge End	10:18	Volumes Purged		Sample ID	MWOS-08_GW-092524
				Sampled by	Jeremy Myers
Sample Time	10:14	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
09:44	0	0	120	25.79	0.00	7.11	0.76	0.02	2.97	16.8	277.4	Clear	None
09:49	5	5	120	25.79	0.00	7.09	0.73	0.02	2.81	16.8	277.8	Clear	None
09:54	5	10	120	25.79	0.00	7.1	0.73	0.02	2.56	16.7	281.4	Clear	None
09:59	5	15	120	25.79	0.00	7.11	0.73	0.02	2.51	16.5	282.3	Clear	None
10:04	5	20	120	25.79	0.00	7.14	0.74	0.02	2.51	16.4	280.8	Clear	None
10:09	5	25	120	25.79	0.00	7.16	0.74	0.02	2.57	16.4	278.4	Clear	None
10:14	5	30	120	25.79	0.00	7.18	0.75	0.02	2.52	16.5	281	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs	40 mL Glass	3	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: Corner of St Clair and E Kennet	Well Locked at Arrival: yes
Condition of Well: Good condition,Missing bolts	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	30214041	Well ID	MWOS-09R	Date	9/25/2024
Project Name/Location	RACER Pontiac North Campus 2024		Weather(°F)	66.0 degrees F and Mostly Cloudy. The wind is blowing SW at 10.3 mph.	
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2
				Well Casing Material	PVC
Static Water Level (ft-bmp)	27.01	Total Depth (ft-bmp)	32.21	Water Column (ft)	5.20
				Gallons in Well	0.84
Purge Start	10:40	Pump Intake (ft-bmp)	29.71	Purge Method	Low-Flow
				Purge Equipment	Peristaltic
Purge End	11:29	Volumes Purged		Sample ID	MWOS-09R_GW-092524
				Sampled by	Jeremy Myers
Sample Time	11:25	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
10:44	0	0	100	27.03	0.00	7.24	0.77	20.9	0.48	17.3	232.9	Clear	None
10:49	5	5	100	27.03	0.00	7.22	0.77	22.7	0.33	17.4	227.7	Clear	None
10:54	5	10	100	27.03	0.00	7.24	0.77	14.3	1.43	17.6	221.4	Clear	None
10:59	5	15	100	27.03	0.00	7.22	0.77	11.2	0.63	17.1	217.7	Clear	None
11:04	5	20	100	27.03	0.00	7.23	0.79	6.25	0.44	17.2	211.2	Clear	None
11:09	5	25	100	27.03	0.00	7.23	0.77	6.1	0.41	17.1	204.2	Clear	None
11:14	5	30	100	27.03	0.00	7.23	0.79	5.67	0.4	16.9	190.2	Clear	None
11:19	5	35	100	27.03	0.00	7.26	0.8	5.48	0.41	17.4	188.2	Clear	None
11:24	5	40	100	27.03	0.00	7.25	0.8	4.69	0.42	17.4	181.9	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs	40 mL Glass	3	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: St Clair street along commercial black fence	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	30214041	Well ID	MWOS-10	Date	9/25/2024		
Project Name/Location	RACER Pontiac North Campus 2024		Weather(°F)	66.9 degrees F and Mostly Cloudy.			
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2	Well Casing Material	PVC
Static Water Level (ft-bmp)	28.25	Total Depth (ft-bmp)	32.8	Water Column (ft)	4.55	Gallons in Well	0.74
Purge Start	11:46	Pump Intake (ft-bmp)	30.3	Purge Method	Low-Flow	Purge Equipment	Peristaltic
Purge End	13:31	Volumes Purged		Sample ID	MWOS-10_GW-092524	Sampled by	Jeremy Myers
Sample Time	13:25	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
11:52	0	0	100	28.25	0.00	7.42	1.03	171	3.45	18.6	219.6	Clear	None
11:57	5	5	100	28.25	0.00	7.39	1.01	162	3.31	18.7	223.2	Clear	None
12:02	5	10	100	28.25	0.00	7.39	1.01	125	3.42	18.6	228.3	Clear	None
12:07	5	15	100	28.25	0.00	7.4	1.02	127	3.54	18.7	229.9	Clear	None
12:12	5	20	100	28.25	0.00	7.4	1.02	86.6	4.05	18.9	232.1	Clear	None
12:17	5	25	100	28.25	0.00	7.4	1.02	72.3	4.07	19	232	Clear	None
12:22	5	30	100	28.25	0.00	7.39	1.04	54.7	4.1	18.8	240.2	Clear	None
12:27	5	35	100	28.25	0.00	7.4	1.03	49.1	3.93	19	242.7	Clear	None
12:32	5	40	100	28.25	0.00	7.41	1.03	46.3	3.92	19	242.2	Clear	None
12:37	5	45	100	28.25	0.00	7.43	1.02	46.7	3.93	19	244.1	Clear	None
12:42	5	50	100	28.25	0.00	7.42	1.03	33.4	3.89	19.9	247.2	Clear	None
12:47	5	55	100	28.25	0.00	7.41	1.03	31	3.78	19.3	245.9	Clear	None
12:52	5	60	100	28.25	0.00	7.38	1.03	26	3.87	18.8	246.3	Clear	None
12:57	5	65	100	28.25	0.00	7.4	1.04	23.8	3.96	18.7	246.2	Clear	None
13:02	5	70	100	28.25	0.00	7.42	1.03	20.8	3.83	18.6	244.9	Clear	None
13:07	5	75	100	28.25	0.00	7.41	1.03	15.2	3.86	18	245.7	Clear	None
13:12	5	80	100	28.25	0.00	7.41	1.03	12.4	3.76	18	246.5	Clear	None
13:17	5	85	100	28.25	0.00	7.42	1.04	11.5	3.77	18.1	245.5	Clear	None
13:22	5	90	100	28.25	0.00	7.41	1.04	14.3	3.75	17.9	245.7	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs	40 mL Glass	3	HCL

Comments:

Well Casing Volume Conversion

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



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	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	30214041	Well ID	TW-12-22		Date	9/26/2024	
Project Name/Location	RACER Pontiac North Campus 2024		Weather(°F)	60.1 degrees F and . The wind is blowing NE at 4.7 mph.			
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	1	Well Casing Material	PVC
Static Water Level (ft-bmp)	22.60	Total Depth (ft-bmp)	32.69	Water Column (ft)	10.09	Gallons in Well	0.41
Purge Start	10:30	Pump Intake (ft-bmp)	30.19	Purge Method	Low-Flow	Purge Equipment	Peristaltic
Purge End	11:37	Volumes Purged		Sample ID	TW-12-22_GW-092624		Sampled by Jeremy Myers
Sample Time	11:35	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
10:33	0	0	100	22.82	0.00	7.54	0.538	597	9.53	16.6	-122.7	Clear	None
10:38	5	5	100	22.82	0.00	7.54	0.541	483	7.23	16.6	-125.4	Clear	None
10:43	5	10	100	22.82	0.00	7.54	0.546	204	6.98	16.7	-120.7	Clear	None
10:48	5	15	100	22.82	0.00	7.55	0.552	143	6.83	16.6	-114.2	Clear	None
10:53	5	20	100	22.82	0.00	7.53	0.554	96.8	6.6	16.4	-104.5	Clear	None
10:58	5	25	100	22.82	0.00	7.53	0.558	81.9	6.41	16.3	-96.7	Clear	None
11:03	5	30	100	22.82	0.00	7.52	0.559	58.2	6.16	16.4	-88.3	Clear	None
11:08	5	35	100	22.82	0.00	7.52	0.561	34	5.97	16.4	-83.2	Clear	None
11:13	5	40	100	22.82	0.00	7.52	0.562	25.4	5.84	16.3	-79.2	Clear	None
11:18	5	45	100	22.82	0.00	7.51	0.562	20.4	5.69	16.3	-74.7	Clear	None
11:23	5	50	100	22.82	0.00	7.51	0.56	10.7	5.56	16.3	-71.7	Clear	None
11:28	5	55	100	22.82	0.00	7.52	0.562	10.2	5.42	16.3	-70.7	Clear	None
11:33	5	60	100	22.82	0.00	7.51	0.561	9.8	5.29	16.3	-68.7	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs	40 mL Glass	3	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: Inside GFL lot, smaller well	Well Locked at Arrival: no
Condition of Well:	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	30214041	Well ID	UNKNOWN-01	Date	9/24/2024		
Project Name/Location	RACER Pontiac North Campus 2024		Weather(°F)	66.9 degrees F and Light Rain. The wind is blowing E/SE at 8.1 mph.			
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2	Well Casing Material	PVC
Static Water Level (ft-bmp)	18.32	Total Depth (ft-bmp)	24.57	Water Column (ft)	6.25	Gallons in Well	1.02
Purge Start	14:18	Pump Intake (ft-bmp)	22	Purge Method	Low-Flow	Purge Equipment	Peristaltic
Purge End	15:02	Volumes Purged		Sample ID	UNKNOWN-01_GW-092424	Sampled by	Alaina Pitera
Sample Time	14:50	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
14:20	0	0	120	18.32	0.00	6.87	1.36	0.71	4.28	18	-29.1	Clear	None
14:25	5	5	120	18.39	0.00	6.76	1.35	0.53	4.03	17.7	-26.8	Clear	None
14:30	5	10	120	18.49	0.00	6.78	1.33	0.02	4.05	17.8	-26.9	Clear	None
14:35	5	15	120	18.54	0.00	6.87	1.32	0.02	4.09	17.8	-26.9	Clear	None
14:40	5	20	120	18.62	0.00	6.88	1.33	0.02	4.09	17.9	-27.1	Clear	None
14:45	5	25	120	18.62	0.00	6.85	1.3	0.02	4.1	17.8	-27.2	Clear	None
14:50	5	30	120	18.61	0.00	6.85	1.33	0.02	4.12	17.9	-27.4	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs SW-846 8260B	40 mL Glass	3	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



Soil Vapor Collection Log Sheet

Office Name & Address (Reporting Information): Novi 28550 Cabot Dr Suite 500									Project Name: RACER Pontiac North Campus 2024						
Field Manager: Lexi Nickerson									Project Number: 30214041						
Phone: 614-985-9163		Special Instructions: 1,1-DCE; cis-1,2-DCE; trans-1,2-DCE; PCE; TCE; Vinyl Chloride							Site Address: 795 Saint Clair St Pontiac MI 48340 US						
Email Address for Result Reporting:									Sampler Name: Garrett Link				Phone Number:248-571-3360		
Lexi.nickerson@arcadis.com									Email:Lexi.nickerson@arcadis.com						
Helium Detector Used: MGD-2002				Helium Leak Method: Helium Tracer Test					Summa Canister Size (1L, 2.7 L, 6L): 1 L				Lab: Eurofins		
Sample ID	Sample Location Description	Date	Leak/Tracer Test completed prior to sample collection						Canister Number	Flow Controller Number	Sample Collection Start Time	Beginning Canister Pressure (in. Hg)	Sample Collection End Time	Ending Canister Pressure (in. Hg)	Notes
			Shut in Test Pass/Fail?	Purge Reading (ppm)	Shroud Helium Concentration (%)	Helium Test Pass/Fail?	Purge Volume (mL)	Purge Rate (mL/min)							
SV-03-21_SG-092524	West side St. Claire ROW	09/25/2024	Pass	0	84.3	Pass	195.51	200	1L2084	23169	13:52	-29.5	13:58	-6	NA
SV-05-21_SG-092524	West side St Claire ROW	09/25/2024	Pass	0	67.7	Pass	195.51	200	1L2900	24716	15:28	-28	15:34	-6	NA
SV-04-21_SG-092524	West side St. Claire ROW	09/25/2024	Pass	0	75.8	Pass	374.73	200	1L2673	24344	14:35	-27	14:40	-6	NA
SV-01-21_SG-092524	East side St. Claire St. ROW	09/25/2024	Pass	0	52.3	Pass	236.25	200	1L2335	23368	12:16	-26.5	12:22	-6	NA
SV-08-24_SG-092524	West St. Claire ROW	09/25/2024	Pass	0	57.1	Pass	308.04001	200	1L2212	2305	10:50	-25.5	10:57	-6	57.1% helium in shroud.
SV-02-24_SG-092524	East side St Claire st. rOW	09/25/2024	Pass	0	61	Pass	386.94	200	1L3236	23672	13:01	-27	13:06	-6	NA
SV-06-21_SG-092524	West side St Claire ROW	09/25/2024	Pass	0	88.7	Pass	374.73	200	1L2798	23273	16:03	-26	16:09	-6	NA
DUP-01_SG-092524	East side St. Claire ROW	09/25/2024	Pass	0	61	Pass	386.94	200	1L2646	23374	13:01	-27.5	13:06	-6	NA
SV-07-24_SG-092524	West side St. Claire St ROW	09/25/2024	Pass	0	93.1	Pass	160.74	200	1L4361	24740	11:25	-26.5	11:31	-6	Helium shroud 93.1%

Meteorological Data						General Notes or Observations	
Date	Time	Temp		Relative Humidity (%)	Barometric Pressure (in.Hg)	Weather source	
		Indoor	Outdoor				
-	-	-	-	-	-	-	Na

Air Parameters (completed after sample collection)						
Location ID	CH4 %	CH4 LEL %	O2 %	PID (ppm)	Differential Pressure (in. Water Column)	
SV-03-21	0	NM	9.9	NM	NM	
SV-05-21	0	NM	10.6	NM	NM	
SV-04-21	0	NM	12.1	NM	NM	



Soil Vapor Collection Log Sheet

SV-01-21	0.1	NM	13.3	NM	NM
SV-08-24	0	NM	12.9	NM	NM
SV-02-24	0	NM	14.5	NM	NM
SV-06-21	0	NM	12.8	NM	NM
--	0	NM	14.5	NM	NM
SV-07-24	0	NM	12.3	NM	NM



Soil Vapor Collection Log Sheet

Office Name & Address (Reporting Information): Novi 28550 Cabot Dr. Novi MI									Project Name: RACER Pontiac North Campus 2024						
Field Manager: Lexi Nickerson									Project Number: 30214041						
Phone: 614-985-9163		Special Instructions: NA							Site Address: 806 Baldwin Ave Pontiac MI 48340 US						
Email Address for Result Reporting:									Sampler Name: Garrett Link				Phone Number: 248-571-3360		
Lexi.nickerson@arcadis.com									Email: Lexi.nickerson@arcadis.com						
Helium Detector Used: Dielectric					Helium Leak Method: Helium Tracer Test				Summa Canister Size (1L, 2.7 L, 6L): 1 L				Lab: Eurofins		
Sample ID	Sample Location Description	Date	Leak/Tracer Test completed prior to sample collection						Canister Number	Flow Controller Number	Sample Collection Start Time	Beginning Canister Pressure (in. Hg)	Sample Collection End Time	Ending Canister Pressure (in. Hg)	Notes
			Shut in Test Pass/Fail?	Purge Reading (ppm)	Shroud Helium Concentration (%)	Helium Test Pass/Fail?	Purge Volume (mL)	Purge Rate (mL/min)							
SV-07-24_SG-071524	St Clair ROW	07/15/2024	Pass	0	40.7	Pass	160.74	200	Soil	23203	12:44	-29	12:50	-6	NA
SV-08-24_SG-071524	St. Clair ROW	07/15/2024	Pass	0	42.4	Pass	321.45001	200	Soil	23697, 23955	13:59	-28.25	14:04	-6.5	DUP starting and ending pressures are -27.5 and -7.25 respo

Meteorological Data						General Notes or Observations									
Date	Time	Temp		Relative Humidity (%)	Barometric Pressure (in.Hg)	Weather source									
		Indoor	Outdoor												
							Duplicate collected at SV-08-24								

Air Parameters (completed after sample collection)					
Location ID	CH4 %	CH4 LEL %	O2 %	PID (ppm)	Differential Pressure (in. Water Column)
SV-07-24	0	NM	13.3	NM	NM
SV-08-24	0	NM	11.1	NM	NM

Groundwater Sampling Form



Project Number	30214041	Well ID	MWOS-10	Date	11/8/2024
Project Name/Location	RACER Pontiac North Campus 2024		Weather(°F)	55.0 degrees F and Mostly Clear.	
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2
Static Water Level (ft-bmp)	28.55	Total Depth (ft-bmp)	32.75	Water Column (ft)	4.20
Purge Start	12:42	Pump Intake (ft-bmp)	30.2	Purge Method	Low-Flow
Purge End	13:21	Volumes Purged		Sample ID	MWOS-10_GW-110824
Sample Time	13:20	Gallons Purged		Replicate/ Code No.	NA
				Well Casing Material	PVC
				Gallons in Well	0.68
				Purge Equipment	Peristaltic
				Sampled by	Alaina Ralko
				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
12:44	0	0	120	28.55	0.00	7.59	1.01	39.1	3.04	15.1	29.4	Clear	None
12:49	5	5	120	28.56	0.00	7.46	0.96	28.4	3.05	15.1	39.7	Clear	None
12:54	5	10	120	28.55	0.00	7.36	0.87	10.1	4.01	15.1	30.4	Clear	None
12:59	5	15	120	28.55	0.00	7.36	0.88	10.1	4.03	15.2	30.5	Clear	None
13:04	5	20	120	28.56	0.00	7.47	0.79	3.32	2.1	14.8	1.6	Clear	None
13:09	5	25	120	28.56	0.00	7.47	0.79	3.28	2.11	14.8	1.1	Clear	None
13:14	5	30	120	28.56	0.00	7.47	0.79	3.22	2.1	14.8	1	Clear	None

Constituent Sampled	Container	Number	Preservative
PFAS	250mL HDPE Plastic	2	None
VOCs SW-846 8260C	40 mL Glass	3	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



Soil Vapor Collection Log Sheet

Office Name & Address (Reporting Information): Novi 28550 Cabot dr ste 500										Project Name: RACER Pontiac North Campus 2024						
Field Manager: Lexi Nickerson										Project Number: 30214041						
Phone: 614-985-9163			Special Instructions: 1,1-DCE; cis-1,2-DCE; trans-1,2-DCE; PCE; TCE; Vinyl Chloride							Site Address: 795 St. Clair St. Pontiac Michigan 48340 US						
Email Address for Result Reporting:										Sampler Name: Garrett Link				Phone Number: 248-571-3360		
Alexis.nickerson@arcadis.com										Email: Alexis.nickerson@arcadis.com						
Helium Detector Used: Dielectric					Helium Leak Method: Helium Tracer Test					Summa Canister Size (1L, 2.7 L, 6L): 1 L				Lab: Eurofins		
Sample ID	Sample Location Description	Date	Leak/Tracer Test completed prior to sample collection						Canister Number	Flow Controller Number	Sample Collection Start Time	Beginning Canister Pressure (in. Hg)	Sample Collection End Time	Ending Canister Pressure (in. Hg)	Notes	
			Shut in Test Pass/Fail?	Purge Reading (ppm)	Shroud Helium Concentration (%)	Helium Test Pass/Fail?	Purge Volume (mL)	Purge Rate (mL/min)								
DUP-01_SG-110524	West St. Clair St. ROW	11/05/2024	Pass	0	49.5	Pass	195.51	200	1L5166	23799	10:40	-26.5	10:45	-6	NA	
SV-07-24_SG-110524	West side St. Clair St ROW	11/05/2024	Pass	0	49.5	Pass	195.51	200	1L4546	23797	10:40	-28	10:45	-6	NA	
SV-08-24_SG-110524	West side ROW Saint Clair St.	11/05/2024	Pass	0	53.4	Pass	374.73	200	1L1704	23202	11:30	-29	11:35	-6	NA	

Meteorological Data							General Notes or Observations								
Date	Time	Temp		Relative Humidity (%)	Barometric Pressure (in.Hg)	Weather source									
		Indoor	Outdoor												
							NA								

Air Parameters (completed after sample collection)					
Location ID	CH4 %	CH4 LEL %	O2 %	PID (ppm)	Differential Pressure (in. Water Column)
--	0	NM	13.7	NM	NM
SV-07-24	0	NM	13.7	NM	NM
SV-08-24	0	NM	11.3	NM	NM

Appendix D

Former Fiero Assembly Site-Specific Criteria Provided by EGLE

DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

INTEROFFICE COMMUNICATION

TO: Joe Rogers, Geologist Specialist, MMD

FROM: Shane Morrison, Senior Toxicologist, RRD

DATE: April 21, 2020

SUBJECT: Former Fiero Assembly Site-Specific Criteria Evaluation

The following site-specific volatilization to indoor air criteria (VIAC) are the Michigan Department of Environment, Great Lakes, and Energy's (EGLE's) determination of values that reflect best available information regarding the toxicity and exposure risks posed by the hazardous substances present at the facility. These values are based upon the information provided with the request to develop site-specific VIAC for this facility. These values may be used provided it is documented that the conditions used to develop the site-specific criteria are met at the facility. Other values may be developed by a person consistent with the statutory provisions for development of site-specific criteria and provided for EGLE review and approval.

Correspondence transmitting these values to the submitter/consultant as part of a report, review, or other request must incorporate the appropriate sections of the volatilization to indoor air pathway (VIAP) model document language. As indicated in this document, when groundwater volatilization to indoor air inhalation criteria (GVIIC) and soil volatilization to indoor air inhalation criteria (SVIIC) are not applicable, the correspondence must include language indicating the requirement to satisfy the site-specific VIAC for all three media i.e., groundwater, soil, and soil gas. In addition, all of the following site-specific VIAC tables must be copied into the correspondence or letter as part of your response to the submitter/consultant.

Unrestricted residential site-specific criteria were included in the evaluation based on information provided and EGLE's residential conceptual site model. Exceedance of the site-specific unrestricted residential criteria will require restrictions or institutional controls for closure or aid in the determination of off-site migration.

The nonresidential building size of $\leq 50,000$ ft² is based on continuously open space and refers to the structure or portion of the structure that may be subdivided (e.g. offices, breakrooms, etc.). If a structure contains areas with both $\leq 50,000$ ft² continuously open space, a sensitivity analysis must be performed to identify the most restrictive set of criteria to evaluate risk associated with the VIAP for that structure.

If multiple foundation types are present for a structure (i.e. slab-on-grade and basement), a sensitivity analysis must be performed to identify the most restrictive set of criteria to evaluate risk associated with the VIAP for that structure.

The site-specific criteria were generated using the United States Department of Agriculture (USDA) soil type of sand. Other site-specific criteria can be generated using a different soil type by providing soil characterization results from department approved methods on soils collected at the site.

Additional hazardous substances were included in the site-specific evaluation that were not explicitly requested. These hazardous substances may be components of recent petroleum releases and the primary breakdown products of tetrachloroethylene. The preemptive site-specific evaluation of these substances was provided to limit the potential need for future resubmittal for this facility.

Please contact me at MorrisonS5@michigan.gov or 517-284-5063 if you require any clarification of these comments and criterion or have additional questions.

cc: Eric Wildfang, Toxicology Unit Supervisor, RRD

Table 1. Nonresidential Volatilization to Indoor Air Criteria (VIAC) adjusted to a 12-hour workday exposure. The following are restricted site-specific criteria that apply to a nonresidential structure < 50,000 ft² with a slab-on-grade, the depth to groundwater submitted for this site (i.e. 17.5 ft), and USDA soil type of sand.

CAS#	Hazardous Substance	12-hour Groundwater Not In Contact (GWNIC) (µg/L)	12-hour Soil (µg/kg)	12-hour Soil Gas** (µg/m ³)
83329	Acenaphthene	3,900 (S) sol	7.2E+06 nc	21,000 nc
208968	Acenaphthylene	1,400 (CC) nc	DATA	21,000 nc
75070	Acetaldehyde	95,000 nc	1,200 (M) nc	920 nc
64197	Acetic acid	1.0E+09 (S) sol	2.3E+07 nc	26,000 nc
67641	Acetone (#)	2.4E+08 (EE) st	3.1E+06 (EE) st	1.0E+06 (EE) st
75058	Acetonitrile	1.3E+06 nc	22,000 nc	6,100 nc
98862	Acetophenone	6.1E+06 (S) (DD) sol	7.4E+06 (C) (DD) dev (8.4E+05)	1.1E+05 (DD) dev
107028	Acrolein	140 nc	1.6 (M) nc	2.0 nc
79107	Acrylic acid	6.1E+05 nc	9,200 nc	20 nc
107131	Acrylonitrile	4,100 ca	67 (M) ca	59 ca
309002	Aldrin	17 (S) sol	29,000 ca	0.81 ca
7664417	Ammonia (#)	9.1E+06 (EE) st	DATA	40,000 (EE) st
994058	t-Amyl methyl ether (TAME)	73,000 nc	1,200 nc	6,300 nc
120127	Anthracene	43 (S) sol	4.4E+08 nc	1.0E+05 nc
103333	Azobenzene	46 (CC) ca	DATA	130 ca
71432	Benzene	1,100 ca	94 ca	510 ca
56553	Benzo(a)anthracene	9.4 (S) sol	2.2E+07 ca	66 ca
100447	Benzyl chloride	3,600 ca	670 ca	80 ca
111444	bis-2-Chloroethylether	7,900 ca	190 ca	12 ca
108861	Bromobenzene	66,000 nc	5,600 nc	6,100 nc
75274	Bromodichloromethane	1,700 nc	31 (M) nc	200 nc
75252	Bromoform	2.0E+05 ca	2,500 ca	3,600 ca
74839	Bromomethane	1,200 nc	32 (M) nc	1,000 nc
71363	n-Butanol	4.9E+07 nc	7.0E+05 nc	36,000 nc
78933	2-Butanone (MEK)	5.9E+07 (DD) dev	7.4E+05 (DD) dev	3.3E+05 (DD) dev

Table 1. Nonresidential Volatilization to Indoor Air Criteria (VIAC) adjusted to a 12-hour workday exposure. The following are restricted site-specific criteria that apply to a nonresidential structure < 50,000 ft² with a slab-on-grade, the depth to groundwater submitted for this site (i.e. 17.5 ft), and USDA soil type of sand.

CAS#	Hazardous Substance	12-hour Groundwater Not In Contact (GWNIC) (µg/L)	12-hour Soil (µg/kg)	12-hour Soil Gas** (µg/m ³)
123864	n-Butyl acetate	2.6E+06 nc	38,000 nc	41,000 nc
75650	t-Butyl alcohol	8.7E+06 nc	1.1E+05 nc	7,400 nc
104518	n-Butylbenzene	12,000 (S) sol	20,000 nc	20,000 nc
135988	sec-Butylbenzene	18,000 (S) sol	1.3E+05 (C) nc (49,000)	41 nc
98066	t-Butylbenzene	67 nc	23 (M) nc	41 nc
79925	Camphene	920 nc	490 nc	8,200 nc
75150	Carbon disulfide	46,000 nc	1,800 nc	72,000 nc
56235	Carbon tetrachloride	440 ca	17 (M) ca	710 ca
57749	Chlordane	56 (S) (EE) sol	4.3E+05 (EE) st	19 (EE) st
108907	Chlorobenzene	27,000 nc	2,900 nc	5,100 nc
75683	1-Chloro-1,1-difluoroethane	8.7E+05 nc	84,000 nc	5.1E+06 nc
75003	Chloroethane	3.2E+05 nc	12,000 nc	4.1E+05 nc
110758	2-Chloroethyl vinyl ether	TX	TX	TX
67663	Chloroform	610 ca	15 (M) ca	170 ca
74873	Chloromethane	7,400 nc	240 (M) nc	9,200 nc
91587	beta-Chloronaphthalene	TX	TX	TX
95578	2-Chlorophenol	1.5E+06 (DD) dev	2.8E+05 (DD) dev	1,200 (DD) dev
95498	o-Chlorotoluene	46,000 nc	7,000 nc	8,200 nc
74908	Cyanide, Hydrogen	3,700 nc	63 (M) nc	82 nc
110827	Cyclohexane	53,000 nc	11,000 nc	6.1E+05 nc
108941	Cyclohexanone	2.5E+07 (S) sol	2.4E+06 (C) nc (1.7E+06)	72,000 nc
72559	4-4'-DDE	40 (S) sol	2.2E+06 ca	41 ca
117840	Di-n-octyl phthalate	22 (S) (CC) sol	DATA	48,000 nc
123422	Diacetone alcohol	1.0E+09 (S) sol	1.8E+08 (C) nc (3.5E+07)	2.5E+05 nc
132649	Dibenzofuran	3,100 (S) sol	2.5E+08 nc	410 nc

Table 1. Nonresidential Volatilization to Indoor Air Criteria (VIAC) adjusted to a 12-hour workday exposure. The following are restricted site-specific criteria that apply to a nonresidential structure < 50,000 ft² with a slab-on-grade, the depth to groundwater submitted for this site (i.e. 17.5 ft), and USDA soil type of sand.

CAS#	Hazardous Substance	12-hour Groundwater Not In Contact (GWNIC) (µg/L)	12-hour Soil (µg/kg)	12-hour Soil Gas** (µg/m ³)
124481	Dibromochloromethane	4,400 ca	55 (M) ca	170 ca
96128	Dibromochloropropane	4.2E-02 (M) (CC) ca	DATA	0.71 ca
74953	Dibromomethane	9,000 nc	120 (M) nc	410 nc
95501	1,2-Dichlorobenzene	1.6E+05 (S) sol	52,000 nc	31,000 nc
541731	1,3-Dichlorobenzene	2,700 nc	360 nc	310 nc
106467	1,4-Dichlorobenzene	9,800 ca	1,300 ca	1,000 ca
75718	Dichlorodifluoromethane	1,400 nc	440 nc	34,000 nc
75343	1,1-Dichloroethane	5,300 ca	150 ca	2,500 ca
107062	1,2-Dichloroethane	1,600 ca	46 (M) ca	150 ca
75354	1,1-Dichloroethylene	8,300 nc	430 nc	20,000 nc
156592	cis-1,2-Dichloroethylene	2,300 nc	74 nc	820 nc
156605	trans-1,2-Dichloroethylene	9,800 nc	420 nc	8,200 nc
78875	1,2-Dichloropropane	2,100 nc	74 nc	410 nc
542756	1,3-Dichloropropene	4,200 (J) ca	170 (J) ca	1000 (J) ca
60571	Dieldrin	200 (S) sol	43,000 ca	0.87 ca
60297	Diethyl ether	9.0E+05 nc	12,000 nc	1.0E+05 nc
108203	Diisopropyl ether	2.7E+05 (DD) dev	4,700 (DD) dev	47,000 (DD) dev
108189	Diisopropylamine	2.8E+06 nc	1.0E+05 nc	20,000 nc
127195	N,N-Dimethylacetamide	1.0E+09 (S) sol	1.4E+08 (C) nc (3.9E+07)	10,000 nc
121697	N,N-Dimethylaniline	1.4E+05 ca	6,600 ca	330 ca
68122	Dimethylformamide	1.0E+08 nc	1.6E+06 nc	720 nc
123911	1,4-Dioxane	1.5E+06 ca	21,000 ca	800 ca
115297	Endosulfan	TX	TX	TX
106898	Epichlorohydrin	38,000 nc	660 nc	100 nc
64175	Ethanol (#)	1.0E+09 (S) (EE) sol	1.6E+07 (EE) st	6.3E+05 (EE) st

Table 1. Nonresidential Volatilization to Indoor Air Criteria (VIAC) adjusted to a 12-hour workday exposure. The following are restricted site-specific criteria that apply to a nonresidential structure < 50,000 ft² with a slab-on-grade, the depth to groundwater submitted for this site (i.e. 17.5 ft), and USDA soil type of sand.

CAS#	Hazardous Substance	12-hour Groundwater Not In Contact (GWNIC) (µg/L)	12-hour Soil (µg/kg)	12-hour Soil Gas** (µg/m ³)
141786	Ethyl acetate	6.4E+05 nc	7,300 nc	7,200 nc
637923	Ethyl-tert-butyl ether (ETBE)	1,200 (CC) nc	DATA	38,000 nc
100414	Ethylbenzene	3,600 ca	680 ca	1,600 ca
106934	Ethylene dibromide	250 ca	4.2 (M) ca	6.6 ca
86737	Fluorene	1,700 (S) sol	1.7E+07 nc	14,000 nc
50000	Formaldehyde	3.6E+06 ca	73,000 ca	310 ca
64186	Formic acid	8.8E+05 nc	16,000 (M) nc	31 nc
76448	Heptachlor	180 (S) sol	2.0E+05 ca	3.1 ca
1024573	Heptachlor epoxide	0.40 (CC) ca	DATA	1.5 ca
142825	n-Heptane	3,400 (S) (GW) sol	4,600 nc	3.6E+05 nc
87821	Hexabromobenzene	TX	TX	TX
118741	Hexachlorobenzene (C-66)	6.2 (S) sol	240 (M) nc	3.6 nc
87683	Hexachlorobutadiene (C-46)	890 ca	140 ca	180 ca
77474	Hexachlorocyclopentadiene (C-56)	43 nc	11 (M) nc	20 nc
67721	Hexachloroethane	3,900 ca	180 (M) ca	400 ca
110543	n-Hexane	2,000 (GW) nc	890 nc	72,000 nc
591786	2-Hexanone	4.9E+05 nc	7,600 nc	3,100 nc
78831	Isobutyl alcohol	8.5E+07 (S) sol	2.8E+06 nc	1.5E+05 nc
67630	Isopropyl alcohol	2.5E+07 nc	3.5E+05 nc	20,000 nc
98828	Isopropyl benzene	810 ca	210 (M) ca	380 ca
58899	Lindane	TX	TX	TX
Varies	Mercury (Total)	60 (S) sol	790 nc	31 nc
74828	Methane	10,000 (AA)	DATA	8.4E+06 (GG)
67561	Methanol	1.0E+09 (S) (DD) sol	3.3E+07 (DD) dev	1.3E+06 (DD) dev
109864	2-Methoxyethanol	3.8E+06 nc	53,000 nc	110 nc

Table 1. Nonresidential Volatilization to Indoor Air Criteria (VIAC) adjusted to a 12-hour workday exposure. The following are restricted site-specific criteria that apply to a nonresidential structure < 50,000 ft² with a slab-on-grade, the depth to groundwater submitted for this site (i.e. 17.5 ft), and USDA soil type of sand.

CAS#	Hazardous Substance	12-hour Groundwater Not In Contact (GWNIC) (µg/L)	12-hour Soil (µg/kg)	12-hour Soil Gas** (µg/m ³)
109024	N-Methyl-morpholine	TX	TX	TX
108101	4-Methyl-2-pentanone (MIBK)	1.9E+07 (S) (DD) sol	2.9E+05 (DD) dev	2.0E+05 (DD) dev
1634044	Methyl-tert-butyl ether (MTBE)	3.2E+05 ca	4,200 ca	15,000 ca
96377	Methylcyclopentane	2,500 nc	1,000 (M) nc	72,000 nc
75092	Methylene chloride	1.9E+05 nc	4,600 nc	61,000 nc
91576	2-Methylnaphthalene	25,000 (S) sol	60,000 nc	1,000 nc
2385855	Mirex	TX	TX	TX
91203	Naphthalene	6,200 ca	3,800 ca	120 ca
98953	Nitrobenzene	69,000 ca	9,600 ca	100 ca
88755	2-Nitrophenol	1.4 (M) (CC) nc	DATA	5.1 nc
608935	Pentachlorobenzene	0.36 (M) (CC) nc	DATA	10 nc
82688	Pentachloronitrobenzene	170 (CC) nc	DATA	1,100 nc
109660	Pentane	2,700 (GW) nc	1,300 (M) nc	1.0E+05 nc
109682	2-Pentene	TX	TX	TX
335671	Perfluorooctanoic acid	TX	TX	TX
85018	Phenanthrene	1,200 (S) sol	58,000 nc	10 nc
110894	Piperidine	1.0E+09 (S) sol	7.4E+07 nc	7.2E+05 nc
1336363	Polychlorinated biphenyls (PCBs)	1.9 (CC) (J) ca	DATA	40 (J) ca
79094	Propionic acid	5.5E+08 nc	7.9E+06 nc	31,000 nc
71238	Propyl alcohol	6.7E+07 (DD) dev	9.7E+05 (DD) dev	49,000 (DD) dev
103651	n-Propylbenzene (#)	52,000 (S) (DD) sol	21,000 (DD) dev	33,000 (DD) dev
129000	Pyrene	140 (S) sol	8.8E+08 nc	10,000 nc
110861	Pyridine	3.0E+05 nc	19,000 nc	360 nc
100425	Styrene	45,000 ca	8,600 ca	7,000 ca
95943	1,2,4,5-Tetrachlorobenzene	600 (S) sol	2,500 nc	100 nc

Table 1. Nonresidential Volatilization to Indoor Air Criteria (VIAC) adjusted to a 12-hour workday exposure. The following are restricted site-specific criteria that apply to a nonresidential structure < 50,000 ft² with a slab-on-grade, the depth to groundwater submitted for this site (i.e. 17.5 ft), and USDA soil type of sand.

CAS#	Hazardous Substance	12-hour Groundwater Not In Contact (GWNIC) (µg/L)	12-hour Soil (µg/kg)	12-hour Soil Gas** (µg/m ³)
630206	1,1,1,2-Tetrachloroethane	5,700 ca	180 ca	540 ca
79345	1,1,2,2-Tetrachloroethane	4,100 ca	150 ca	69 ca
127184	Tetrachloroethylene	3,400 (EE) st	150 (EE) st	2,700 (EE) st
109999	Tetrahydrofuran	2.7E+07 nc	4.5E+05 nc	2.0E+05 nc
632224	1,1,3,3-Tetramethylurea	31,000 (CC) nc	DATA	82 nc
509148	Tetranitromethane	36 (M) ca	4.3 (M) ca	0.27 ca
108883	Toluene	5.3E+05 (S) (EE) sol	64,000 (EE) st	2.5E+05 (EE) st
2303175	Triallate	3,500 (DD) (CC) dev	DATA	6,700 (DD) dev
102829	Tributylamine	1.4E+05 (S) sol	1.2E+05 nc	720 nc
87616	1,2,3-Trichlorobenzene	18,000 (S) sol	29,000 nc	2,800 nc
120821	1,2,4-Trichlorobenzene	5,100 nc	1,900 nc	200 nc
71556	1,1,1-Trichloroethane (#)	2.1E+05 (EE) st	7,500 (EE) st	2.3E+05 (EE) st
79005	1,1,2-Trichloroethane	410 nc	13 (M) nc	20 nc
79016	Trichloroethylene	210 (DD) dev	8.0 (M) (DD) dev	130 (DD) dev
75694	Trichlorofluoromethane	6,000 nc	670 nc	45,000 nc
96184	1,2,3-Trichloropropane	1,800 nc	91 (M) nc	31 nc
76131	1,1,2-Trichloro-1,2,2-trifluoroethane	1.4E+05 nc	30,000 nc	1.9E+06 nc
1582098	Trifluralin	180 (S) (CC) sol	DATA	3.1E+05 nc
540841	2,2,4-Trimethyl pentane	2,400 (S) (GW) sol	4,500 nc	3.6E+05 nc
107404	2,4,4-Trimethyl-2-pentene	TX	TX	TX
526738	1,2,3-Trimethylbenzene	41,000 (JT) nc	9,600 (JT) nc	6,100 (JT) nc
95636	1,2,4-Trimethylbenzene	22,000 (JT) nc	5,200 (JT) nc	6,100 (JT) nc
108678	1,3,5-Trimethylbenzene	16,000 (JT) nc	3,600 (JT) nc	6,100 (JT) nc
126727	tris(2,3-Dibromopropyl)phosphate	2.5 (M) (CC) ca	DATA	7.5 ca
108054	Vinyl acetate	5.1E+05 nc	5,700 nc	20,000 nc

Table 1. Nonresidential Volatilization to Indoor Air Criteria (VIAC) adjusted to a 12-hour workday exposure. The following are **restricted** site-specific criteria that apply to a nonresidential structure **< 50,000 ft²** with a **slab-on-grade**, the depth to groundwater submitted for this site (i.e. 17.5 ft), and USDA soil type of **sand**.

CAS#	Hazardous Substance	12-hour Groundwater Not In Contact (GWNIC) (µg/L)	12-hour Soil (µg/kg)	12-hour Soil Gas** (µg/m ³)
75014	Vinyl chloride	260 ca	16 (M) ca	910 ca
1330207	Xylenes	60,000 (J) nc	9,900 (J) nc	22,000 (J) nc

Table 2. Nonresidential Volatilization to Indoor Air Criteria (VIAC) adjusted to a 12-hour workday exposure. The following are restricted site-specific criteria that apply to a nonresidential structure < 50,000 ft² with a basement, the depth to groundwater submitted for this site (i.e. 17.5 ft), and USDA soil type of sand.

CAS#	Hazardous Substance	12-hour Groundwater Not In Contact (GWNIC) (µg/L)	12-hour Soil (µg/kg)	12-hour Soil Gas** (µg/m ³)
83329	Acenaphthene	3,900 (S) sol	4.8E+06 nc	21,000 nc
208968	Acenaphthylene	990 (CC) nc	DATA	21,000 nc
75070	Acetaldehyde	45,000 nc	800 (M) nc	920 nc
64197	Acetic acid	6.7E+08 nc	1.5E+07 nc	26,000 nc
67641	Acetone (#)	1.1E+08 (EE) st	2.1E+06 (EE) st	1.0E+06 (EE) st
75058	Acetonitrile	6.2E+05 nc	15,000 nc	6,100 nc
98862	Acetophenone	6.1E+06 (S) (DD) sol	4.9E+06 (C) (DD) dev (8.4E+05)	1.1E+05 (DD) dev
107028	Acrolein	67 nc	1.1 (M) nc	2.0 nc
79107	Acrylic acid	2.8E+05 nc	6,100 nc	20 nc
107131	Acrylonitrile	1,900 ca	45 (M) ca	59 ca
309002	Aldrin	17 (S) sol	20,000 ca	0.81 ca
7664417	Ammonia (#)	4.9E+06 (EE) st	DATA	40,000 (EE) st
994058	t-Amyl methyl ether (TAME)	33,000 nc	800 nc	6,300 nc
120127	Anthracene	43 (S) sol	2.9E+08 nc	1.0E+05 nc
103333	Azobenzene	33 (CC) ca	DATA	130 ca
71432	Benzene	510 ca	63 ca	510 ca
56553	Benzo(a)anthracene	9.4 (S) sol	1.5E+07 ca	66 ca
100447	Benzyl chloride	1,600 ca	450 ca	80 ca
111444	bis-2-Chloroethylether	3,300 ca	130 ca	12 ca
108861	Bromobenzene	29,000 nc	3,700 nc	6,100 nc
75274	Bromodichloromethane	760 nc	21 (M) nc	200 nc
75252	Bromoform	83,000 ca	1,700 ca	3,600 ca
74839	Bromomethane	580 nc	21 (M) nc	1,000 nc
71363	n-Butanol	2.2E+07 nc	4.7E+05 nc	36,000 nc
78933	2-Butanone (MEK)	2.7E+07 (DD) dev	4.9E+05 (DD) dev	3.3E+05 (DD) dev

Table 2. Nonresidential Volatilization to Indoor Air Criteria (VIAC) adjusted to a 12-hour workday exposure. The following are restricted site-specific criteria that apply to a nonresidential structure < 50,000 ft² with a basement, the depth to groundwater submitted for this site (i.e. 17.5 ft), and USDA soil type of sand.

CAS#	Hazardous Substance	12-hour Groundwater Not In Contact (GWNIC) (µg/L)	12-hour Soil (µg/kg)	12-hour Soil Gas** (µg/m ³)
123864	n-Butyl acetate	1.2E+06 nc	25,000 nc	41,000 nc
75650	t-Butyl alcohol	3.9E+06 nc	76,000 nc	7,400 nc
104518	n-Butylbenzene	12,000 (S) sol	13,000 nc	20,000 nc
135988	sec-Butylbenzene	18,000 (S) sol	88,000 (C) nc (49,000)	41 nc
98066	t-Butylbenzene	29 nc	15 (M) nc	41 nc
79925	Camphene	410 nc	330 nc	8,200 nc
75150	Carbon disulfide	22,000 nc	1,200 nc	72,000 nc
56235	Carbon tetrachloride	190 ca	12 (M) ca	710 ca
57749	Chlordane	56 (S) (EE) sol	2.9E+05 (EE) st	19 (EE) st
108907	Chlorobenzene	12,000 nc	1,900 nc	5,100 nc
75683	1-Chloro-1,1-difluoroethane	4.0E+05 nc	56,000 nc	5.1E+06 nc
75003	Chloroethane	1.5E+05 nc	7,800 nc	4.1E+05 nc
110758	2-Chloroethyl vinyl ether	TX	TX	TX
67663	Chloroform	270 ca	9.9 (M) ca	170 ca
74873	Chloromethane	3,500 nc	160 (M) nc	9,200 nc
91587	beta-Chloronaphthalene	TX	TX	TX
95578	2-Chlorophenol	6.3E+05 (DD) dev	1.9E+05 (DD) dev	1,200 (DD) dev
95498	o-Chlorotoluene	20,000 nc	4,700 nc	8,200 nc
74908	Cyanide, Hydrogen	1,900 nc	42 (M) nc	82 nc
110827	Cyclohexane	24,000 nc	7,400 nc	6.1E+05 nc
108941	Cyclohexanone	2.5E+07 (S) sol	1.6E+06 nc	72,000 nc
72559	4-4'-DDE	40 (S) sol	1.5E+06 ca	41 ca
117840	Di-n-octyl phthalate	22 (S) (CC) sol	DATA	48,000 nc
123422	Diacetone alcohol	1.0E+09 (S) sol	1.2E+08 (C) nc (3.5E+07)	2.5E+05 nc
132649	Dibenzofuran	3,100 (S) sol	1.7E+08 nc	410 nc

Table 2. Nonresidential Volatilization to Indoor Air Criteria (VIAC) adjusted to a 12-hour workday exposure. The following are restricted site-specific criteria that apply to a nonresidential structure < 50,000 ft² with a basement, the depth to groundwater submitted for this site (i.e. 17.5 ft), and USDA soil type of sand.

CAS#	Hazardous Substance	12-hour Groundwater Not In Contact (GWNIC) (µg/L)	12-hour Soil (µg/kg)	12-hour Soil Gas** (µg/m ³)
124481	Dibromochloromethane	1,800 ca	36 (M) ca	170 ca
96128	Dibromochloropropane	2.9E-02 (M) (CC) ca	DATA	0.71 ca
74953	Dibromomethane	3,900 nc	83 (M) nc	410 nc
95501	1,2-Dichlorobenzene	1.6E+05 (S) sol	35,000 nc	31,000 nc
541731	1,3-Dichlorobenzene	1,200 nc	240 nc	310 nc
106467	1,4-Dichlorobenzene	4,300 ca	870 ca	1,000 ca
75718	Dichlorodifluoromethane	640 nc	290 nc	34,000 nc
75343	1,1-Dichloroethane	2,400 ca	99 ca	2,500 ca
107062	1,2-Dichloroethane	750 ca	31 (M) ca	150 ca
75354	1,1-Dichloroethylene	3,800 nc	290 nc	20,000 nc
156592	cis-1,2-Dichloroethylene	1,100 nc	49 (M) nc	820 nc
156605	trans-1,2-Dichloroethylene	4,500 nc	280 nc	8,200 nc
78875	1,2-Dichloropropane	950 nc	49 (M) nc	410 nc
542756	1,3-Dichloropropene	1,900 (J) ca	120 (J) ca	1000 (J) ca
60571	Dieldrin	200 (S) sol	29,000 ca	0.87 ca
60297	Diethyl ether	4.1E+05 nc	8,300 nc	1.0E+05 nc
108203	Diisopropyl ether	1.2E+05 (DD) dev	3,100 (DD) dev	47,000 (DD) dev
108189	Diisopropylamine	1.2E+06 nc	69,000 nc	20,000 nc
127195	N,N-Dimethylacetamide	1.0E+09 (S) sol	9.0E+07 (C) nc (3.9E+07)	10,000 nc
121697	N,N-Dimethylaniline	58,000 ca	4,400 ca	330 ca
68122	Dimethylformamide	4.8E+07 nc	1.1E+06 nc	720 nc
123911	1,4-Dioxane	6.7E+05 ca	14,000 ca	800 ca
115297	Endosulfan	TX	TX	TX
106898	Epichlorohydrin	17,000 nc	440 nc	100 nc
64175	Ethanol (#)	5.0E+08 (EE) st	1.1E+07 (EE) st	6.3E+05 (EE) st

Table 2. Nonresidential Volatilization to Indoor Air Criteria (VIAC) adjusted to a 12-hour workday exposure. The following are restricted site-specific criteria that apply to a nonresidential structure < 50,000 ft² with a basement, the depth to groundwater submitted for this site (i.e. 17.5 ft), and USDA soil type of sand.

CAS#	Hazardous Substance	12-hour Groundwater Not In Contact (GWNIC) (µg/L)	12-hour Soil (µg/kg)	12-hour Soil Gas** (µg/m ³)
141786	Ethyl acetate	2.9E+05 nc	4,900 nc	7,200 nc
637923	Ethyl-tert-butyl ether (ETBE)	780 (CC) nc	DATA	38,000 nc
100414	Ethylbenzene	1,600 ca	450 ca	1,600 ca
106934	Ethylene dibromide	110 ca	2.8 (M) ca	6.6 ca
86737	Fluorene	1,700 (S) sol	1.1E+07 nc	14,000 nc
50000	Formaldehyde	1.9E+06 ca	49,000 ca	310 ca
64186	Formic acid	4.4E+05 nc	10,000 (M) nc	31 nc
76448	Heptachlor	180 (S) sol	1.4E+05 ca	3.1 ca
1024573	Heptachlor epoxide	0.28 (CC) ca	DATA	1.5 ca
142825	n-Heptane	3,400 (S) (GW) sol	3,000 nc	3.6E+05 nc
87821	Hexabromobenzene	TX	TX	TX
118741	Hexachlorobenzene (C-66)	6.2 (S) sol	160 (M) nc	3.6 nc
87683	Hexachlorobutadiene (C-46)	370 ca	92 ca	180 ca
77474	Hexachlorocyclopentadiene (C-56)	18 (M) nc	7.5 (M) nc	20 nc
67721	Hexachloroethane	1,600 ca	120 (M) ca	400 ca
110543	n-Hexane	1,300 (GW) nc	590 nc	72,000 nc
591786	2-Hexanone	2.2E+05 nc	5,000 nc	3,100 nc
78831	Isobutyl alcohol	8.5E+07 (S) sol	1.8E+06 nc	1.5E+05 nc
67630	Isopropyl alcohol	1.1E+07 nc	2.3E+05 nc	20,000 nc
98828	Isopropyl benzene	360 ca	140 (M) ca	380 ca
58899	Lindane	TX	TX	TX
Varies	Mercury (Total)	33 nc	520 nc	31 nc
74828	Methane	10,000 (AA)	DATA	8.4E+06 (GG)
67561	Methanol	9.5E+08 (DD) dev	2.2E+07 (DD) dev	1.3E+06 (DD) dev
109864	2-Methoxyethanol	1.7E+06 nc	35,000 nc	110 nc

Table 2. Nonresidential Volatilization to Indoor Air Criteria (VIAC) adjusted to a 12-hour workday exposure. The following are restricted site-specific criteria that apply to a nonresidential structure < 50,000 ft² with a basement, the depth to groundwater submitted for this site (i.e. 17.5 ft), and USDA soil type of sand.

CAS#	Hazardous Substance	12-hour Groundwater Not In Contact (GWNIC) (µg/L)	12-hour Soil (µg/kg)	12-hour Soil Gas** (µg/m ³)
109024	N-Methyl-morpholine	TX	TX	TX
108101	4-Methyl-2-pentanone (MIBK)	9.5E+06 (DD) dev	1.9E+05 (DD) dev	2.0E+05 (DD) dev
1634044	Methyl-tert-butyl ether (MTBE)	1.5E+05 ca	2,800 ca	15,000 ca
96377	Methylcyclopentane	1,200 nc	680 (M) nc	72,000 nc
75092	Methylene chloride	88,000 nc	3,000 nc	61,000 nc
91576	2-Methylnaphthalene	25,000 (S) sol	40,000 nc	1,000 nc
2385855	Mirex	TX	TX	TX
91203	Naphthalene	2,700 ca	2,500 ca	120 ca
98953	Nitrobenzene	29,000 ca	6,400 ca	100 ca
88755	2-Nitrophenol	1.0 (M) (CC) nc	DATA	5.1 nc
608935	Pentachlorobenzene	0.25 (M) (CC) nc	DATA	10 nc
82688	Pentachloronitrobenzene	120 (CC) nc	DATA	1,100 nc
109660	Pentane	1,800 (GW) nc	830 (M) nc	1.0E+05 nc
109682	2-Pentene	TX	TX	TX
335671	Perfluorooctanoic acid	TX	TX	TX
85018	Phenanthrene	1,200 (S) sol	39,000 nc	10 nc
110894	Piperidine	6.6E+08 nc	4.9E+07 nc	7.2E+05 nc
1336363	Polychlorinated biphenyls (PCBs)	1.3 (CC) (J) ca	DATA	40 (J) ca
79094	Propionic acid	2.5E+08 nc	5.2E+06 nc	31,000 nc
71238	Propyl alcohol	3.1E+07 (DD) dev	6.5E+05 (DD) dev	49,000 (DD) dev
103651	n-Propylbenzene (#)	31,000 (DD) dev	14,000 (DD) dev	33,000 (DD) dev
129000	Pyrene	140 (S) sol	5.9E+08 nc	10,000 nc
110861	Pyridine	1.4E+05 nc	13,000 nc	360 nc
100425	Styrene	20,000 ca	5,800 ca	7,000 ca
95943	1,2,4,5-Tetrachlorobenzene	600 (S) sol	1,600 nc	100 nc

Table 2. Nonresidential Volatilization to Indoor Air Criteria (VIAC) adjusted to a 12-hour workday exposure. The following are restricted site-specific criteria that apply to a nonresidential structure < 50,000 ft² with a basement, the depth to groundwater submitted for this site (i.e. 17.5 ft), and USDA soil type of sand.

CAS#	Hazardous Substance	12-hour Groundwater Not In Contact (GWNIC) (µg/L)	12-hour Soil (µg/kg)	12-hour Soil Gas** (µg/m ³)
630206	1,1,1,2-Tetrachloroethane	2,400 ca	120 ca	540 ca
79345	1,1,2,2-Tetrachloroethane	1,800 ca	100 ca	69 ca
127184	Tetrachloroethylene	1,500 (EE) st	99 (EE) st	2,700 (EE) st
109999	Tetrahydrofuran	1.2E+07 nc	3.0E+05 nc	2.0E+05 nc
632224	1,1,3,3-Tetramethylurea	23,000 (CC) nc	DATA	82 nc
509148	Tetranitromethane	15 (M) ca	2.9 (M) ca	0.27 ca
108883	Toluene	2.5E+05 (EE) st	43,000 (EE) st	2.5E+05 (EE) st
2303175	Triallate	2,500 (DD) (CC) dev	DATA	6,700 (DD) dev
102829	Tributylamine	98,000 nc	78,000 nc	720 nc
87616	1,2,3-Trichlorobenzene	18,000 (S) sol	20,000 nc	2,800 nc
120821	1,2,4-Trichlorobenzene	2,200 nc	1,200 nc	200 nc
71556	1,1,1-Trichloroethane (#)	92,000 (EE) st	5,000 (EE) st	2.3E+05 (EE) st
79005	1,1,2-Trichloroethane	180 nc	8.7 (M) nc	20 nc
79016	Trichloroethylene	93 (DD) dev	5.3 (M) (DD) dev	130 (DD) dev
75694	Trichlorofluoromethane	2,700 nc	450 nc	45,000 nc
96184	1,2,3-Trichloropropane	790 nc	61 (M) nc	31 nc
76131	1,1,2-Trichloro-1,2,2-trifluoroethane	58,000 nc	20,000 nc	1.9E+06 nc
1582098	Trifluralin	180 (S) (CC) sol	DATA	3.1E+05 nc
540841	2,2,4-Trimethyl pentane	2,400 (S) (GW) sol	3,000 nc	3.6E+05 nc
107404	2,4,4-Trimethyl-2-pentene	TX	TX	TX
526738	1,2,3-Trimethylbenzene	18,000 (JT) nc	6,400 (JT) nc	6,100 (JT) nc
95636	1,2,4-Trimethylbenzene	9,900 (JT) nc	3,500 (JT) nc	6,100 (JT) nc
108678	1,3,5-Trimethylbenzene	7,000 (JT) nc	2,400 (JT) nc	6,100 (JT) nc
126727	tris(2,3-Dibromopropyl)phosphate	1.7 (M) (CC) ca	DATA	7.5 ca
108054	Vinyl acetate	2.3E+05 nc	3,800 (M) nc	20,000 nc

Table 2. Nonresidential Volatilization to Indoor Air Criteria (VIAC) adjusted to a 12-hour workday exposure.

The following are **restricted** site-specific criteria that apply to a nonresidential structure **< 50,000 ft²** with a **basement**, the depth to groundwater submitted for this site (i.e. 17.5 ft), and USDA soil type of **sand**.

CAS#	Hazardous Substance	12-hour Groundwater Not In Contact (GWNIC) (µg/L)	12-hour Soil (µg/kg)	12-hour Soil Gas** (µg/m ³)
75014	Vinyl chloride	120 ca	11 (M) ca	910 ca
1330207	Xylenes	27,000 (J) nc	6,600 (J) nc	22,000 (J) nc

Table 3. Nonresidential Volatilization to Indoor Air Criteria (VIAC) adjusted to a 12-hour workday exposure. The following are restricted site-specific criteria that apply to a nonresidential structure > 50,000 ft² with a slab-on-grade, the depth to groundwater submitted for this site (i.e. 17.5 ft), and USDA soil type of sand.

CAS#	Hazardous Substance	12-hour Groundwater Not In Contact (GWNIC) (µg/L)	12-hour Soil (µg/kg)	12-hour Soil Gas** (µg/m ³)
83329	Acenaphthene	3,900 (S) sol	1.1E+07 nc	21,000 nc
208968	Acenaphthylene	2,000 (CC) nc	DATA	21,000 nc
75070	Acetaldehyde	1.4E+05 nc	1,800 (M) nc	920 nc
64197	Acetic acid	1.0E+09 (S) sol	3.4E+07 nc	26,000 nc
67641	Acetone (#)	3.6E+08 (EE) st	4.6E+06 (EE) st	1.0E+06 (EE) st
75058	Acetonitrile	1.9E+06 nc	33,000 nc	6,100 nc
98862	Acetophenone	6.1E+06 (S) (DD) sol	1.1E+07 (C) (DD) dev (8.4E+05)	1.1E+05 (DD) dev
107028	Acrolein	210 nc	2.4 (M) nc	2.0 nc
79107	Acrylic acid	9.2E+05 nc	14,000 nc	20 nc
107131	Acrylonitrile	6,200 ca	100 ca	59 ca
309002	Aldrin	17 (S) sol	44,000 ca	0.81 ca
7664417	Ammonia (#)	1.4E+07 (EE) st	DATA	40,000 (EE) st
994058	t-Amyl methyl ether (TAME)	1.1E+05 nc	1,800 nc	6,300 nc
120127	Anthracene	43 (S) sol	6.6E+08 nc	1.0E+05 nc
103333	Azobenzene	66 (CC) ca	DATA	130 ca
71432	Benzene	1,700 ca	140 ca	510 ca
56553	Benzo(a)anthracene	9.4 (S) sol	3.3E+07 ca	66 ca
100447	Benzyl chloride	5,400 ca	1,000 ca	80 ca
111444	bis-2-Chloroethylether	12,000 ca	290 ca	12 ca
108861	Bromobenzene	99,000 nc	8,300 nc	6,100 nc
75274	Bromodichloromethane	2,600 nc	47 (M) nc	200 nc
75252	Bromoform	3.0E+05 ca	3,800 ca	3,600 ca
74839	Bromomethane	1,900 nc	47 (M) nc	1,000 nc
71363	n-Butanol	6.3E+07 (S) sol	1.1E+06 nc	36,000 nc
78933	2-Butanone (MEK)	8.8E+07 (DD) dev	1.1E+06 (DD) dev	3.3E+05 (DD) dev

Table 3. Nonresidential Volatilization to Indoor Air Criteria (VIAC) adjusted to a 12-hour workday exposure. The following are restricted site-specific criteria that apply to a nonresidential structure > 50,000 ft² with a slab-on-grade, the depth to groundwater submitted for this site (i.e. 17.5 ft), and USDA soil type of sand.

CAS#	Hazardous Substance	12-hour Groundwater Not In Contact (GWNIC) (µg/L)	12-hour Soil (µg/kg)	12-hour Soil Gas** (µg/m ³)
123864	n-Butyl acetate	3.9E+06 nc	57,000 nc	41,000 nc
75650	t-Butyl alcohol	1.3E+07 nc	1.7E+05 nc	7,400 nc
104518	n-Butylbenzene	12,000 (S) sol	29,000 nc	20,000 nc
135988	sec-Butylbenzene	18,000 (S) sol	2.0E+05 (C) nc (49,000)	41 nc
98066	t-Butylbenzene	100 nc	34 (M) nc	41 nc
79925	Camphene	1,400 nc	740 nc	8,200 nc
75150	Carbon disulfide	70,000 nc	2,700 nc	72,000 nc
56235	Carbon tetrachloride	650 ca	26 (M) ca	710 ca
57749	Chlordane	56 (S) (EE) sol	6.5E+05 (EE) st	19 (EE) st
108907	Chlorobenzene	41,000 nc	4,300 nc	5,100 nc
75683	1-Chloro-1,1-difluoroethane	1.3E+06 nc	1.3E+05 nc	5.1E+06 nc
75003	Chloroethane	4.9E+05 nc	17,000 nc	4.1E+05 nc
110758	2-Chloroethyl vinyl ether	TX	TX	TX
67663	Chloroform	910 ca	22 (M) ca	170 ca
74873	Chloromethane	11,000 nc	370 nc	9,200 nc
91587	beta-Chloronaphthalene	TX	TX	TX
95578	2-Chlorophenol	2.3E+06 (DD) dev	4.2E+05 (DD) dev	1,200 (DD) dev
95498	o-Chlorotoluene	69,000 nc	11,000 nc	8,200 nc
74908	Cyanide, Hydrogen	5,500 nc	95 (M) nc	82 nc
110827	Cyclohexane	55,000 (S) sol	17,000 nc	6.1E+05 nc
108941	Cyclohexanone	2.5E+07 (S) sol	3.6E+06 (C) nc (1.7E+06)	72,000 nc
72559	4-4'-DDE	40 (S) sol	3.3E+06 ca	41 ca
117840	Di-n-octyl phthalate	22 (S) (CC) sol	DATA	48,000 nc
123422	Diacetone alcohol	1.0E+09 (S) sol	2.8E+08 (C) nc (3.5E+07)	2.5E+05 nc
132649	Dibenzofuran	3,100 (S) sol	3.8E+08 nc	410 nc

Table 3. Nonresidential Volatilization to Indoor Air Criteria (VIAC) adjusted to a 12-hour workday exposure. The following are restricted site-specific criteria that apply to a nonresidential structure > 50,000 ft² with a slab-on-grade, the depth to groundwater submitted for this site (i.e. 17.5 ft), and USDA soil type of sand.

CAS#	Hazardous Substance	12-hour Groundwater Not In Contact (GWNIC) (µg/L)	12-hour Soil (µg/kg)	12-hour Soil Gas** (µg/m ³)
124481	Dibromochloromethane	6,600 ca	82 (M) ca	170 ca
96128	Dibromochloropropane	6.1E-02 (M) (CC) ca	DATA	0.71 ca
74953	Dibromomethane	13,000 nc	190 (M) nc	410 nc
95501	1,2-Dichlorobenzene	1.6E+05 (S) sol	78,000 nc	31,000 nc
541731	1,3-Dichlorobenzene	4,000 nc	540 nc	310 nc
106467	1,4-Dichlorobenzene	15,000 ca	2,000 ca	1,000 ca
75718	Dichlorodifluoromethane	2,100 nc	660 nc	34,000 nc
75343	1,1-Dichloroethane	8,000 ca	220 ca	2,500 ca
107062	1,2-Dichloroethane	2,500 ca	69 ca	150 ca
75354	1,1-Dichloroethylene	13,000 nc	650 nc	20,000 nc
156592	cis-1,2-Dichloroethylene	3,500 nc	110 nc	820 nc
156605	trans-1,2-Dichloroethylene	15,000 nc	630 nc	8,200 nc
78875	1,2-Dichloropropane	3,200 nc	110 nc	410 nc
542756	1,3-Dichloropropene	6,300 (J) ca	260 (J) ca	1000 (J) ca
60571	Dieldrin	200 (S) sol	65,000 ca	0.87 ca
60297	Diethyl ether	1.4E+06 nc	19,000 nc	1.0E+05 nc
108203	Diisopropyl ether	4.1E+05 (DD) dev	7,000 (DD) dev	47,000 (DD) dev
108189	Diisopropylamine	4.3E+06 nc	1.5E+05 nc	20,000 nc
127195	N,N-Dimethylacetamide	1.0E+09 (S) sol	2.0E+08 (C) nc (3.9E+07)	10,000 nc
121697	N,N-Dimethylaniline	2.1E+05 ca	9,900 ca	330 ca
68122	Dimethylformamide	1.5E+08 nc	2.4E+06 nc	720 nc
123911	1,4-Dioxane	2.3E+06 ca	31,000 ca	800 ca
115297	Endosulfan	TX	TX	TX
106898	Epichlorohydrin	57,000 nc	990 nc	100 nc
64175	Ethanol (#)	1.0E+09 (S) (EE) sol	2.4E+07 (EE) st	6.3E+05 (EE) st

Table 3. Nonresidential Volatilization to Indoor Air Criteria (VIAC) adjusted to a 12-hour workday exposure. The following are restricted site-specific criteria that apply to a nonresidential structure > 50,000 ft² with a slab-on-grade, the depth to groundwater submitted for this site (i.e. 17.5 ft), and USDA soil type of sand.

CAS#	Hazardous Substance	12-hour Groundwater Not In Contact (GWNIC) (µg/L)	12-hour Soil (µg/kg)	12-hour Soil Gas** (µg/m ³)
141786	Ethyl acetate	9.5E+05 nc	11,000 nc	7,200 nc
637923	Ethyl-tert-butyl ether (ETBE)	1,700 (CC) nc	DATA	38,000 nc
100414	Ethylbenzene	5,400 ca	1,000 ca	1,600 ca
106934	Ethylene dibromide	370 ca	6.2 (M) ca	6.6 ca
86737	Fluorene	1,700 (S) sol	2.5E+07 nc	14,000 nc
50000	Formaldehyde	5.4E+06 ca	1.1E+05 ca	310 ca
64186	Formic acid	1.3E+06 nc	24,000 nc	31 nc
76448	Heptachlor	180 (S) sol	3.1E+05 ca	3.1 ca
1024573	Heptachlor epoxide	0.57 (CC) ca	DATA	1.5 ca
142825	n-Heptane	3,400 (S) sol	6,800 nc	3.6E+05 nc
87821	Hexabromobenzene	TX	TX	TX
118741	Hexachlorobenzene (C-66)	6.2 (S) sol	360 nc	3.6 nc
87683	Hexachlorobutadiene (C-46)	1,300 ca	210 ca	180 ca
77474	Hexachlorocyclopentadiene (C-56)	65 nc	17 (M) nc	20 nc
67721	Hexachloroethane	5,900 ca	270 (M) ca	400 ca
110543	n-Hexane	3,000 (GW) nc	1,300 nc	72,000 nc
591786	2-Hexanone	7.4E+05 nc	11,000 nc	3,100 nc
78831	Isobutyl alcohol	8.5E+07 (S) sol	4.2E+06 (C) nc (3.3E+06)	1.5E+05 nc
67630	Isopropyl alcohol	3.7E+07 nc	5.2E+05 nc	20,000 nc
98828	Isopropyl benzene	1,200 ca	320 ca	380 ca
58899	Lindane	TX	TX	TX
Varies	Mercury (Total)	60 (S) sol	1,200 nc	31 nc
74828	Methane	10,000 (AA)	DATA	8.4E+06 (GG)
67561	Methanol	1.0E+09 (S) (DD) sol	5.0E+07 (C) (DD) dev (3.5E+07)	1.3E+06 (DD) dev
109864	2-Methoxyethanol	5.7E+06 nc	79,000 nc	110 nc

Table 3. Nonresidential Volatilization to Indoor Air Criteria (VIAC) adjusted to a 12-hour workday exposure. The following are restricted site-specific criteria that apply to a nonresidential structure > 50,000 ft² with a slab-on-grade, the depth to groundwater submitted for this site (i.e. 17.5 ft), and USDA soil type of sand.

CAS#	Hazardous Substance	12-hour Groundwater Not In Contact (GWNIC) (µg/L)	12-hour Soil (µg/kg)	12-hour Soil Gas** (µg/m ³)
109024	N-Methyl-morpholine	TX	TX	TX
108101	4-Methyl-2-pentanone (MIBK)	1.9E+07 (S) (DD) sol	4.4E+05 (DD) dev	2.0E+05 (DD) dev
1634044	Methyl-tert-butyl ether (MTBE)	4.9E+05 ca	6,300 ca	15,000 ca
96377	Methylcyclopentane	3,800 nc	1,500 (M) nc	72,000 nc
75092	Methylene chloride	2.8E+05 nc	6,900 nc	61,000 nc
91576	2-Methylnaphthalene	25,000 (S) sol	90,000 nc	1,000 nc
2385855	Mirex	TX	TX	TX
91203	Naphthalene	9,300 ca	5,700 ca	120 ca
98953	Nitrobenzene	1.0E+05 ca	14,000 ca	100 ca
88755	2-Nitrophenol	2.0 (M) (CC) nc	DATA	5.1 nc
608935	Pentachlorobenzene	0.54 (M) (CC) nc	DATA	10 nc
82688	Pentachloronitrobenzene	250 (CC) nc	DATA	1,100 nc
109660	Pentane	4,100 (GW) nc	1,900 (M) nc	1.0E+05 nc
109682	2-Pentene	TX	TX	TX
335671	Perfluorooctanoic acid	TX	TX	TX
85018	Phenanthrene	1,200 (S) sol	88,000 nc	10 nc
110894	Piperidine	1.0E+09 (S) sol	1.1E+08 nc	7.2E+05 nc
1336363	Polychlorinated biphenyls (PCBs)	2.9 (CC) (J) ca	DATA	40 (J) ca
79094	Propionic acid	8.3E+08 nc	1.2E+07 nc	31,000 nc
71238	Propyl alcohol	1.0E+08 (DD) dev	1.5E+06 (DD) dev	49,000 (DD) dev
103651	n-Propylbenzene (#)	52,000 (S) (DD) sol	32,000 (DD) dev	33,000 (DD) dev
129000	Pyrene	140 (S) sol	1.3E+09 nc	10,000 nc
110861	Pyridine	4.6E+05 nc	29,000 nc	360 nc
100425	Styrene	67,000 ca	13,000 ca	7,000 ca
95943	1,2,4,5-Tetrachlorobenzene	600 (S) sol	3,700 nc	100 nc

Table 3. Nonresidential Volatilization to Indoor Air Criteria (VIAC) adjusted to a 12-hour workday exposure. The following are restricted site-specific criteria that apply to a nonresidential structure > 50,000 ft² with a slab-on-grade, the depth to groundwater submitted for this site (i.e. 17.5 ft), and USDA soil type of sand.

CAS#	Hazardous Substance	12-hour Groundwater Not In Contact (GWNIC) (µg/L)	12-hour Soil (µg/kg)	12-hour Soil Gas** (µg/m ³)
630206	1,1,1,2-Tetrachloroethane	8,500 ca	270 ca	540 ca
79345	1,1,2,2-Tetrachloroethane	6,200 ca	230 ca	69 ca
127184	Tetrachloroethylene	5,000 (EE) st	220 (EE) st	2,700 (EE) st
109999	Tetrahydrofuran	4.1E+07 nc	6.7E+05 nc	2.0E+05 nc
632224	1,1,3,3-Tetramethylurea	43,000 (CC) nc	DATA	82 nc
509148	Tetranitromethane	54 (M) ca	6.5 (M) ca	0.27 ca
108883	Toluene	5.3E+05 (S) (EE) sol	96,000 (EE) st	2.5E+05 (EE) st
2303175	Triallate	4,000 (S) (DD) (CC) sol	DATA	6,700 (DD) dev
102829	Tributylamine	1.4E+05 (S) sol	1.8E+05 nc	720 nc
87616	1,2,3-Trichlorobenzene	18,000 (S) sol	44,000 nc	2,800 nc
120821	1,2,4-Trichlorobenzene	7,700 nc	2,800 nc	200 nc
71556	1,1,1-Trichloroethane (#)	3.1E+05 (EE) st	11,000 (EE) st	2.3E+05 (EE) st
79005	1,1,2-Trichloroethane	620 nc	20 (M) nc	20 nc
79016	Trichloroethylene	310 (DD) dev	12 (M) (DD) dev	130 (DD) dev
75694	Trichlorofluoromethane	9,000 nc	1,000 nc	45,000 nc
96184	1,2,3-Trichloropropane	2,700 nc	140 nc	31 nc
76131	1,1,2-Trichloro-1,2,2-trifluoroethane	1.7E+05 (S) sol	45,000 nc	1.9E+06 nc
1582098	Trifluralin	180 (S) (CC) sol	DATA	3.1E+05 nc
540841	2,2,4-Trimethyl pentane	2,400 (S) sol	6,700 nc	3.6E+05 nc
107404	2,4,4-Trimethyl-2-pentene	TX	TX	TX
526738	1,2,3-Trimethylbenzene	61,000 (JT) nc	14,000 (JT) nc	6,100 (JT) nc
95636	1,2,4-Trimethylbenzene	34,000 (JT) nc	7,800 (JT) nc	6,100 (JT) nc
108678	1,3,5-Trimethylbenzene	24,000 (JT) nc	5,400 (JT) nc	6,100 (JT) nc
126727	tris(2,3-Dibromopropyl)phosphate	3.6 (M) (CC) ca	DATA	7.5 ca
108054	Vinyl acetate	7.7E+05 nc	8,600 nc	20,000 nc

Table 3. Nonresidential Volatilization to Indoor Air Criteria (VIAC) adjusted to a 12-hour workday exposure. The following are **restricted** site-specific criteria that apply to a nonresidential structure **> 50,000 ft²** with a **slab-on-grade**, the depth to groundwater submitted for this site (i.e. 17.5 ft), and USDA soil type of **sand**.

CAS#	Hazardous Substance	12-hour Groundwater Not In Contact (GWNIC) (µg/L)	12-hour Soil (µg/kg)	12-hour Soil Gas** (µg/m ³)
75014	Vinyl chloride	390 ca	24 (M) ca	910 ca
1330207	Xylenes	91,000 (J) nc	15,000 (J) nc	22,000 (J) nc

Table 4. Nonresidential Volatilization to Indoor Air Criteria (VIAC) adjusted to a 12-hour workday exposure. The following are restricted site-specific criteria that apply to a nonresidential structure > 50,000 ft² with a basement, the depth to groundwater submitted for this site (i.e. 17.5 ft), and USDA soil type of sand.

CAS#	Hazardous Substance	12-hour Groundwater Not In Contact (GWNIC) (µg/L)	12-hour Soil (µg/kg)	12-hour Soil Gas** (µg/m ³)
83329	Acenaphthene	3,900 (S) sol	7.2E+06 nc	21,000 nc
208968	Acenaphthylene	1,400 (CC) nc	DATA	21,000 nc
75070	Acetaldehyde	68,000 nc	1,200 (M) nc	920 nc
64197	Acetic acid	1.0E+09 (S) sol	2.3E+07 nc	26,000 nc
67641	Acetone (#)	1.6E+08 (EE) st	3.1E+06 (EE) st	1.0E+06 (EE) st
75058	Acetonitrile	9.2E+05 nc	22,000 nc	6,100 nc
98862	Acetophenone	6.1E+06 (S) (DD) sol	7.4E+06 (C) (DD) dev (8.4E+05)	1.1E+05 (DD) dev
107028	Acrolein	100 nc	1.6 (M) nc	2.0 nc
79107	Acrylic acid	4.2E+05 nc	9,100 nc	20 nc
107131	Acrylonitrile	2,900 ca	67 (M) ca	59 ca
309002	Aldrin	17 (S) sol	29,000 ca	0.81 ca
7664417	Ammonia (#)	7.4E+06 (EE) st	DATA	40,000 (EE) st
994058	t-Amyl methyl ether (TAME)	49,000 nc	1,200 nc	6,300 nc
120127	Anthracene	43 (S) sol	4.4E+08 nc	1.0E+05 nc
103333	Azobenzene	46 (CC) ca	DATA	130 ca
71432	Benzene	760 ca	94 ca	510 ca
56553	Benzo(a)anthracene	9.4 (S) sol	2.2E+07 ca	66 ca
100447	Benzyl chloride	2,400 ca	670 ca	80 ca
111444	bis-2-Chloroethylether	4,900 ca	190 ca	12 ca
108861	Bromobenzene	43,000 nc	5,600 nc	6,100 nc
75274	Bromodichloromethane	1,100 nc	31 (M) nc	200 nc
75252	Bromoform	1.2E+05 ca	2,500 ca	3,600 ca
74839	Bromomethane	860 nc	32 (M) nc	1,000 nc
71363	n-Butanol	3.3E+07 nc	7.0E+05 nc	36,000 nc
78933	2-Butanone (MEK)	4.0E+07 (DD) dev	7.4E+05 (DD) dev	3.3E+05 (DD) dev

Table 4. Nonresidential Volatilization to Indoor Air Criteria (VIAC) adjusted to a 12-hour workday exposure. The following are restricted site-specific criteria that apply to a nonresidential structure > 50,000 ft² with a basement, the depth to groundwater submitted for this site (i.e. 17.5 ft), and USDA soil type of sand.

CAS#	Hazardous Substance	12-hour Groundwater Not In Contact (GWNIC) (µg/L)	12-hour Soil (µg/kg)	12-hour Soil Gas** (µg/m ³)
123864	n-Butyl acetate	1.7E+06 nc	38,000 nc	41,000 nc
75650	t-Butyl alcohol	5.8E+06 nc	1.1E+05 nc	7,400 nc
104518	n-Butylbenzene	12,000 (S) sol	20,000 nc	20,000 nc
135988	sec-Butylbenzene	18,000 (S) sol	1.3E+05 (C) nc (49,000)	41 nc
98066	t-Butylbenzene	44 nc	23 (M) nc	41 nc
79925	Camphene	620 nc	490 nc	8,200 nc
75150	Carbon disulfide	33,000 nc	1,800 nc	72,000 nc
56235	Carbon tetrachloride	290 ca	17 (M) ca	710 ca
57749	Chlordane	56 (S) (EE) sol	4.3E+05 (EE) st	19 (EE) st
108907	Chlorobenzene	18,000 nc	2,900 nc	5,100 nc
75683	1-Chloro-1,1-difluoroethane	5.9E+05 nc	84,000 nc	5.1E+06 nc
75003	Chloroethane	2.3E+05 nc	12,000 nc	4.1E+05 nc
110758	2-Chloroethyl vinyl ether	TX	TX	TX
67663	Chloroform	410 ca	15 (M) ca	170 ca
74873	Chloromethane	5,300 nc	240 (M) nc	9,200 nc
91587	beta-Chloronaphthalene	TX	TX	TX
95578	2-Chlorophenol	9.5E+05 (DD) dev	2.8E+05 (DD) dev	1,200 (DD) dev
95498	o-Chlorotoluene	31,000 nc	7,000 nc	8,200 nc
74908	Cyanide, Hydrogen	2,800 nc	63 (M) nc	82 nc
110827	Cyclohexane	36,000 nc	11,000 nc	6.1E+05 nc
108941	Cyclohexanone	2.5E+07 (S) sol	2.4E+06 (C) nc (1.7E+06)	72,000 nc
72559	4-4'-DDE	40 (S) sol	2.2E+06 ca	41 ca
117840	Di-n-octyl phthalate	22 (S) (CC) sol	DATA	48,000 nc
123422	Diacetone alcohol	1.0E+09 (S) sol	1.8E+08 (C) nc (3.5E+07)	2.5E+05 nc
132649	Dibenzofuran	3,100 (S) sol	2.5E+08 nc	410 nc

Table 4. Nonresidential Volatilization to Indoor Air Criteria (VIAC) adjusted to a 12-hour workday exposure. The following are restricted site-specific criteria that apply to a nonresidential structure > 50,000 ft² with a basement, the depth to groundwater submitted for this site (i.e. 17.5 ft), and USDA soil type of sand.

CAS#	Hazardous Substance	12-hour Groundwater Not In Contact (GWNIC) (µg/L)	12-hour Soil (µg/kg)	12-hour Soil Gas** (µg/m ³)
124481	Dibromochloromethane	2,800 ca	54 (M) ca	170 ca
96128	Dibromochloropropane	4.2E-02 (M) (CC) ca	DATA	0.71 ca
74953	Dibromomethane	5,900 nc	120 (M) nc	410 nc
95501	1,2-Dichlorobenzene	1.6E+05 (S) sol	52,000 nc	31,000 nc
541731	1,3-Dichlorobenzene	1,700 nc	360 nc	310 nc
106467	1,4-Dichlorobenzene	6,400 ca	1,300 ca	1,000 ca
75718	Dichlorodifluoromethane	960 nc	440 nc	34,000 nc
75343	1,1-Dichloroethane	3,600 ca	150 ca	2,500 ca
107062	1,2-Dichloroethane	1,100 ca	46 (M) ca	150 ca
75354	1,1-Dichloroethylene	5,700 nc	430 nc	20,000 nc
156592	cis-1,2-Dichloroethylene	1,600 nc	74 nc	820 nc
156605	trans-1,2-Dichloroethylene	6,700 nc	420 nc	8,200 nc
78875	1,2-Dichloropropane	1,400 nc	74 nc	410 nc
542756	1,3-Dichloropropene	2,800 (J) ca	170 (J) ca	1000 (J) ca
60571	Dieldrin	200 (S) sol	43,000 ca	0.87 ca
60297	Diethyl ether	6.2E+05 nc	12,000 nc	1.0E+05 nc
108203	Diisopropyl ether	1.8E+05 (DD) dev	4,700 (DD) dev	47,000 (DD) dev
108189	Diisopropylamine	1.9E+06 nc	1.0E+05 nc	20,000 nc
127195	N,N-Dimethylacetamide	1.0E+09 (S) sol	1.4E+08 (C) nc (3.9E+07)	10,000 nc
121697	N,N-Dimethylaniline	88,000 ca	6,600 ca	330 ca
68122	Dimethylformamide	7.2E+07 nc	1.6E+06 nc	720 nc
123911	1,4-Dioxane	1.0E+06 ca	21,000 ca	800 ca
115297	Endosulfan	TX	TX	TX
106898	Epichlorohydrin	26,000 nc	660 nc	100 nc
64175	Ethanol (#)	7.4E+08 (EE) st	1.6E+07 (EE) st	6.3E+05 (EE) st

Table 4. Nonresidential Volatilization to Indoor Air Criteria (VIAC) adjusted to a 12-hour workday exposure. The following are restricted site-specific criteria that apply to a nonresidential structure > 50,000 ft² with a basement, the depth to groundwater submitted for this site (i.e. 17.5 ft), and USDA soil type of sand.

CAS#	Hazardous Substance	12-hour Groundwater Not In Contact (GWNIC) (µg/L)	12-hour Soil (µg/kg)	12-hour Soil Gas** (µg/m ³)
141786	Ethyl acetate	4.3E+05 nc	7,300 nc	7,200 nc
637923	Ethyl-tert-butyl ether (ETBE)	1,200 (CC) nc	DATA	38,000 nc
100414	Ethylbenzene	2,400 ca	680 ca	1,600 ca
106934	Ethylene dibromide	160 ca	4.2 (M) ca	6.6 ca
86737	Fluorene	1,700 (S) sol	1.7E+07 nc	14,000 nc
50000	Formaldehyde	2.8E+06 ca	73,000 ca	310 ca
64186	Formic acid	6.5E+05 nc	16,000 (M) nc	31 nc
76448	Heptachlor	180 (S) sol	2.0E+05 ca	3.1 ca
1024573	Heptachlor epoxide	0.40 (CC) ca	DATA	1.5 ca
142825	n-Heptane	3,400 (S) (GW) sol	4,500 nc	3.6E+05 nc
87821	Hexabromobenzene	TX	TX	TX
118741	Hexachlorobenzene (C-66)	6.2 (S) sol	240 (M) nc	3.6 nc
87683	Hexachlorobutadiene (C-46)	550 ca	140 ca	180 ca
77474	Hexachlorocyclopentadiene (C-56)	27 nc	11 (M) nc	20 nc
67721	Hexachloroethane	2,500 ca	180 (M) ca	400 ca
110543	n-Hexane	2,000 (GW) nc	880 nc	72,000 nc
591786	2-Hexanone	3.2E+05 nc	7,600 nc	3,100 nc
78831	Isobutyl alcohol	8.5E+07 (S) sol	2.8E+06 nc	1.5E+05 nc
67630	Isopropyl alcohol	1.7E+07 nc	3.5E+05 nc	20,000 nc
98828	Isopropyl benzene	540 ca	210 (M) ca	380 ca
58899	Lindane	TX	TX	TX
Varies	Mercury (Total)	49 nc	780 nc	31 nc
74828	Methane	10,000 (AA)	DATA	8.4E+06 (GG)
67561	Methanol	1.0E+09 (S) (DD) sol	3.3E+07 (DD) dev	1.3E+06 (DD) dev
109864	2-Methoxyethanol	2.6E+06 nc	53,000 nc	110 nc

Table 4. Nonresidential Volatilization to Indoor Air Criteria (VIAC) adjusted to a 12-hour workday exposure. The following are restricted site-specific criteria that apply to a nonresidential structure > 50,000 ft² with a basement, the depth to groundwater submitted for this site (i.e. 17.5 ft), and USDA soil type of sand.

CAS#	Hazardous Substance	12-hour Groundwater Not In Contact (GWNIC) (µg/L)	12-hour Soil (µg/kg)	12-hour Soil Gas** (µg/m ³)
109024	N-Methyl-morpholine	TX	TX	TX
108101	4-Methyl-2-pentanone (MIBK)	1.4E+07 (DD) dev	2.9E+05 (DD) dev	2.0E+05 (DD) dev
1634044	Methyl-tert-butyl ether (MTBE)	2.2E+05 ca	4,200 ca	15,000 ca
96377	Methylcyclopentane	1,700 nc	1,000 (M) nc	72,000 nc
75092	Methylene chloride	1.3E+05 nc	4,600 nc	61,000 nc
91576	2-Methylnaphthalene	25,000 (S) sol	60,000 nc	1,000 nc
2385855	Mirex	TX	TX	TX
91203	Naphthalene	4,100 ca	3,800 ca	120 ca
98953	Nitrobenzene	44,000 ca	9,600 ca	100 ca
88755	2-Nitrophenol	1.4 (M) (CC) nc	DATA	5.1 nc
608935	Pentachlorobenzene	0.36 (M) (CC) nc	DATA	10 nc
82688	Pentachloronitrobenzene	170 (CC) nc	DATA	1,100 nc
109660	Pentane	2,700 (GW) nc	1,300 (M) nc	1.0E+05 nc
109682	2-Pentene	TX	TX	TX
335671	Perfluorooctanoic acid	TX	TX	TX
85018	Phenanthrene	1,200 (S) sol	58,000 nc	10 nc
110894	Piperidine	9.9E+08 nc	7.4E+07 nc	7.2E+05 nc
1336363	Polychlorinated biphenyls (PCBs)	1.9 (CC) (J) ca	DATA	40 (J) ca
79094	Propionic acid	3.7E+08 nc	7.9E+06 nc	31,000 nc
71238	Propyl alcohol	4.6E+07 (DD) dev	9.7E+05 (DD) dev	49,000 (DD) dev
103651	n-Propylbenzene (#)	46,000 (DD) dev	21,000 (DD) dev	33,000 (DD) dev
129000	Pyrene	140 (S) sol	8.8E+08 nc	10,000 nc
110861	Pyridine	2.0E+05 nc	19,000 nc	360 nc
100425	Styrene	30,000 ca	8,600 ca	7,000 ca
95943	1,2,4,5-Tetrachlorobenzene	600 (S) sol	2,500 nc	100 nc

Table 4. Nonresidential Volatilization to Indoor Air Criteria (VIAC) adjusted to a 12-hour workday exposure.

The following are **restricted** site-specific criteria that apply to a nonresidential structure **> 50,000 ft²** with a **basement**, the depth to groundwater submitted for this site (i.e. 17.5 ft), and USDA soil type of **sand**.

CAS#	Hazardous Substance	12-hour Groundwater Not In Contact (GWNIC) (µg/L)	12-hour Soil (µg/kg)	12-hour Soil Gas** (µg/m ³)
630206	1,1,1,2-Tetrachloroethane	3,700 ca	180 ca	540 ca
79345	1,1,2,2-Tetrachloroethane	2,600 ca	150 ca	69 ca
127184	Tetrachloroethylene	2,200 (EE) st	150 (EE) st	2,700 (EE) st
109999	Tetrahydrofuran	1.9E+07 nc	4.5E+05 nc	2.0E+05 nc
632224	1,1,3,3-Tetramethylurea	31,000 (CC) nc	DATA	82 nc
509148	Tetranitromethane	22 (M) ca	4.3 (M) ca	0.27 ca
108883	Toluene	3.8E+05 (EE) st	64,000 (EE) st	2.5E+05 (EE) st
2303175	Triallate	3,500 (DD) (CC) dev	DATA	6,700 (DD) dev
102829	Tributylamine	1.4E+05 (S) sol	1.2E+05 nc	720 nc
87616	1,2,3-Trichlorobenzene	18,000 (S) sol	29,000 nc	2,800 nc
120821	1,2,4-Trichlorobenzene	3,300 nc	1,900 nc	200 nc
71556	1,1,1-Trichloroethane (#)	1.4E+05 (EE) st	7,500 (EE) st	2.3E+05 (EE) st
79005	1,1,2-Trichloroethane	280 nc	13 (M) nc	20 nc
79016	Trichloroethylene	140 (DD) dev	8.0 (M) (DD) dev	130 (DD) dev
75694	Trichlorofluoromethane	4,000 nc	670 nc	45,000 nc
96184	1,2,3-Trichloropropane	1,200 nc	91 (M) nc	31 nc
76131	1,1,2-Trichloro-1,2,2-trifluoroethane	88,000 nc	30,000 nc	1.9E+06 nc
1582098	Trifluralin	180 (S) (CC) sol	DATA	3.1E+05 nc
540841	2,2,4-Trimethyl pentane	2,400 (S) (GW) sol	4,400 nc	3.6E+05 nc
107404	2,4,4-Trimethyl-2-pentene	TX	TX	TX
526738	1,2,3-Trimethylbenzene	27,000 (JT) nc	9,600 (JT) nc	6,100 (JT) nc
95636	1,2,4-Trimethylbenzene	15,000 (JT) nc	5,200 (JT) nc	6,100 (JT) nc
108678	1,3,5-Trimethylbenzene	10,000 (JT) nc	3,600 (JT) nc	6,100 (JT) nc
126727	tris(2,3-Dibromopropyl)phosphate	2.5 (M) (CC) ca	DATA	7.5 ca
108054	Vinyl acetate	3.5E+05 nc	5,700 nc	20,000 nc

Table 4. Nonresidential Volatilization to Indoor Air Criteria (VIAC) adjusted to a 12-hour workday exposure.

The following are **restricted** site-specific criteria that apply to a nonresidential structure > 50,000 ft² with a **basement**, the depth to groundwater submitted for this site (i.e. 17.5 ft), and USDA soil type of **sand**.

CAS#	Hazardous Substance	12-hour Groundwater Not In Contact (GWNIC) (µg/L)	12-hour Soil (µg/kg)	12-hour Soil Gas** (µg/m ³)
75014	Vinyl chloride	180 ca	16 (M) ca	910 ca
1330207	Xylenes	41,000 (J) nc	9,900 (J) nc	22,000 (J) nc

Table 5. Residential Volatilization to Indoor Air Criteria (VIAC). The following are **restricted** site-specific criteria that apply to a residential house with a **slab-on-grade** the depth to groundwater submitted for this site (i.e. 17.5 ft), and USDA soil type of **sand**.

CAS#	Hazardous Substance	Groundwater Not In Contact (GWNIC) (µg/L)	Soil (µg/kg)	Soil Gas** (µg/m ³)
83329	Acenaphthene	3,900 (S) sol	2.1E+05 nc	7,300 nc
208968	Acenaphthylene	65 (CC) nc	DATA	7,300 nc
75070	Acetaldehyde	4,300 nc	34 (M) nc	310 nc
64197	Acetic acid	6.0E+07 nc	6.5E+05 nc	8,700 nc
67641	Acetone	3.2E+07 (EE) st	2.6E+05 (EE) st	1.0E+06 (EE) st
75058	Acetonitrile	57,000 nc	620 (M) nc	2,100 nc
98862	Acetophenone	6.1E+06 (S) (DD) sol	6.2E+05 (DD) dev	1.1E+05 (DD) dev
107028	Acrolein	6.7 (M) nc	4.6E-02 (M) nc	0.70 nc
79107	Acrylic acid	27,000 nc	260 nc	7.0 nc
107131	Acrylonitrile	120 ca	1.2 (M) ca	12 ca
309002	Aldrin	17 (S) sol	530 ca	0.17 ca
7664417	Ammonia	4.5E+05 nc	DATA	17,000 nc
994058	t-Amyl methyl ether (TAME)	3,600 nc	34 (M) nc	2,200 nc
120127	Anthracene	43 (S) sol	1.3E+07 nc	35,000 nc
103333	Azobenzene	1.8 (M) (CC) ca	DATA	27 ca
71432	Benzene	34 ca	1.7 (M) ca	110 ca
56553	Benzo(a)anthracene	9.4 (S) (MM) sol	1.6E+05 (MM) mut	5.8 (MM) mut
100447	Benzyl chloride	110 ca	12 (M) ca	17 ca
111444	bis-2-Chloroethylether	240 ca	3.4 (M) ca	2.6 ca
108861	Bromobenzene	3,300 nc	160 nc	2,100 nc
75274	Bromodichloromethane	60 ca	0.61 (M) ca	48 ca
75252	Bromoform	6,400 ca	45 (M) ca	770 ca
74839	Bromomethane	59 nc	0.90 (M) nc	350 nc
71363	n-Butanol	2.2E+06 nc	20,000 nc	12,000 nc
78933	2-Butanone (MEK)	4.0E+06 (DD) dev	31,000 (DD) dev	1.7E+05 (DD) dev
123864	n-Butyl acetate	1.3E+05 nc	1,100 nc	14,000 nc

Table 5. Residential Volatilization to Indoor Air Criteria (VIAC). The following are restricted site-specific criteria that apply to a residential house with a slab-on-grade the depth to groundwater submitted for this site (i.e. 17.5 ft), and USDA soil type of sand.

CAS#	Hazardous Substance	Groundwater Not In Contact (GWNIC) (µg/L)	Soil (µg/kg)	Soil Gas** (µg/m ³)
75650	t-Butyl alcohol	4.0E+05 nc	3,200 nc	2,500 nc
104518	n-Butylbenzene	2,000 nc	560 nc	7,000 nc
135988	sec-Butylbenzene	9,200 nc	3,800 nc	14 nc
98066	t-Butylbenzene	3.4 nc	0.64 (M) nc	14 nc
79925	Camphene	46 nc	14 nc	2,800 nc
75150	Carbon disulfide	2,200 nc	52 (M) nc	24,000 nc
56235	Carbon tetrachloride	14 ca	0.31 (M) ca	150 ca
57749	Chlordane	56 (S) (EE) sol	13,000 (EE) st	6.7 (EE) st
108907	Chlorobenzene	1,300 nc	82 nc	1,700 nc
75683	1-Chloro-1,1-difluoroethane	43,000 nc	2,400 nc	1.7E+06 nc
75003	Chloroethane	15,000 nc	330 nc	1.4E+05 nc
110758	2-Chloroethyl vinyl ether	TX	TX	TX
67663	Chloroform	19 ca	0.26 (M) ca	37 ca
74873	Chloromethane	340 nc	6.9 (M) nc	3,100 nc
91587	beta-Chloronaphthalene	TX	TX	TX
95578	2-Chlorophenol	1.0E+05 (DD) dev	12,000 (DD) dev	600 (DD) dev
95498	o-Chlorotoluene	2,300 nc	200 nc	2,800 nc
74908	Cyanide, Hydrogen	160 nc	1.8 (M) nc	28 nc
110827	Cyclohexane	2,600 nc	320 (M) nc	2.1E+05 nc
108941	Cyclohexanone	5.1E+06 nc	69,000 nc	24,000 nc
72559	4-4'-DDE	40 (S) sol	39,000 ca	8.7 ca
117840	Di-n-octyl phthalate	22 (S) (CC) sol	DATA	16,000 nc
123422	Diacetone alcohol	7.5E+08 nc	5.2E+06 nc	83,000 nc
132649	Dibenzofuran	3,100 (S) sol	7.1E+06 nc	140 nc
124481	Dibromochloromethane	58 (MM) mut	0.40 (MM) (M) mut	14 (MM) mut
96128	Dibromochloropropane	4.5E-04 (MM) (M) (CC) mut	DATA	6.2E-02 (MM) mut

Table 5. Residential Volatilization to Indoor Air Criteria (VIAC). The following are restricted site-specific criteria that apply to a residential house with a slab-on-grade the depth to groundwater submitted for this site (i.e. 17.5 ft), and USDA soil type of sand.

CAS#	Hazardous Substance	Groundwater Not In Contact (GWNIC) (µg/L)	Soil (µg/kg)	Soil Gas** (µg/m ³)
74953	Dibromomethane	450 nc	3.5 (M) nc	140 nc
95501	1,2-Dichlorobenzene	19,000 nc	1,500 nc	10,000 nc
541731	1,3-Dichlorobenzene	130 nc	10 (M) nc	100 nc
106467	1,4-Dichlorobenzene	310 ca	23 (M) ca	220 ca
75718	Dichlorodifluoromethane	71 nc	12 (M) nc	11,000 nc
75343	1,1-Dichloroethane	160 ca	2.6 (M) ca	530 ca
107062	1,2-Dichloroethane	50 ca	0.82 (M) ca	33 ca
75354	1,1-Dichloroethylene	410 nc	12 (M) nc	7,000 nc
156592	cis-1,2-Dichloroethylene	110 nc	2.1 (M) nc	280 nc
156605	trans-1,2-Dichloroethylene	480 nc	12 (M) nc	2,800 nc
78875	1,2-Dichloropropane	100 nc	2.1 (M) nc	140 nc
542756	1,3-Dichloropropene	130 (J) ca	3.1 (M) (J) ca	210 (J) ca
60571	Dieldrin	200 (S) sol	780 ca	0.18 ca
60297	Diethyl ether	44,000 nc	350 nc	35,000 nc
108203	Diisopropyl ether	20,000 (DD) dev	200 (M) (DD) dev	23,000 (DD) dev
108189	Diisopropylamine	1.4E+05 nc	2,900 nc	7,000 nc
127195	N,N-Dimethylacetamide	2.2E+08 nc	3.8E+06 nc	3,500 nc
121697	N,N-Dimethylaniline	4,100 ca	120 ca	71 ca
68122	Dimethylformamide	4.3E+06 nc	46,000 nc	240 nc
123911	1,4-Dioxane	43,000 ca	370 (M) ca	170 ca
115297	Endosulfan	TX	TX	TX
106898	Epichlorohydrin	1,800 nc	19 (M) nc	35 nc
64175	Ethanol	1.3E+08 (EE) st	1.3E+06 (EE) st	6.3E+05 (EE) st
141786	Ethyl acetate	31,000 nc	210 nc	2,400 nc
637923	Ethyl-tert-butyl ether (ETBE)	22 (CC) nc	DATA	13,000 nc
100414	Ethylbenzene	110 ca	12 (M) ca	340 ca

Table 5. Residential Volatilization to Indoor Air Criteria (VIAC). The following are **restricted** site-specific criteria that apply to a residential house with a **slab-on-grade** the depth to groundwater submitted for this site (i.e. 17.5 ft), and USDA soil type of **sand**.

CAS#	Hazardous Substance	Groundwater Not In Contact (GWNIC) (µg/L)	Soil (µg/kg)	Soil Gas** (µg/m ³)
106934	Ethylene dibromide	8.0 ca	7.4E-02 (M) ca	1.4 ca
86737	Fluorene	1,700 (S) sol	4.7E+05 nc	4,900 nc
50000	Formaldehyde	36,000 (MM) mut	530 (MM) (M) mut	27 (MM) mut
64186	Formic acid	36,000 nc	450 (M) nc	10 nc
76448	Heptachlor	24 ca	3,700 ca	0.65 ca
1024573	Heptachlor epoxide	1.4E-02 (CC) ca	DATA	0.33 ca
142825	n-Heptane	150 (GW) nc	130 nc	1.2E+05 nc
87821	Hexabromobenzene	TX	TX	TX
118741	Hexachlorobenzene (C-66)	6.2 (S) sol	6.8 (M) nc	1.2 nc
87683	Hexachlorobutadiene (C-46)	29 ca	2.5 (M) ca	39 ca
77474	Hexachlorocyclopentadiene (C-56)	2.3 (M) nc	0.32 (M) nc	7.0 nc
67721	Hexachloroethane	130 ca	3.3 (M) ca	85 ca
110543	n-Hexane	29 (GW) nc	25 nc	24,000 nc
591786	2-Hexanone	24,000 nc	220 (M) nc	1,000 nc
78831	Isobutyl alcohol	9.2E+06 nc	79,000 nc	52,000 nc
67630	Isopropyl alcohol	1.1E+06 nc	9,900 nc	7,000 nc
98828	Isopropyl benzene	26 ca	3.8 (M) ca	81 ca
58899	Lindane	TX	TX	TX
Varies	Mercury (Total)	3.6 nc	22 nc	10 nc
74828	Methane	10,000 (AA)	DATA	8.4E+06 (GG)
67561	Methanol	1.2E+08 (DD) dev	1.4E+06 (DD) dev	6.7E+05 (DD) dev
109864	2-Methoxyethanol	1.7E+05 nc	1,500 nc	38 nc
109024	N-Methyl-morpholine	TX	TX	TX
108101	4-Methyl-2-pentanone (MIBK)	1.6E+06 (DD) dev	12,000 (DD) dev	1.0E+05 (DD) dev
1634044	Methyl-tert-butyl ether (MTBE)	10,000 ca	74 (M) ca	3,300 ca
96377	Methylcyclopentane	120 nc	29 (M) nc	24,000 nc

Table 5. Residential Volatilization to Indoor Air Criteria (VIAC). The following are **restricted** site-specific criteria that apply to a residential house with a **slab-on-grade** the depth to groundwater submitted for this site (i.e. 17.5 ft), and USDA soil type of **sand**.

CAS#	Hazardous Substance	Groundwater Not In Contact (GWNIC) (µg/L)	Soil (µg/kg)	Soil Gas** (µg/m ³)
75092	Methylene chloride	9,100 nc	130 nc	21,000 nc
91576	2-Methylnaphthalene	3,500 nc	1,700 nc	350 nc
2385855	Mirex	TX	TX	TX
91203	Naphthalene	190 ca	67 (M) ca	25 ca
98953	Nitrobenzene	2,000 ca	170 (M) ca	21 ca
88755	2-Nitrophenol	0.12 (M) (CC) nc	DATA	1.7 nc
608935	Pentachlorobenzene	8.6E-03 (M) (CC) nc	DATA	3.5 nc
82688	Pentachloronitrobenzene	8.5 (M) (CC) nc	DATA	380 nc
109660	Pentane	45 (M) nc	36 (M) nc	35,000 nc
109682	2-Pentene	TX	TX	TX
335671	Perfluorooctanoic acid	TX	TX	TX
85018	Phenanthrene	470 nc	1,700 nc	3.5 nc
110894	Piperidine	6.9E+07 nc	2.1E+06 nc	2.4E+05 nc
1336363	Polychlorinated biphenyls (PCBs)	3.1E-02 (M) (CC) (J) ca	DATA	8.5 (J) ca
79094	Propionic acid	2.4E+07 nc	2.2E+05 nc	10,000 nc
71238	Propyl alcohol	4.4E+06 (DD) dev	41,000 (DD) dev	24,000 (DD) dev
103651	n-Propylbenzene	10,000 (DD) dev	1,800 (DD) dev	33,000 (DD) dev
129000	Pyrene	140 (S) sol	2.5E+07 nc	3,500 nc
110861	Pyridine	14,000 nc	550 nc	120 nc
100425	Styrene	1,400 ca	150 ca	1,500 ca
95943	1,2,4,5-Tetrachlorobenzene	250 nc	71 (M) nc	35 nc
630206	1,1,1,2-Tetrachloroethane	180 ca	3.2 (M) ca	110 ca
79345	1,1,2,2-Tetrachloroethane	130 ca	2.7 (M) ca	15 ca
127184	Tetrachloroethylene	250 (EE) st	6.2 (M) (EE) st	1,400 (EE) st
109999	Tetrahydrofuran	1.3E+06 nc	13,000 nc	70,000 nc
632224	1,1,3,3-Tetramethylurea	2,700 (CC) nc	DATA	28 nc

Table 5. Residential Volatilization to Indoor Air Criteria (VIAC). The following are restricted site-specific criteria that apply to a residential house with a slab-on-grade the depth to groundwater submitted for this site (i.e. 17.5 ft), and USDA soil type of sand.

CAS#	Hazardous Substance	Groundwater Not In Contact (GWNIC) (µg/L)	Soil (µg/kg)	Soil Gas** (µg/m ³)
509148	Tetranitromethane	1.2 (M) ca	7.7E-02 (M) ca	5.6E-02 ca
108883	Toluene	56,000 nc	3,700 nc	1.7E+05 nc
2303175	Triallate	530 (DD) (CC) dev	DATA	6,700 (DD) dev
102829	Tributylamine	13,000 nc	3,400 nc	240 nc
87616	1,2,3-Trichlorobenzene	4,100 nc	840 nc	940 nc
120821	1,2,4-Trichlorobenzene	270 nc	53 (M) nc	70 nc
71556	1,1,1-Trichloroethane	22,000 (EE) st	450 (EE) st	1.7E+05 (EE) st
79005	1,1,2-Trichloroethane	21 nc	0.37 (M) nc	7.0 nc
79016	Trichloroethylene	15 (DD) dev	0.33 (M) (DD) dev	67 (DD) dev
75694	Trichlorofluoromethane	300 nc	19 (M) nc	15,000 nc
96184	1,2,3-Trichloropropane	91 nc	2.6 (M) nc	10 nc
76131	1,1,2-Trichloro-1,2,2-trifluoroethane	7,100 nc	860 nc	6.6E+05 nc
1582098	Trifluralin	180 (S) (CC) sol	DATA	1.0E+05 nc
540841	2,2,4-Trimethyl pentane	160 (GW) nc	130 (M) nc	1.2E+05 nc
107404	2,4,4-Trimethyl-2-pentene	TX	TX	TX
526738	1,2,3-Trimethylbenzene	2,000 (JT) nc	270 (JT) nc	2,100 (JT) nc
95636	1,2,4-Trimethylbenzene	1,100 (JT) nc	150 (JT) nc	2,100 (JT) nc
108678	1,3,5-Trimethylbenzene	800 (JT) nc	100 (JT) nc	2,100 (JT) nc
126727	tris(2,3-Dibromopropyl)phosphate	7.4E-02 (M) (CC) ca	DATA	1.6 ca
108054	Vinyl acetate	25,000 nc	160 (M) nc	7,000 nc
75014	Vinyl chloride	2.2 (MM) mut	8.2E-02 (MM) (M) mut	54 (MM) mut
1330207	Xylenes	3,000 (J) nc	280 (J) nc	7,600 (J) nc

Table 6. Residential Volatilization to Indoor Air Criteria (VIAC). The following are unrestricted site-specific criteria that apply to a residential house with a basement, the depth to groundwater submitted for this site (i.e. 17.5 ft), and USDA soil type of sand.

CAS#	Hazardous Substance	Groundwater Not In Contact (GWNIC) (µg/L)	Soil (µg/kg)	Soil Gas** (µg/m ³)
83329	Acenaphthene	3,900 (S) sol	2.0E+05 nc	7,300 nc
208968	Acenaphthylene	65 (CC) nc	DATA	7,300 nc
75070	Acetaldehyde	2,400 nc	34 (M) nc	310 nc
64197	Acetic acid	3.4E+07 nc	6.5E+05 nc	8,700 nc
67641	Acetone	1.8E+07 (EE) st	2.6E+05 (EE) st	1.0E+06 (EE) st
75058	Acetonitrile	33,000 nc	620 (M) nc	2,100 nc
98862	Acetophenone	6.1E+06 (S) (DD) sol	6.2E+05 (DD) dev	1.1E+05 (DD) dev
107028	Acrolein	3.7 (M) nc	4.6E-02 (M) nc	0.70 nc
79107	Acrylic acid	15,000 nc	260 nc	7.0 nc
107131	Acrylonitrile	67 ca	1.2 (M) ca	12 ca
309002	Aldrin	17 (S) sol	520 ca	0.17 ca
7664417	Ammonia	3.0E+05 nc	DATA	17,000 nc
994058	t-Amyl methyl ether (TAME)	1,900 nc	34 (M) nc	2,200 nc
120127	Anthracene	43 (S) sol	1.3E+07 nc	35,000 nc
103333	Azobenzene	1.8 (M) (CC) ca	DATA	27 ca
71432	Benzene	18 ca	1.7 (M) ca	110 ca
56553	Benzo(a)anthracene	9.4 (S) (MM) sol	1.6E+05 (MM) mut	5.8 (MM) mut
100447	Benzyl chloride	59 ca	12 (M) ca	17 ca
111444	bis-2-Chloroethylether	120 ca	3.4 (M) ca	2.6 ca
108861	Bromobenzene	1,700 nc	160 nc	2,100 nc
75274	Bromodichloromethane	31 ca	0.61 (M) ca	48 ca
75252	Bromoform	3,200 ca	45 (M) ca	770 ca
74839	Bromomethane	33 nc	0.90 (M) nc	350 nc
71363	n-Butanol	1.2E+06 nc	20,000 nc	12,000 nc
78933	2-Butanone (MEK)	2.2E+06 (DD) dev	31,000 (DD) dev	1.7E+05 (DD) dev
123864	n-Butyl acetate	68,000 nc	1,100 nc	14,000 nc

Table 6. Residential Volatilization to Indoor Air Criteria (VIAC). The following are unrestricted site-specific criteria that apply to a residential house with a basement, the depth to groundwater submitted for this site (i.e. 17.5 ft), and USDA soil type of sand.

CAS#	Hazardous Substance	Groundwater Not In Contact (GWNIC) (µg/L)	Soil (µg/kg)	Soil Gas** (µg/m ³)
75650	t-Butyl alcohol	2.1E+05 nc	3,200 nc	2,500 nc
104518	n-Butylbenzene	1,100 nc	550 nc	7,000 nc
135988	sec-Butylbenzene	4,300 nc	3,800 nc	14 nc
98066	t-Butylbenzene	1.8 nc	0.64 (M) nc	14 nc
79925	Camphene	24 nc	14 nc	2,800 nc
75150	Carbon disulfide	1,200 nc	52 (M) nc	24,000 nc
56235	Carbon tetrachloride	7.2 ca	0.31 (M) ca	150 ca
57749	Chlordane	56 (S) (EE) sol	13,000 (EE) st	6.7 (EE) st
108907	Chlorobenzene	720 nc	82 nc	1,700 nc
75683	1-Chloro-1,1-difluoroethane	23,000 nc	2,400 nc	1.7E+06 nc
75003	Chloroethane	8,600 nc	330 nc	1.4E+05 nc
110758	2-Chloroethyl vinyl ether	TX	TX	TX
67663	Chloroform	10 ca	0.26 (M) ca	37 ca
74873	Chloromethane	200 nc	6.9 (M) nc	3,100 nc
91587	beta-Chloronaphthalene	TX	TX	TX
95578	2-Chlorophenol	52,000 (DD) dev	12,000 (DD) dev	600 (DD) dev
95498	o-Chlorotoluene	1,200 nc	200 nc	2,800 nc
74908	Cyanide, Hydrogen	97 nc	1.8 (M) nc	28 nc
110827	Cyclohexane	1,400 nc	320 (M) nc	2.1E+05 nc
108941	Cyclohexanone	2.6E+06 nc	68,000 nc	24,000 nc
72559	4-4'-DDE	40 (S) sol	39,000 ca	8.7 ca
117840	Di-n-octyl phthalate	22 (S) (CC) sol	DATA	16,000 nc
123422	Diacetone alcohol	3.7E+08 nc	5.2E+06 nc	83,000 nc
132649	Dibenzofuran	3,100 (S) sol	7.1E+06 nc	140 nc
124481	Dibromochloromethane	29 (MM) mut	0.40 (MM) (M) mut	14 (MM) mut
96128	Dibromochloropropane	4.5E-04 (MM) (M) (CC) mut	DATA	6.2E-02 (MM) mut

Table 6. Residential Volatilization to Indoor Air Criteria (VIAC). The following are unrestricted site-specific criteria that apply to a residential house with a basement, the depth to groundwater submitted for this site (i.e. 17.5 ft), and USDA soil type of sand.

CAS#	Hazardous Substance	Groundwater Not In Contact (GWNIC) (µg/L)	Soil (µg/kg)	Soil Gas** (µg/m ³)
74953	Dibromomethane	230 nc	3.5 (M) nc	140 nc
95501	1,2-Dichlorobenzene	9,900 nc	1,500 nc	10,000 nc
541731	1,3-Dichlorobenzene	70 nc	10 (M) nc	100 nc
106467	1,4-Dichlorobenzene	160 ca	23 (M) ca	220 ca
75718	Dichlorodifluoromethane	38 nc	12 (M) nc	11,000 nc
75343	1,1-Dichloroethane	88 ca	2.6 (M) ca	530 ca
107062	1,2-Dichloroethane	27 ca	0.82 (M) ca	33 ca
75354	1,1-Dichloroethylene	220 nc	12 (M) nc	7,000 nc
156592	cis-1,2-Dichloroethylene	62 nc	2.1 (M) nc	280 nc
156605	trans-1,2-Dichloroethylene	260 nc	12 (M) nc	2,800 nc
78875	1,2-Dichloropropane	56 nc	2.1 (M) nc	140 nc
542756	1,3-Dichloropropene	69 (J) ca	3.1 (M) (J) ca	210 (J) ca
60571	Dieldrin	110 ca	770 ca	0.18 ca
60297	Diethyl ether	24,000 nc	350 nc	35,000 nc
108203	Diisopropyl ether	11,000 (DD) dev	190 (M) (DD) dev	23,000 (DD) dev
108189	Diisopropylamine	72,000 nc	2,900 nc	7,000 nc
127195	N,N-Dimethylacetamide	1.4E+08 nc	3.8E+06 nc	3,500 nc
121697	N,N-Dimethylaniline	2,100 ca	120 ca	71 ca
68122	Dimethylformamide	2.4E+06 nc	46,000 nc	240 nc
123911	1,4-Dioxane	22,000 ca	360 (M) ca	170 ca
115297	Endosulfan	TX	TX	TX
106898	Epichlorohydrin	940 nc	19 (M) nc	35 nc
64175	Ethanol	7.5E+07 (EE) st	1.3E+06 (EE) st	6.3E+05 (EE) st
141786	Ethyl acetate	16,000 nc	210 nc	2,400 nc
637923	Ethyl-tert-butyl ether (ETBE)	22 (CC) nc	DATA	13,000 nc
100414	Ethylbenzene	60 ca	12 (M) ca	340 ca

Table 6. Residential Volatilization to Indoor Air Criteria (VIAC). The following are unrestricted site-specific criteria that apply to a residential house with a basement, the depth to groundwater submitted for this site (i.e. 17.5 ft), and USDA soil type of sand.

CAS#	Hazardous Substance	Groundwater Not In Contact (GWNIC) (µg/L)	Soil (µg/kg)	Soil Gas** (µg/m ³)
106934	Ethylene dibromide	4.0 ca	7.4E-02 (M) ca	1.4 ca
86737	Fluorene	1,700 (S) sol	4.7E+05 nc	4,900 nc
50000	Formaldehyde	23,000 (MM) mut	530 (MM) (M) mut	27 (MM) mut
64186	Formic acid	22,000 nc	440 (M) nc	10 nc
76448	Heptachlor	11 ca	3,600 ca	0.65 ca
1024573	Heptachlor epoxide	1.4E-02 (CC) ca	DATA	0.33 ca
142825	n-Heptane	150 (GW) nc	130 nc	1.2E+05 nc
87821	Hexabromobenzene	TX	TX	TX
118741	Hexachlorobenzene (C-66)	4.7 nc	6.7 (M) nc	1.2 nc
87683	Hexachlorobutadiene (C-46)	14 ca	2.5 (M) ca	39 ca
77474	Hexachlorocyclopentadiene (C-56)	1.1 (M) nc	0.32 (M) nc	7.0 nc
67721	Hexachloroethane	64 ca	3.2 (M) ca	85 ca
110543	n-Hexane	29 (GW) nc	25 nc	24,000 nc
591786	2-Hexanone	12,000 nc	210 (M) nc	1,000 nc
78831	Isobutyl alcohol	4.8E+06 nc	79,000 nc	52,000 nc
67630	Isopropyl alcohol	6.0E+05 nc	9,800 nc	7,000 nc
98828	Isopropyl benzene	13 ca	3.8 (M) ca	81 ca
58899	Lindane	TX	TX	TX
Varies	Mercury (Total)	1.9 nc	22 nc	10 nc
74828	Methane	10,000 (AA)	DATA	8.4E+06 (GG)
67561	Methanol	7.0E+07 (DD) dev	1.4E+06 (DD) dev	6.7E+05 (DD) dev
109864	2-Methoxyethanol	89,000 nc	1,500 nc	38 nc
109024	N-Methyl-morpholine	TX	TX	TX
108101	4-Methyl-2-pentanone (MIBK)	8.1E+05 (DD) dev	12,000 (DD) dev	1.0E+05 (DD) dev
1634044	Methyl-tert-butyl ether (MTBE)	5,300 ca	74 (M) ca	3,300 ca
96377	Methylcyclopentane	67 nc	29 (M) nc	24,000 nc

Table 6. Residential Volatilization to Indoor Air Criteria (VIAC). The following are unrestricted site-specific criteria that apply to a residential house with a basement, the depth to groundwater submitted for this site (i.e. 17.5 ft), and USDA soil type of sand.

CAS#	Hazardous Substance	Groundwater Not In Contact (GWNIC) (µg/L)	Soil (µg/kg)	Soil Gas** (µg/m³)
75092	Methylene chloride	5,000 nc	130 nc	21,000 nc
91576	2-Methylnaphthalene	1,800 nc	1,700 nc	350 nc
2385855	Mirex	TX	TX	TX
91203	Naphthalene	100 ca	67 (M) ca	25 ca
98953	Nitrobenzene	1,000 ca	170 (M) ca	21 ca
88755	2-Nitrophenol	0.12 (M) (CC) nc	DATA	1.7 nc
608935	Pentachlorobenzene	8.6E-03 (M) (CC) nc	DATA	3.5 nc
82688	Pentachloronitrobenzene	8.5 (M) (CC) nc	DATA	380 nc
109660	Pentane	40 (M) (GW) nc	36 (M) nc	35,000 nc
109682	2-Pentene	TX	TX	TX
335671	Perfluorooctanoic acid	TX	TX	TX
85018	Phenanthrene	220 nc	1,700 nc	3.5 nc
110894	Piperidine	3.5E+07 nc	2.1E+06 nc	2.4E+05 nc
1336363	Polychlorinated biphenyls (PCBs)	3.1E-02 (M) (CC) (J) ca	DATA	8.5 (J) ca
79094	Propionic acid	1.3E+07 nc	2.2E+05 nc	10,000 nc
71238	Propyl alcohol	2.4E+06 (DD) dev	40,000 (DD) dev	24,000 (DD) dev
103651	n-Propylbenzene	5,400 (DD) dev	1,800 (DD) dev	33,000 (DD) dev
129000	Pyrene	140 (S) sol	2.5E+07 nc	3,500 nc
110861	Pyridine	7,300 nc	540 nc	120 nc
100425	Styrene	740 ca	150 ca	1,500 ca
95943	1,2,4,5-Tetrachlorobenzene	120 nc	70 (M) nc	35 nc
630206	1,1,1,2-Tetrachloroethane	93 ca	3.2 (M) ca	110 ca
79345	1,1,2,2-Tetrachloroethane	66 ca	2.7 (M) ca	15 ca
127184	Tetrachloroethylene	130 (EE) st	6.2 (M) (EE) st	1,400 (EE) st
109999	Tetrahydrofuran	6.9E+05 nc	13,000 nc	70,000 nc
632224	1,1,3,3-Tetramethylurea	2,700 (CC) nc	DATA	28 nc

Table 6. Residential Volatilization to Indoor Air Criteria (VIAC). The following are unrestricted site-specific criteria that apply to a residential house with a basement, the depth to groundwater submitted for this site (i.e. 17.5 ft), and USDA soil type of sand.

CAS#	Hazardous Substance	Groundwater Not In Contact (GWNIC) (µg/L)	Soil (µg/kg)	Soil Gas** (µg/m³)
509148	Tetranitromethane	0.56 (M) ca	7.6E-02 (M) ca	5.6E-02 ca
108883	Toluene	30,000 nc	3,700 nc	1.7E+05 nc
2303175	Triallate	530 (DD) (CC) dev	DATA	6,700 (DD) dev
102829	Tributylamine	6,000 nc	3,300 nc	240 nc
87616	1,2,3-Trichlorobenzene	2,100 nc	830 nc	940 nc
120821	1,2,4-Trichlorobenzene	130 nc	53 (M) nc	70 nc
71556	1,1,1-Trichloroethane	11,000 (EE) st	450 (EE) st	1.7E+05 (EE) st
79005	1,1,2-Trichloroethane	11 nc	0.37 (M) nc	7.0 nc
79016	Trichloroethylene	8.1 (DD) dev	0.33 (M) (DD) dev	67 (DD) dev
75694	Trichlorofluoromethane	160 nc	19 (M) nc	15,000 nc
96184	1,2,3-Trichloropropane	47 nc	2.6 (M) nc	10 nc
76131	1,1,2-Trichloro-1,2,2-trifluoroethane	3,600 nc	860 nc	6.6E+05 nc
1582098	Trifluralin	180 (S) (CC) sol	DATA	1.0E+05 nc
540841	2,2,4-Trimethyl pentane	160 (GW) nc	130 (M) nc	1.2E+05 nc
107404	2,4,4-Trimethyl-2-pentene	TX	TX	TX
526738	1,2,3-Trimethylbenzene	1,100 (JT) nc	270 (JT) nc	2,100 (JT) nc
95636	1,2,4-Trimethylbenzene	590 (JT) nc	150 (JT) nc	2,100 (JT) nc
108678	1,3,5-Trimethylbenzene	420 (JT) nc	100 (JT) nc	2,100 (JT) nc
126727	tris(2,3-Dibromopropyl)phosphate	7.4E-02 (M) (CC) ca	DATA	1.6 ca
108054	Vinyl acetate	13,000 nc	160 (M) nc	7,000 nc
75014	Vinyl chloride	1.2 (MM) mut	8.2E-02 (MM) (M) mut	54 (MM) mut
1330207	Xylenes	1,600 (J) nc	280 (J) nc	7,600 (J) nc

FOOTNOTES

**Soil gas site-specific volatilization to indoor air (SSVIAC) are applicable for all depths.

- Acceptable Air Values (AAV) endpoint basis used for SSVIAC: (**ca**) = Carcinogenic; (**nc**) = Non-Carcinogenic; (**dev**) = Developmental; (**mut**) = Mutagenic cancer; (**st**) = Short-term (i.e., less than chronic exposure).
- Footnote **(#)**: Acceptable air concentrations (AAC) cannot be adjusted to a 12-hour exposure time for hazardous substance.
- Footnote **AA**: Health-based groundwater SSVIAC are not available due to insufficient toxicological data. Dissolved-phase methane in groundwater is not explosive; however, if liberated and allowed to accumulate in an enclosed structure the principle health and safety concerns are explosive, flammable, and asphyxiant properties of gas phase methane. The acceptable groundwater concentration is the flammability and explosivity screening level (**FESL**) of 10,000 µg/L.
- Footnote **C**: The health-based SSVIAC exceeds the chemical-specific soil saturation screening level (**Csat**). The person proposing or implementing response activity must document whether additional response activity is required to control non aqueous phase liquid (**NAPL**) to protect against risks associated with NAPL by using methods appropriate for the NAPL present.
- Footnote **CC**: Insufficient chemical-physical input parameters have been identified to allow the development of a health-based SSVIAC using standard methods. The health based SSVIAC for groundwater is developed based solely on the approach that the department uses for shallow groundwater. If groundwater detections are present, soil vapor may be the most appropriate media to evaluate risk posed from the VIAP.
- Footnote **DATA**: Insufficient physical chemical parameters to calculate a health based SSVIAC for specified media. If detections are present in specified media, health-based soil vapor SSVIAC should be used to evaluate risk.
- Footnote **DD**: Hazardous substance causes developmental effects. Residential SSVIAC are protective of both prenatal exposure using a pregnant female receptor and postnatal exposure using a child receptor. Nonresidential SSVIAC are protective of prenatal exposure using a pregnant female receptor. Prenatal developmental effects may occur after an acute (i.e. short-term) or full-term exposure.
- Footnote **EE**: The acceptable air concentration (**AAC**) for the volatile hazardous substances is not derived using standard methods. The hazardous substance may cause adverse human health effects for less than chronic exposures (i.e. short-term or acute). The AAC for these hazardous substances is the acute or intermediate minimum risk level (MRL) developed by the Agency for Toxic Substances and Disease Registry (ATSDR), a United States Environmental Protection Agency Integrated Risk Information System (IRIS) acute reference concentration, or EGLE's Air Quality Division acute initial threshold screening level (ITSL).
- Footnote **FF**: The AAC for the volatile hazardous substances are based on toxicity values that have been identified to have the potential to cause adverse human health effects for less than chronic exposures (i.e. short-term or acute). The short-term exposure for shallow groundwater health based SSVIAC are based on modification of the standard methods by the department to develop applicable shallow groundwater values.
- Footnote **GG**: Health-based SSVIAC for soil vapor are not available due to insufficient toxicological data. The soil vapor value addresses the health and safety concerns of explosive, flammable, and asphyxiant properties of gas phase methane. The acceptable soil vapor concentration is derived based on 25% of the lower explosive level (**LEL**) for methane.
- Footnote **GW**: The calculated health based SSVIAC for a hazardous substance based upon shallow groundwater is considered protective when it is greater than the calculated value for groundwater.
- Footnote **ID**: Requires further evaluation to determine the appropriate media to sample.
- Footnote **J**: Hazardous substance may be present in several isomer forms. Isomer-specific concentrations must be added together for comparison to criteria.
- Footnote **JT**: Hazardous substance may be present in several isomer forms. The health-based SSVIAC may be used for the individual isomer provided that it is the sole isomer detected; however, when multiple isomers are detected in a medium, the isomer-specific concentrations must be added together and compared to the most restrictive health-based SSVIAC of the detected isomers.
- Footnote **M**: The health based SSVIAC may be below target detection limits (**TDL**). In accordance with Sec. 20120a(10) when the TDL for a hazardous substance is greater than the developed health-based SSVIAC, the TDL is used to evaluate the risk posed from the pathway.
- Footnote **MM**: Hazardous substance is a carcinogen with a mutagenic mode of action. The cancer potency values used in calculating health-based SSVIAC are modified using age-dependent adjustment factors for those carcinogenic chemicals identified as mutagenic.
- Footnote **NA**: The hazardous substance does not meet the department's definition of a volatile; therefore, no health based SSVIAC were developed.
- Footnote **NR**: The hazardous substance has not been previously evaluated by the Remediation and Redevelopment Division Toxicology Unit. The identification, collection, and evaluation of toxicological literature and chemical-physical data cannot be completed within the timeframe requested.
- Footnote **S**: Calculated health-based SSVIAC exceeds the hazardous substance-specific water solubility limit; therefore, the water solubility limit is used to evaluate the risk posed from the pathway.
- Footnote **TX**: The Remediation and Redevelopment Division Toxicology Unit has not identified an inhalation toxicity value for the hazardous substance.

Appendix E

Mann Kendall Calculations and Trend Graphs

TABLE E-1
Groundwater Summary Statistics and Trend Results
RACER Pontiac North Campus
February, 2025

Well ID	Analyte	Date Range	Figure	FOD	Detected Results Summary ¹				Mann-Kendall Test ²			Sen's Estimator of Slope ²		
					Range	Mean	Median	SD	Result ⁴	P-Value	S Value	Result ⁴	Slope (Units/Day)	95% CI (Units/Day)
MW-02-17	Tetrachloroethene	04/17 - 09/24	E-1	18 / 19	2 - 12	6.3	6	3	DWN	0.016	-62	NT	-0.00202	-0.00372 to 0
MW-02-17	Trichloroethene	04/17 - 09/24	E-2	18 / 19	1 - 7	3.8	4	2	UP	0.018	59	NT	0.00111	0 to 0.00215
MW-05-18	cis-1,2-Dichloroethene	10/18 - 09/24	E-3	17 / 17	3 - 15	9.5	10	2.9	NST	0.280	-15	NST	-0.00111	-0.00381 to 0.00181
MW-06-20	cis-1,2-Dichloroethene	09/20 - 09/24	E-4	16 / 16	3 - 10	6.2	6.5	1.9	NST	0.053	-36	NT	-0.00139	-0.00360 to 0
MW-06-20	Trichloroethene	09/20 - 09/24	E-5	16 / 16	7 - 14	9.6	9	2	NST	0.097	29	NT	0.00138	0 to 0.00276
MW-07-20	cis-1,2-Dichloroethene	08/20 - 09/24	E-6	12 / 12	6 - 15	11	11	3	NST	0.265	-10	NST	-0.00182	-0.00681 to 0.00273
MW-07-20	Trichloroethene	08/20 - 09/24	E-7	10 / 12	1 - 3	2.2	2	0.63	DWN	0.008	-33	NT	-0.00131	-0.00221 to 0
MW-08-21	cis-1,2-Dichloroethene	06/21 - 09/24	E-8	12 / 13	2 - 12	7.6	8.5	3.6	NST	0.212	-14	NST	-0.00307	-0.0106 to 0.00284
MW-08-21	Trichloroethene	06/21 - 09/24	E-9	13 / 13	8 - 12	10.2	10	1.4	NST	0.475	2	NST	0	-0.00229 to 0.00390
MW-09-22	Tetrachloroethene	01/22 - 09/24	E-10	11 / 11	48 - 310	138	147	74	NST	0.106	17	NST	0.120	-0.0344 to 0.333
MW-09-22	Trichloroethene	01/22 - 09/24	E-11	10 / 11	1 - 7	3.7	4	1.6	UP	0.010	30	NT	0.00436	0 to 0.00655
MW-14-22	cis-1,2-Dichloroethene	03/22 - 03/24	E-12	9 / 9	5 - 43	17.2	13	12.1	NST	0.060	16	NST	0.0303	-0.00990 to 0.0631
MW-14-22	Tetrachloroethene	03/22 - 03/24	E-13	9 / 9	52 - 212	126	100	58.9	UP	0.006	24	UP	0.190	0.0770 to 0.295
MW-14-22	Trichloroethene	03/22 - 03/24	E-14	9 / 9	12 - 22	18.2	19	3.3	UP	0.012	22	UP	0.00924	0.00162 to 0.0183
MW-16-22	cis-1,2-Dichloroethene	11/22 - 09/24	E-15	8 / 8	8 - 120	32.9	18	38.2	NST	0.360	-4	NST	-0.017	-0.232 to 0.033
MW-16-22	Tetrachloroethene	11/22 - 09/24	E-16	8 / 8	94 - 416	247	255	99.2	NST	0.360	-4	NST	-0.07	-0.660 to 0.430
MW-16-22	Trichloroethene	11/22 - 09/24	E-17	8 / 8	3 - 27	13.8	11.5	7.4	NST	0.406	-3	NST	-0.008	-0.040 to 0.019
MWF16-05	Tetrachloroethene	10/17 - 09/24	E-18	14 / 14	12 - 730	482	495	185	NST	0.522	0	NST	0	-0.252 to 0.206
MWF16-05	Trichloroethene	10/17 - 09/24	E-19	8 / 14	3 - 40	25.8	30	10.9	DWN	0.012	-40	NT	-0.0202	-0.0348 to 0
MWF16-06	cis-1,2-Dichloroethene	04/17 - 09/24	E-20	16 / 16	2 - 150	34.6	18.5	40.5	DWN	0.032	-42	NT	-0.0101	-0.0625 to 0
MWF16-06	Tetrachloroethene	04/17 - 09/24	E-21	16 / 16	35 - 127	61.4	54.5	25.2	DWN	0.004	-59	DWN	-0.0219	-0.0402 to -0.00381
MWF16-06	Trichloroethene	04/17 - 09/24	E-22	16 / 16	3 - 30	10.7	8.5	7.7	DWN	0.001	-68	DWN	-0.00457	-0.0136 to -0.00232
MWF16-12	Tetrachloroethene	03/21 - 09/24	E-23	7 / 8	2 - 50	29.3	36	18	DWN	0.016	-18	DWN	-0.035	-0.070 to -0.019
MWF16-15	cis-1,2-Dichloroethene	04/17 - 09/24	E-24	10 / 10	1 - 15	6.7	4.5	4.6	NST	0.300	-7	NST	-0.00136	-0.00558 to 0.00338
MWF16-15	Trichloroethene	04/17 - 09/24	E-25	9 / 10	2 - 4	3	3	0.87	UP	0.011	26	NT	0.000830	0 to 0.00212
MWF16-16	cis-1,2-Dichloroethene	10/17 - 09/24	E-26	13 / 16	2 - 46	16.9	19	10.6	UP	0.044	38	NT	0.00820	0 to 0.0227
MWF16-16	Tetrachloroethene	10/17 - 09/24	E-27	16 / 16	14 - 630	346	360	158	UP	0.001	69	UP	0.180	0.138 to 0.255
MWF16-16	Trichloroethene	10/17 - 09/24	E-28	8 / 16	4 - 20	11.3	10	5.6	NST	0.386	-7	NST	0	-0.00423 to 0.00151
MWF16-18	cis-1,2-Dichloroethene	03/21 - 09/24	E-29	13 / 13	20 - 220	100	90	60	UP	<0.001	65	UP	0.116	0.0916 to 0.175
MWF16-18	Tetrachloroethene	03/21 - 09/24	E-30	13 / 13	740 - 1350	1110	1090	162	NST	0.334	-8	NST	-0.0777	-0.306 to 0.278
MWF16-18	Trichloroethene	03/21 - 09/24	E-31	13 / 13	10 - 40	23.8	20	8.7	UP	<0.001	48	NT	0.0172	0 to 0.0240
MWF16-22	cis-1,2-Dichloroethene	09/20 - 09/24	E-32	11 / 11	4 - 54	11.7	7	14.3	NST	0.376	-5	NST	-0.000673	-0.00651 to 0.00885
MWF16-22	Tetrachloroethene	09/20 - 09/24	E-33	11 / 11	69 - 285	95.8	77	62.9	NST	0.078	19	NST	0.00307	-0.00202 to 0.0129
MWF16-22	Trichloroethene	09/20 - 09/24	E-34	11 / 11	2 - 13	3.2	2	3.3	NST	0.095	14	NT	0	0 to 0.000935
MWF16-23	cis-1,2-Dichloroethene	10/17 - 09/24	E-35	19 / 21	2 - 21	8.4	8	5.5	DWN	<0.001	-106	DWN	-0.00737	-0.00989 to -0.00230
MWF16-23	Trichloroethene	10/17 - 09/24	E-36	21 / 21	9 - 23	16.6	16	4	DWN	0.012	-75	NT	-0.00447	-0.00677 to 0
MWF16-25	cis-1,2-Dichloroethene	10/18 - 09/24	E-37	17 / 17	5 - 44	24.2	22	14.6	UP	<0.001	97	UP	0.0236	0.0133 to 0.0317
MWF7-02	cis-1,2-Dichloroethene	04/17 - 09/24	E-38	14 / 14	1 - 3	2.4	2	0.63	DWN	0.013	-37	NT	-0.000396	-0.000803 to 0
MWF7-02	Tetrachloroethene	04/17 - 09/24	E-39	14 / 14	26 - 115	72	79.5	27.1	UP	0.003	51	UP	0.0283	0.0128 to 0.0400
MWF7-02	Trichloroethene	04/17 - 09/24	E-40	14 / 14	3 - 5	3.6	4	0.63	NST	0.133	19	NT	0	0 to 0.000594
MWOS-08	cis-1,2-Dichloroethene	09/20 - 09/24	E-41	14 / 15	1 - 6	2.9	2.5	1.7	DWN	0.006	-50	NT	-0.00226	-0.00424 to 0
MWOS-09R	cis-1,2-Dichloroethene	11/21 - 09/24	E-42	12 / 12	17 - 28	22.7	22	3.9	DWN	0.030	-28	NT	-0.00762	-0.0158 to 0
MWOS-09R	Tetrachloroethene	11/21 - 09/24	E-43	12 / 12	10 - 20	14.2	14	2.9	UP	0.031	28	NT	0.00532	0 to 0.0111

TABLE E-1
Groundwater Summary Statistics and Trend Results
RACER Pontiac North Campus
February, 2025

Well ID	Analyte	Date Range	Figure	FOD	Detected Results Summary ¹				Mann-Kendall Test ²			Sen's Estimator of Slope ²		
					Range	Mean	Median	SD	Result ⁴	P-Value	S Value	Result ⁴	Slope (Units/Day)	95% CI (Units/Day)
MWOS-09R	Trichloroethene	11/21 - 09/24	E-44	12 / 12	3 - 5	3.8	4	0.83	NST	0.329	7	NST	0	-0.00113 to 0.00178
MWOS-10	cis-1,2-Dichloroethene	11/21 - 11/24	E-45	12 / 14	2 - 9	6.3	6.5	2.2	DWN	0.030	-35	NT	-0.00494	-0.0106 to 0
MWOS-10	Trichloroethene	11/21 - 11/24	E-46	14 / 14	6 - 12	8.7	8.5	1.9	NST	0.159	-19	NST	-0.00150	-0.00699 to 0.00175
TW-12-22	cis-1,2-Dichloroethene	01/22 - 09/24	E-47	9 / 9	32 - 190	72.1	57	48.3	NST	0.306	6	NST	0.0262	-0.0582 to 0.171
TW-12-22	Trichloroethene	01/22 - 09/24	E-48	9 / 9	3 - 51	13.4	6	15.5	NST	0.155	11	NST	0.0160	-0.00451 to 0.0438
Unknown-1	Tetrachloroethene	04/17 - 09/24	E-49	8 / 8	23 - 45	32.4	29	9.1	NST	0.360	-4	NST	-0.002	-0.024 to 0.009

Abbreviations:

FOD = frequency of detection (# detects / # samples)
mean = arithmetic mean
SD = standard deviation

NST = no significant trend
NT = no trend
DWN = downward trend
UP = upward trend

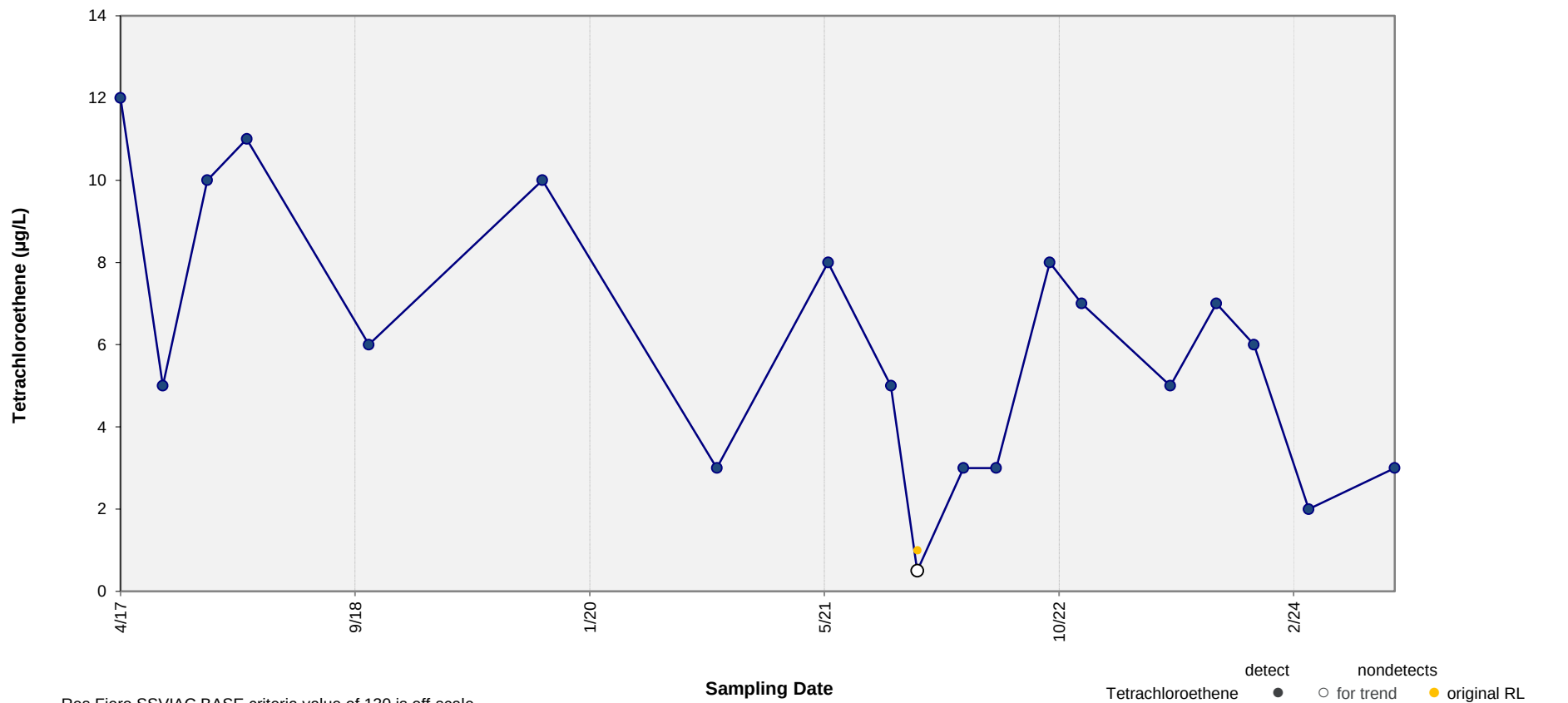
95% CI = 95% confidence interval

Notes:

1. All analytical results are in µg/L.
2. Trend results are presented when at least five samples and 50% detected values are available.
3. Non-detects were assigned a common value less than the minimum detected value, equal to half the minimum reporting limit (RL) in the dataset (USEPA, 2009).
If half the minimum RL was greater than the minimum detected value, then half the minimum detect was assigned.
4. Statistically significant trend defined as having p-value ≤ 0.05, or 95% confidence.

Reference:

USEPA. 2009. Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities. Unified Guidance. EPA/530/R-09/007, 2009.



Results of Mann-Kendall Test for Trend:

DECREASING TREND

p value = **0.016** Note: p value < 0.05 indicates a statistically significant trend (95% confidence level).

Results of Sen's Estimator of Slope:

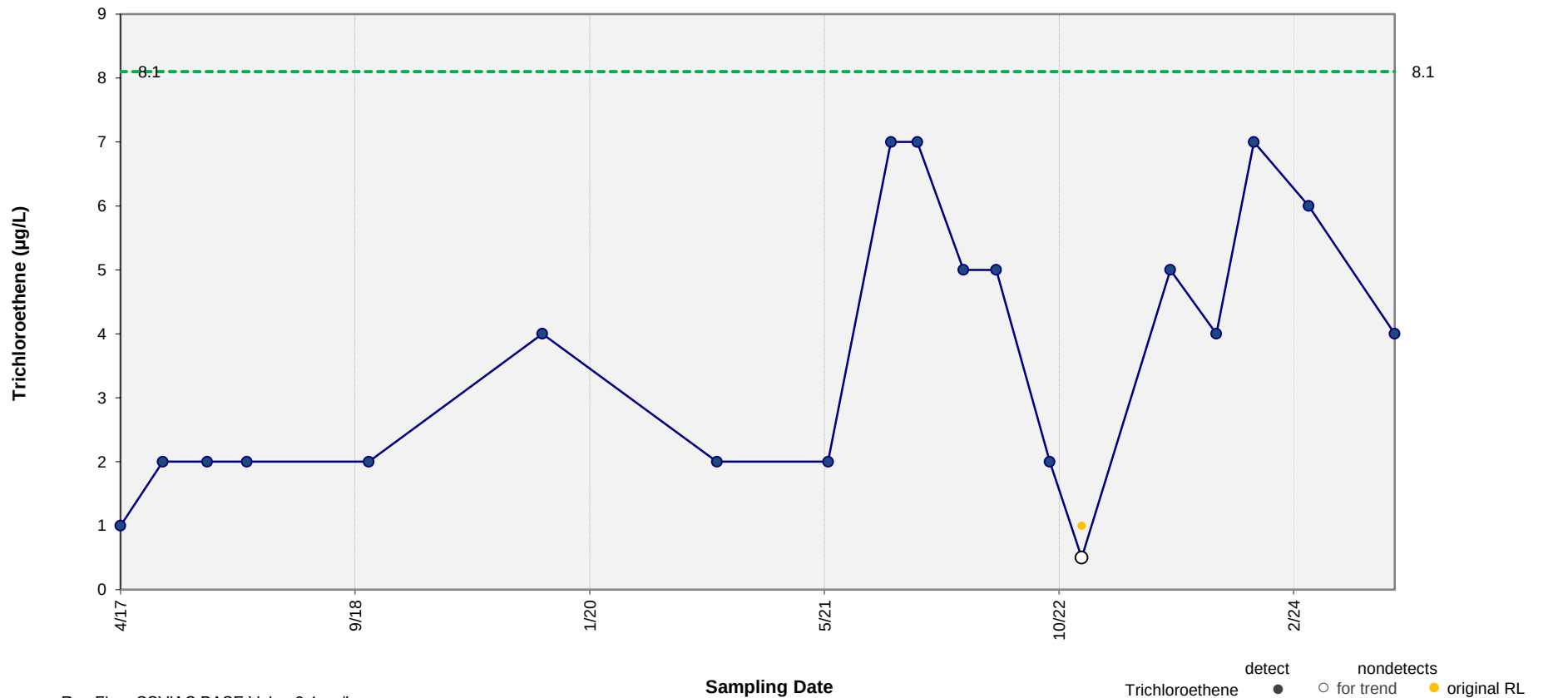
No trend

Median Slope Estimate = **-2.0E-03** µg/L Per Day
 95% Confidence Interval = **-3.7E-03** to **0.0E+00** µg/L Per Day



Concentration vs. Time Plot – Tetrachloroethene in Well MW-02-17
 RACER PNC GW

Figure E-1



Res Fiero SSVIAC BASE Value 8.1 µg/L

Results of Mann-Kendall Test for Trend:

INCREASING TREND

p value = **0.018**

Note: p value < 0.05 indicates a statistically significant trend (95% confidence level).

Results of Sen's Estimator of Slope:

No trend

Median Slope Estimate =

1.1E-03

µg/L Per Day

95% Confidence Interval =

0.0E+00

to

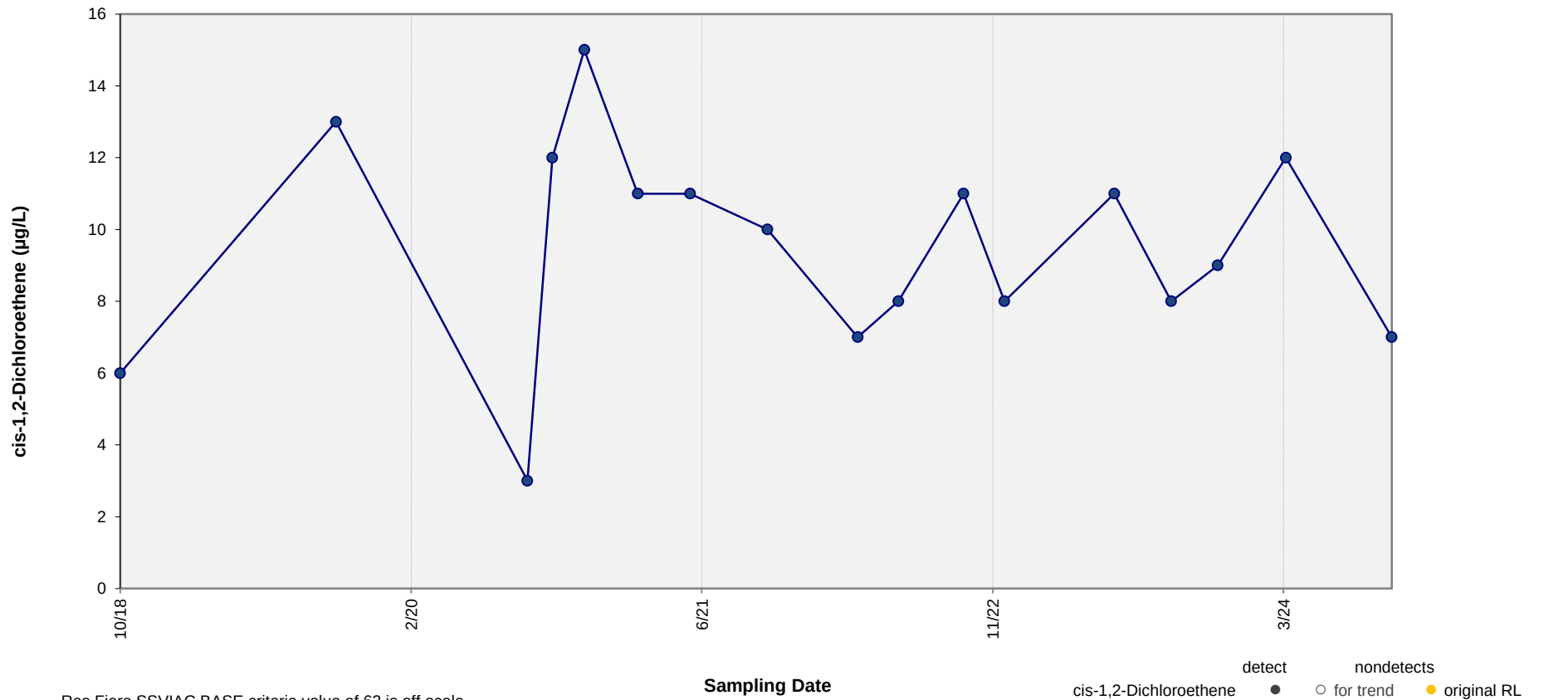
2.1E-03

µg/L Per Day



Concentration vs. Time Plot – Trichloroethene in Well MW-02-17
RACER PNC GW

Figure E-2



Results of Mann-Kendall Test for Trend:

No Significant Trend

p value = 0.280 Note: p value < 0.05 indicates a statistically significant trend (95% confidence level).

Results of Sen's Estimator of Slope:

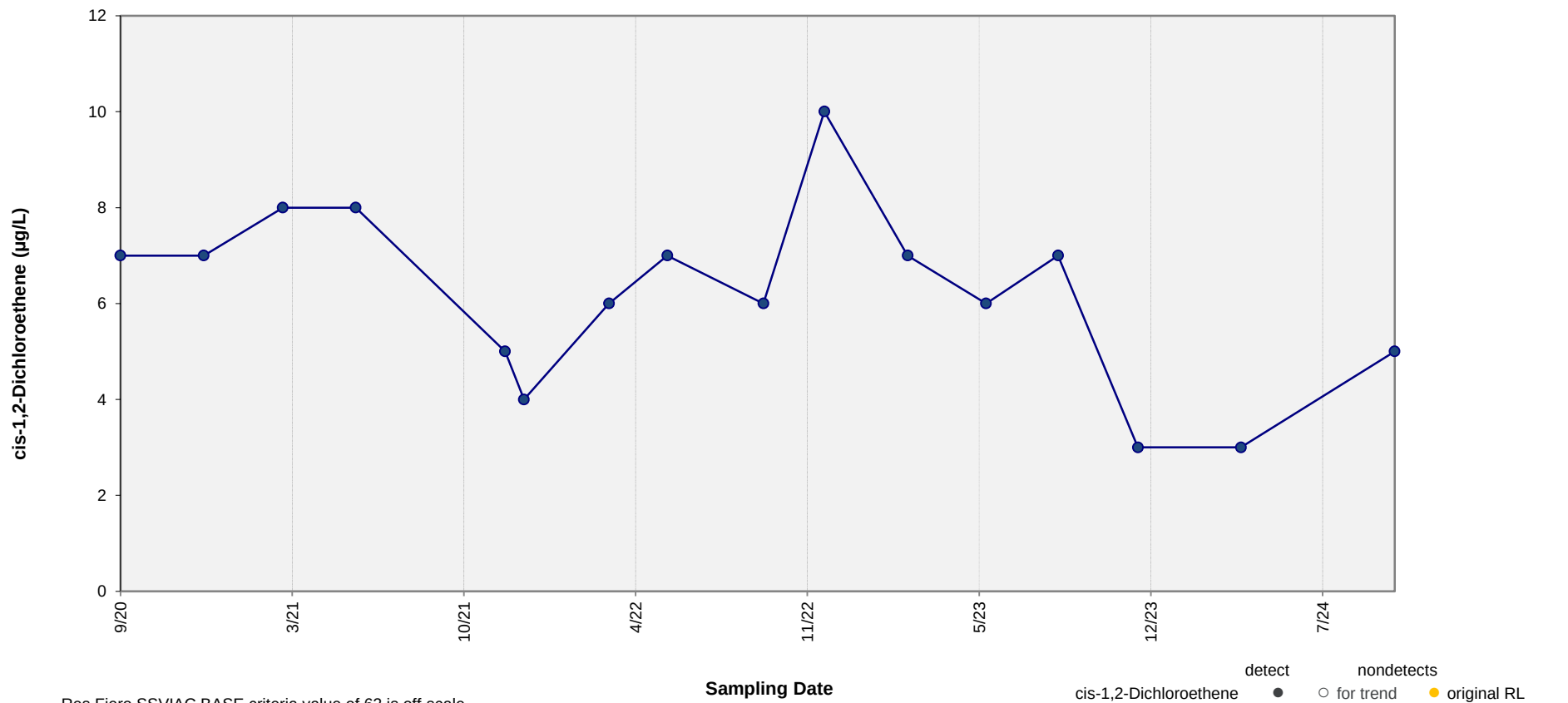
No Significant Trend

Median Slope Estimate = -1.1E-03 µg/L Per Day
 95% Confidence Interval = -3.8E-03 to 1.8E-03 µg/L Per Day



Concentration vs. Time Plot – cis-1,2-Dichloroethene in Well MW-05-18
 RACER PNC GW

Figure E-3



Results of Mann-Kendall Test for Trend:

No Significant Trend

p value = 0.053 Note: p value < 0.05 indicates a statistically significant trend (95% confidence level).

Results of Sen's Estimator of Slope:

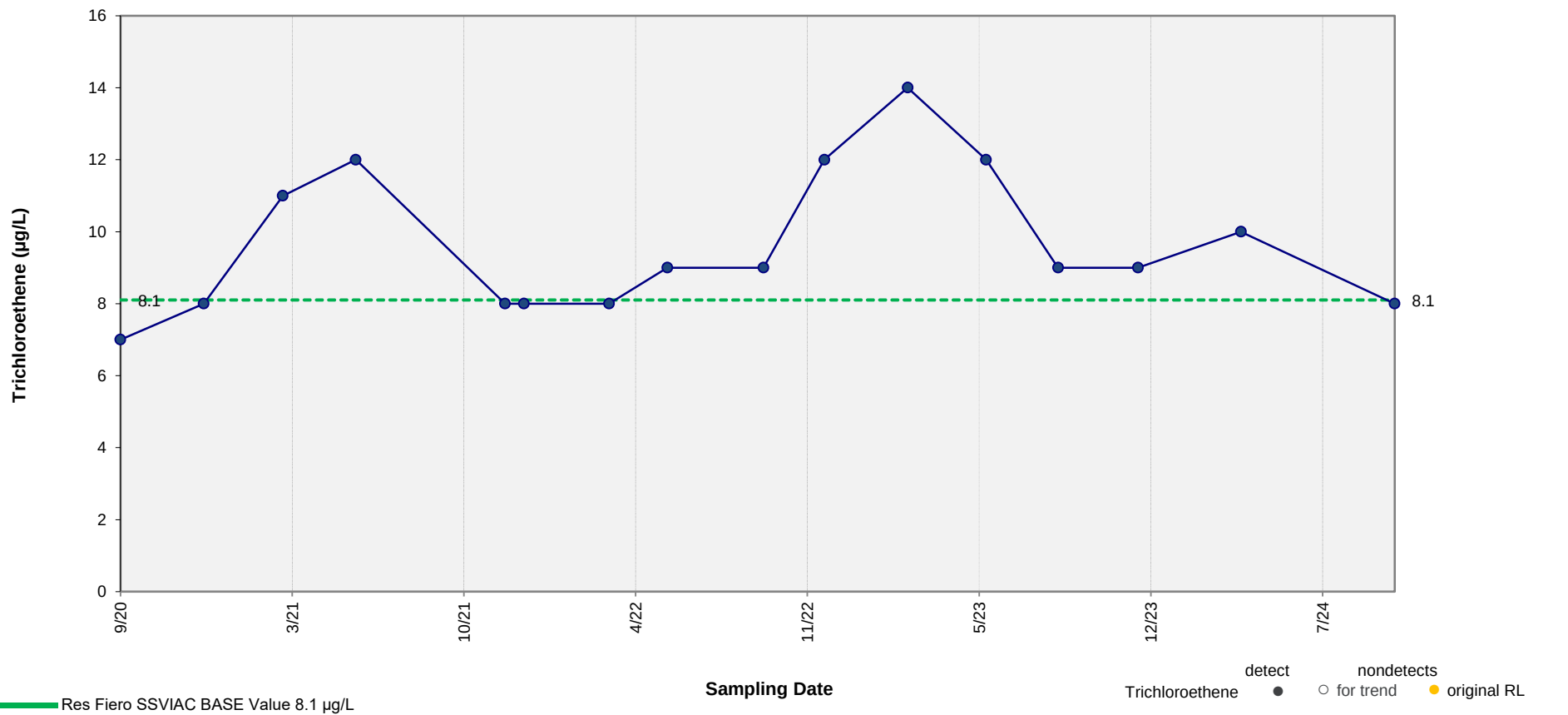
No trend

Median Slope Estimate = -1.4E-03 µg/L Per Day
 95% Confidence Interval = -3.6E-03 to 0.0E+00 µg/L Per Day



Concentration vs. Time Plot – cis-1,2-Dichloroethene in Well MW-06-20
 RACER PNC GW

Figure E-4



Results of Mann-Kendall Test for Trend:

No Significant Trend

p value = 0.097 Note: p value < 0.05 indicates a statistically significant trend (95% confidence level).

Results of Sen's Estimator of Slope:

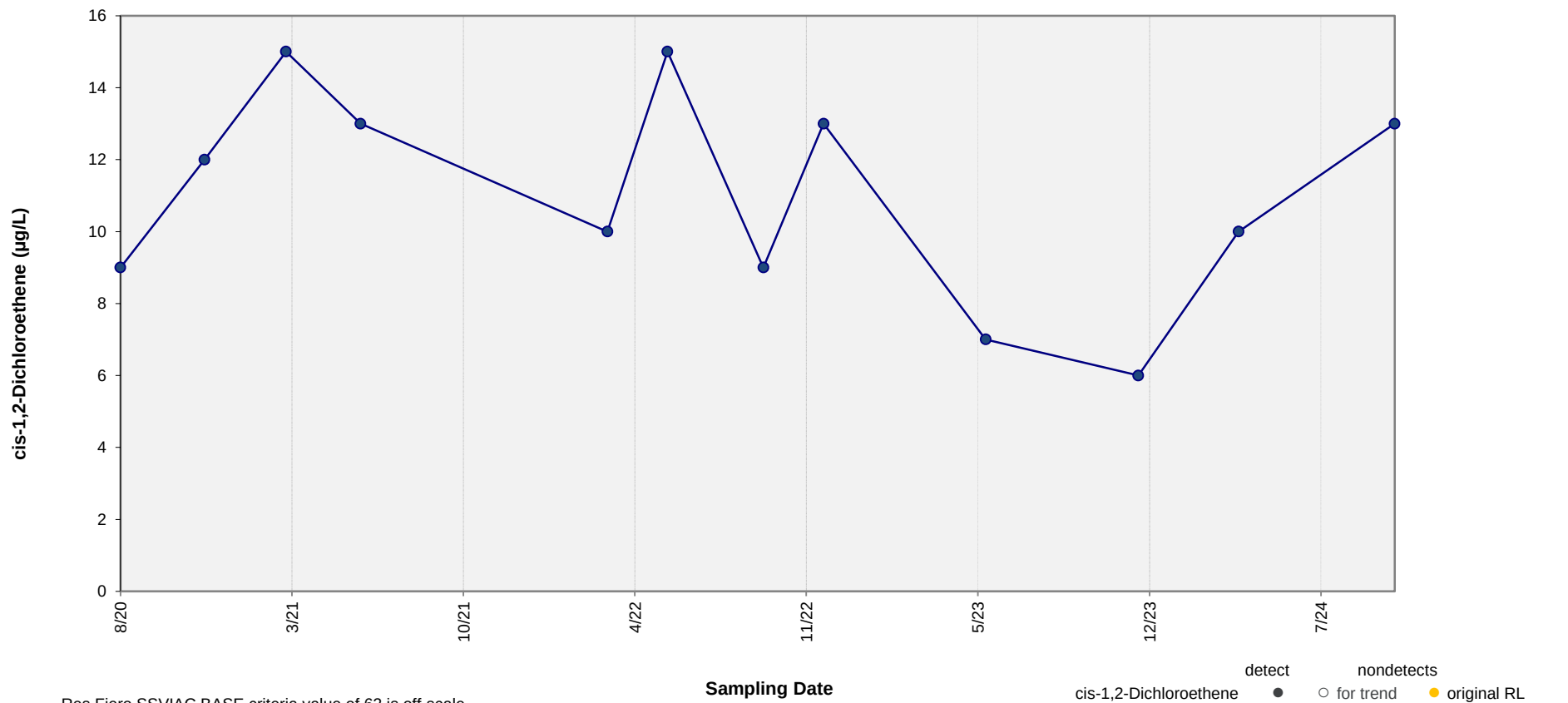
No trend

Median Slope Estimate = 1.4E-03 µg/L Per Day
 95% Confidence Interval = 0.0E+00 to 2.8E-03 µg/L Per Day



Concentration vs. Time Plot – Trichloroethene in Well MW-06-20
 RACER PNC GW

Figure E-5



Results of Mann-Kendall Test for Trend:

No Significant Trend

p value = 0.265 Note: p value < 0.05 indicates a statistically significant trend (95% confidence level).

Results of Sen's Estimator of Slope:

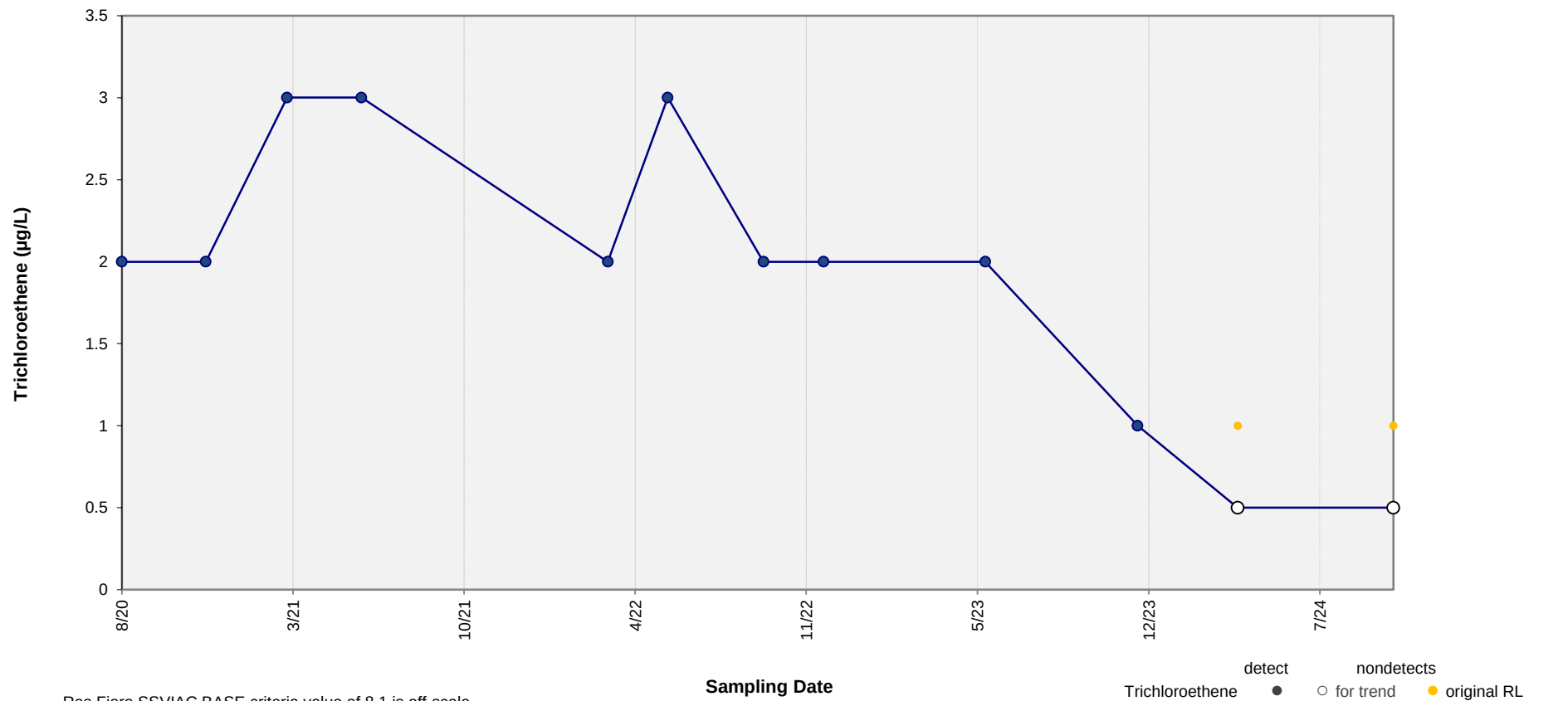
No Significant Trend

Median Slope Estimate = -1.8E-03 µg/L Per Day
 95% Confidence Interval = -6.8E-03 to 2.7E-03 µg/L Per Day



Concentration vs. Time Plot – cis-1,2-Dichloroethene in Well MW-07-20
 RACER PNC GW

Figure E-6



Results of Mann-Kendall Test for Trend:

DECREASING TREND

p value = Note: p value < 0.05 indicates a statistically significant trend (95% confidence level).

Results of Sen's Estimator of Slope:

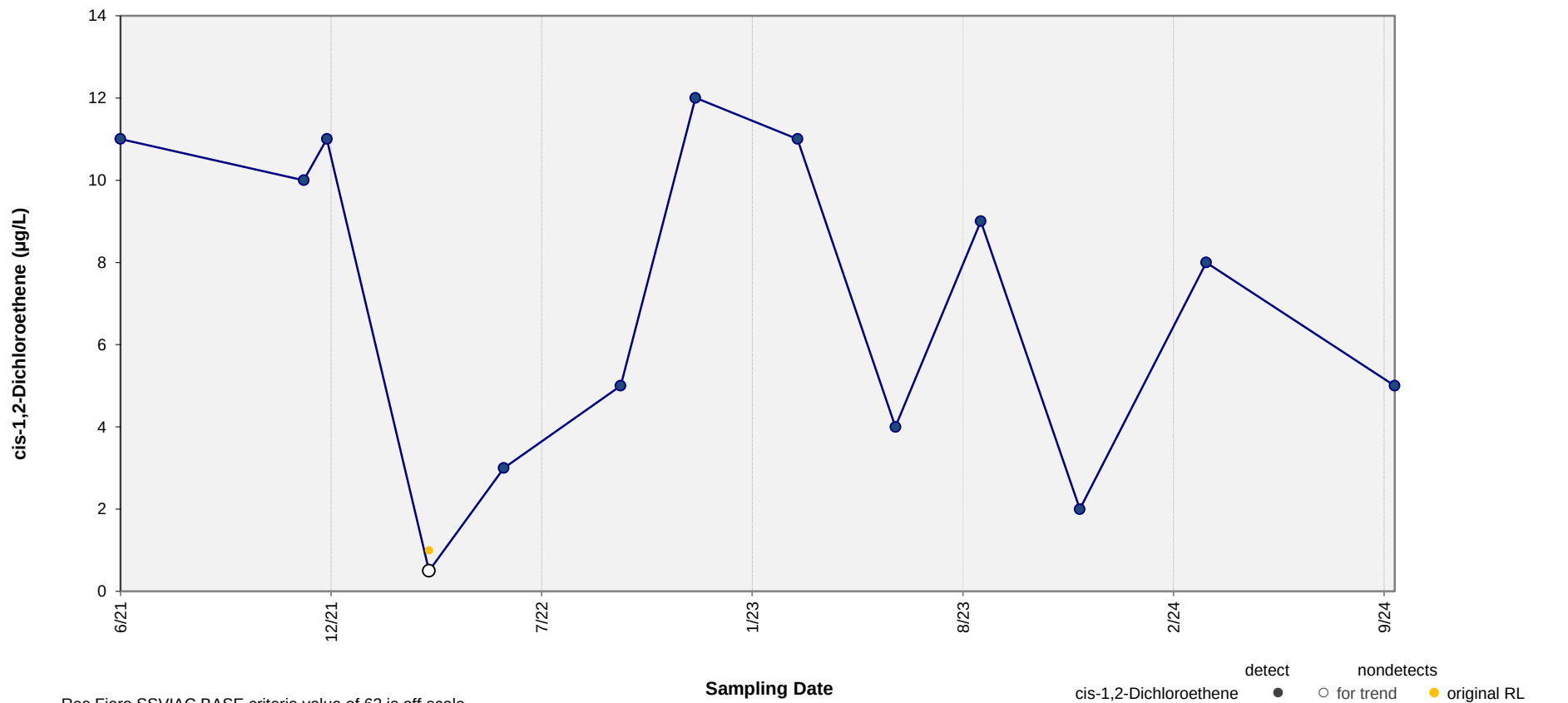
No trend

Median Slope Estimate = µg/L Per Day
 95% Confidence Interval = to µg/L Per Day



Concentration vs. Time Plot – Trichloroethene in Well MW-07-20
 RACER PNC GW

Figure E-7



Results of Mann-Kendall Test for Trend:

No Significant Trend

p value = 0.212 Note: p value < 0.05 indicates a statistically significant trend (95% confidence level).

Results of Sen's Estimator of Slope:

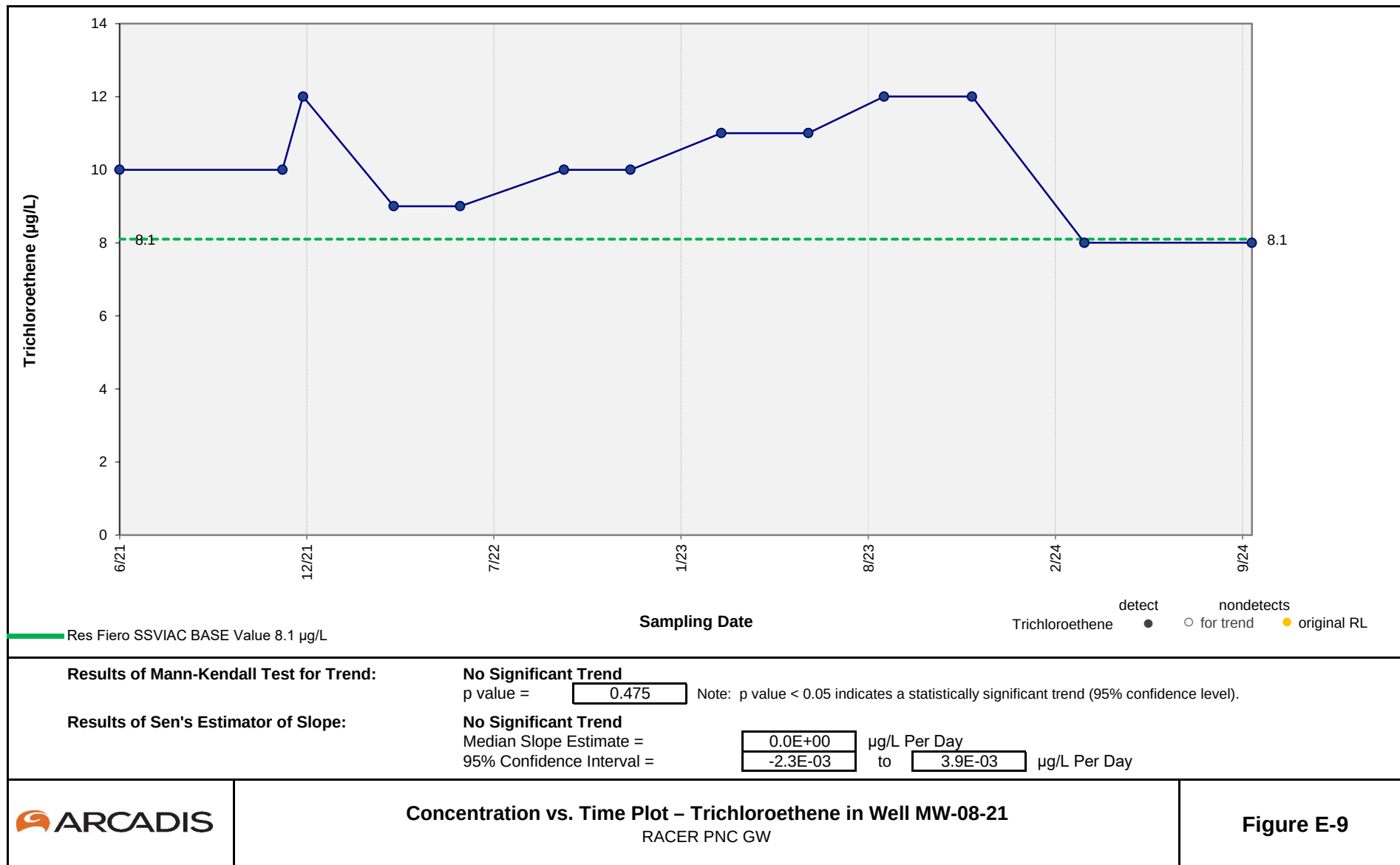
No Significant Trend

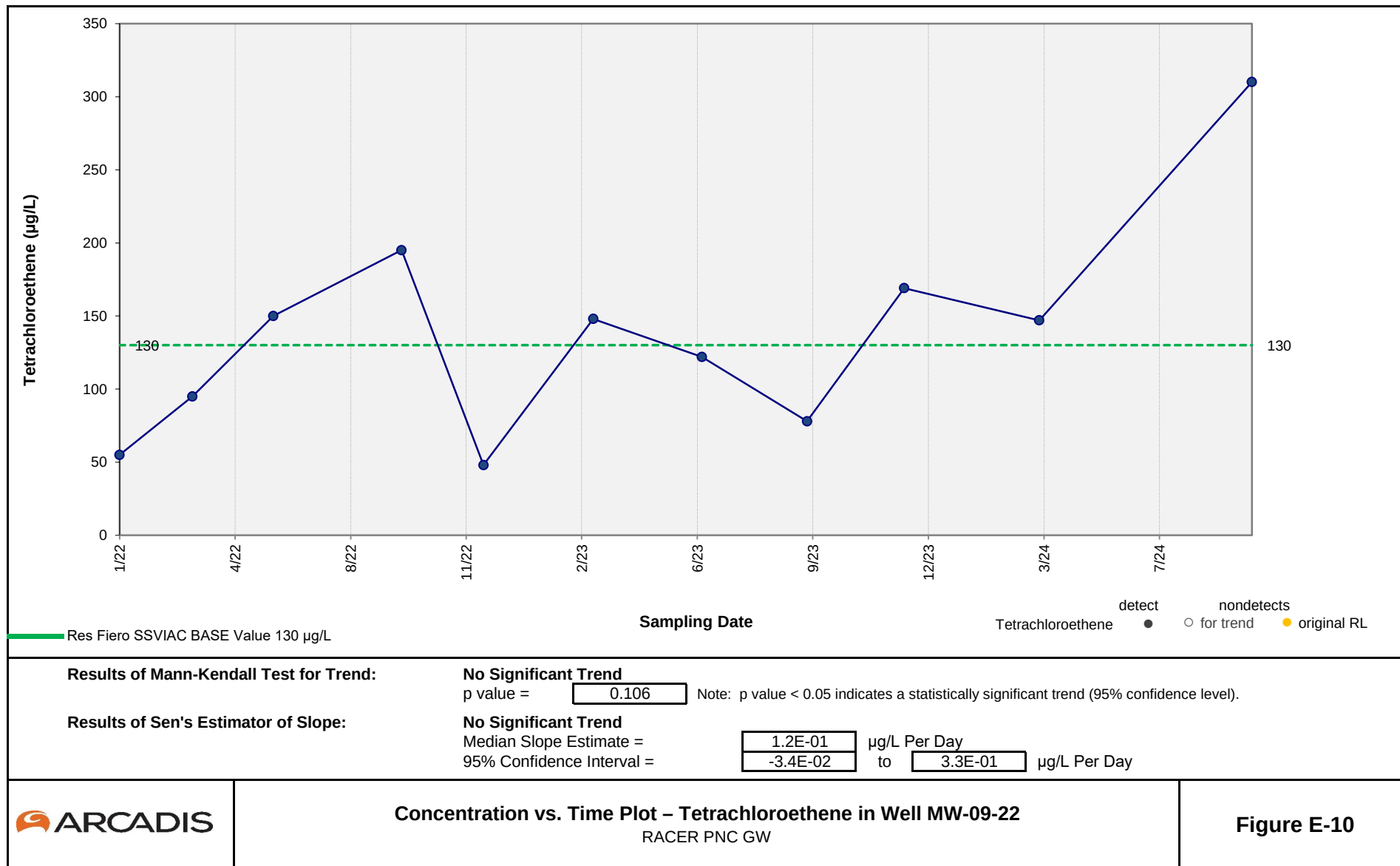
Median Slope Estimate = -3.1E-03 µg/L Per Day
 95% Confidence Interval = -1.1E-02 to 2.8E-03 µg/L Per Day

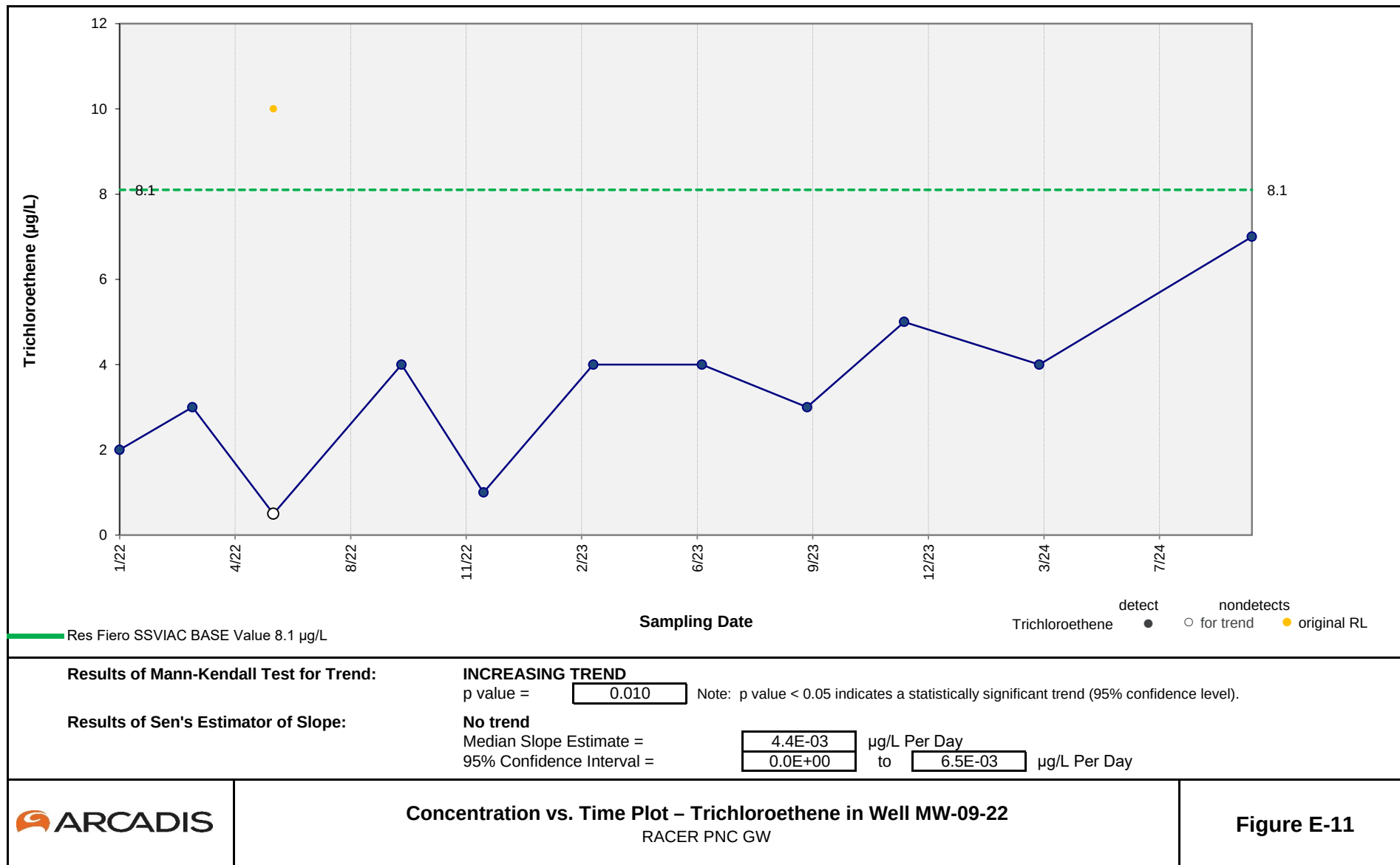


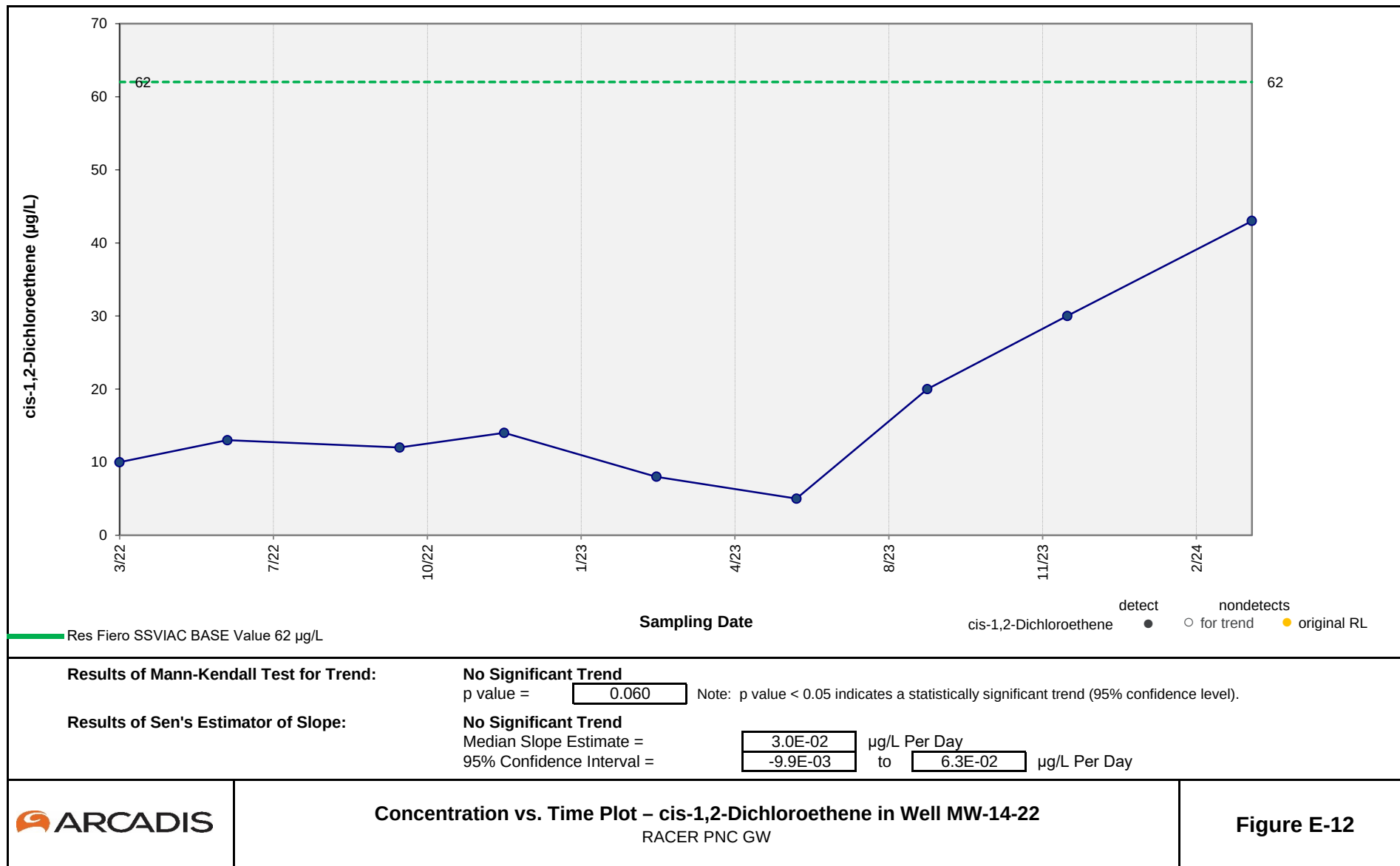
Concentration vs. Time Plot – cis-1,2-Dichloroethene in Well MW-08-21
 RACER PNC GW

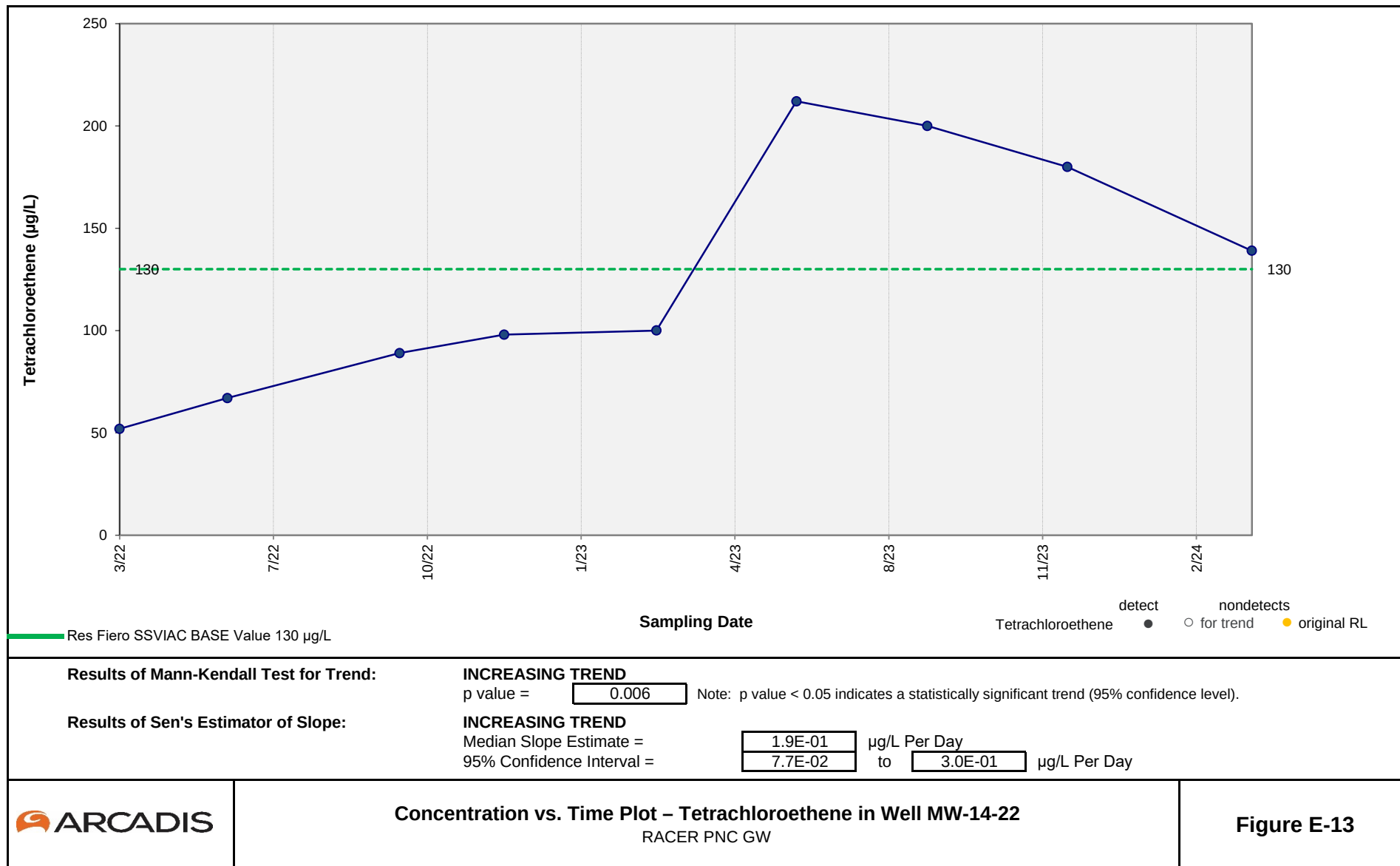
Figure E-8

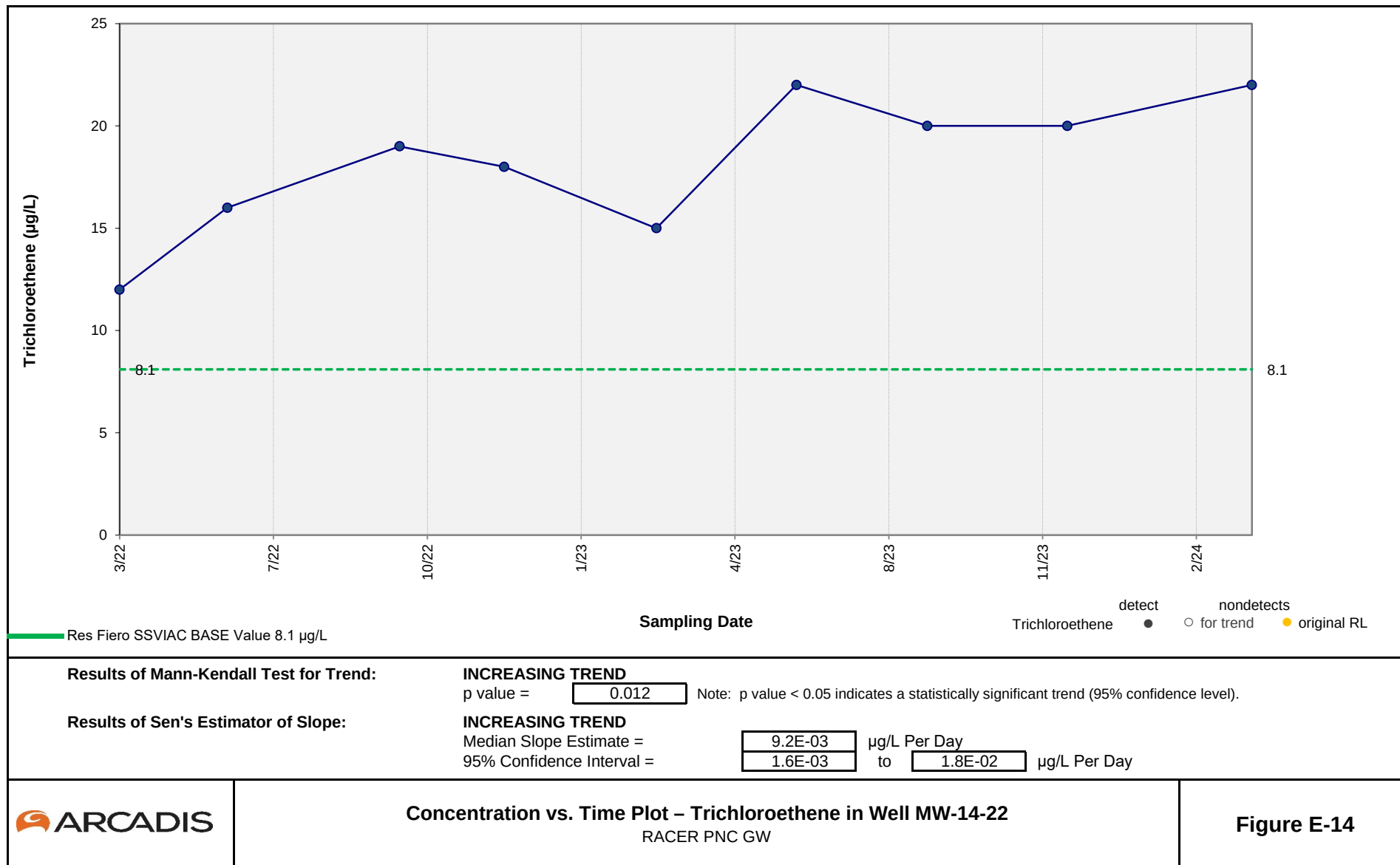


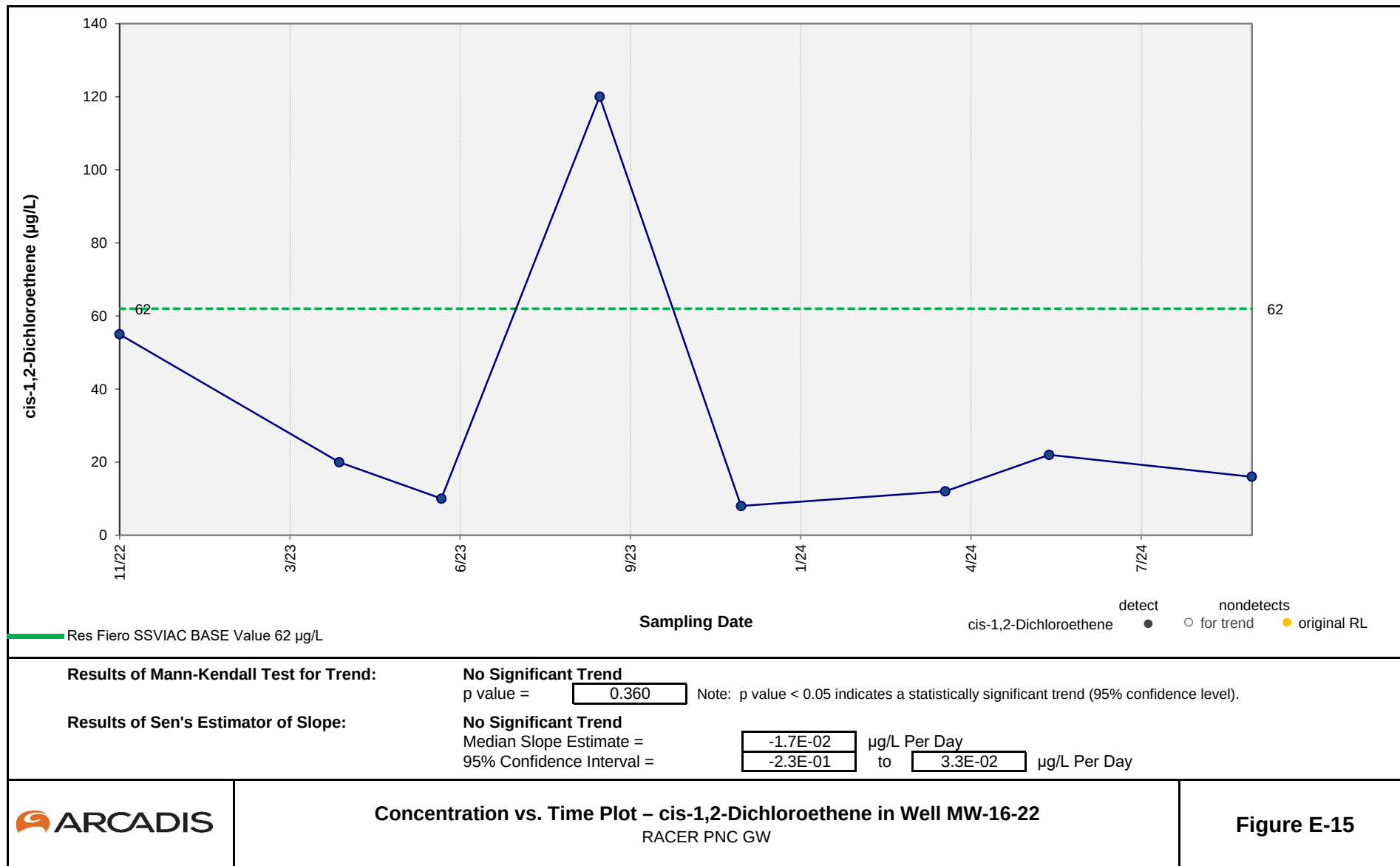


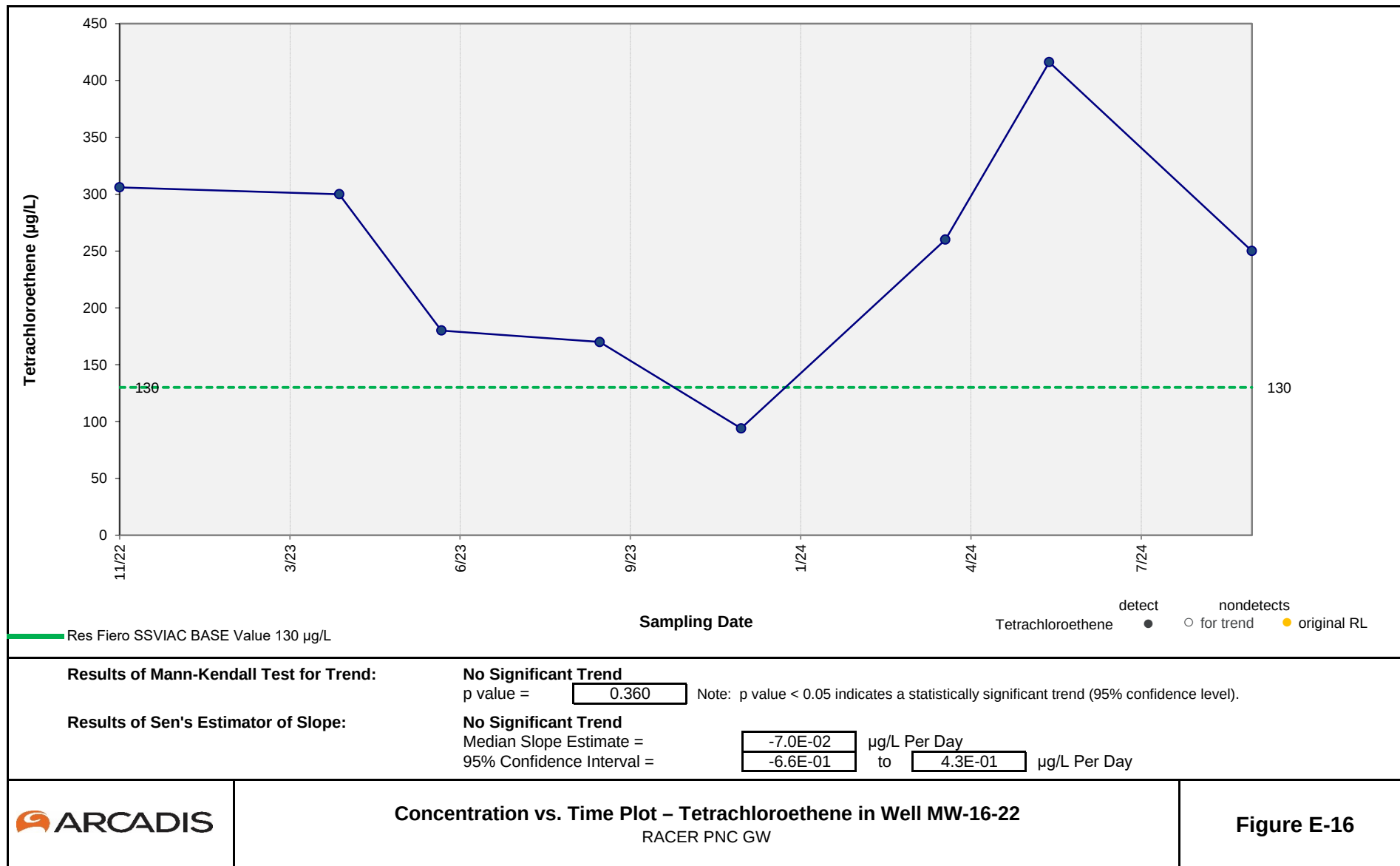


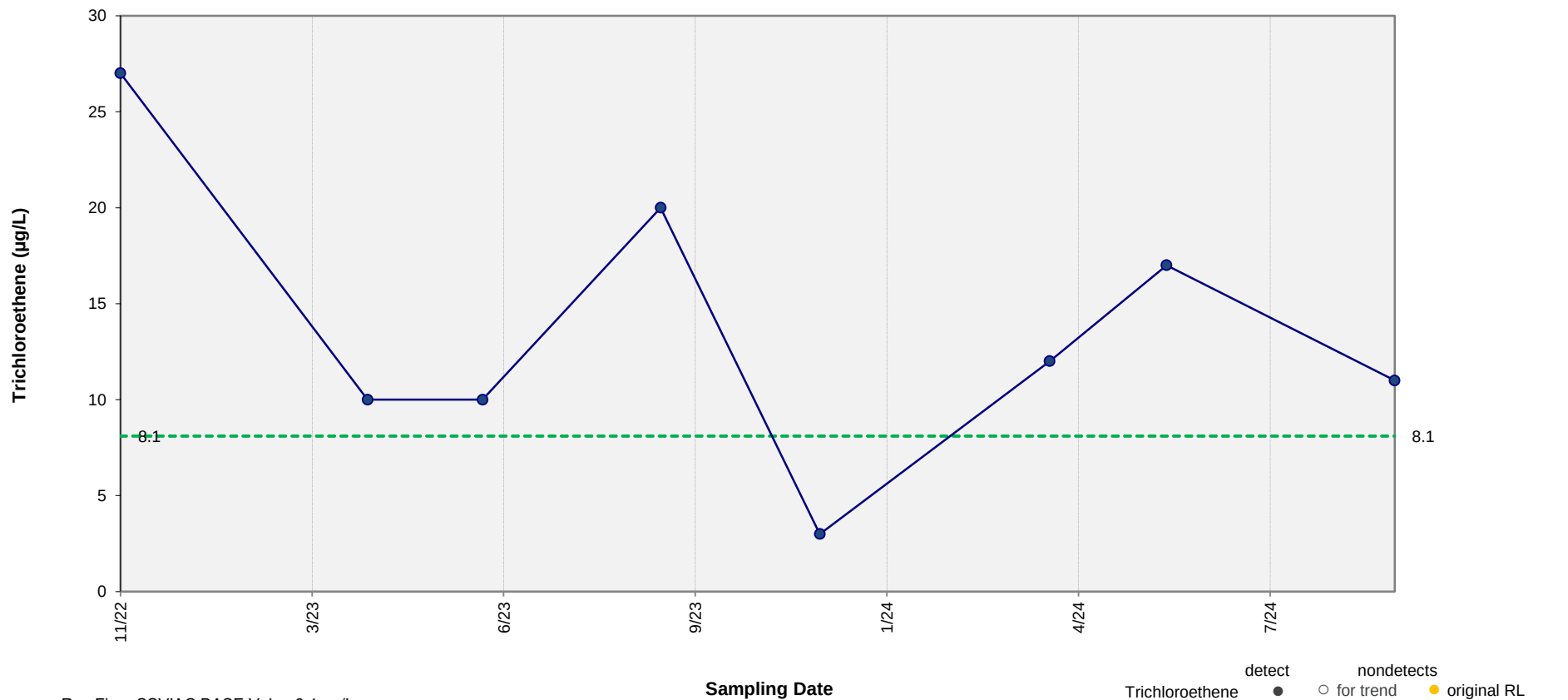












Results of Mann-Kendall Test for Trend:

No Significant Trend

p value = 0.406 Note: p value < 0.05 indicates a statistically significant trend (95% confidence level).

Results of Sen's Estimator of Slope:

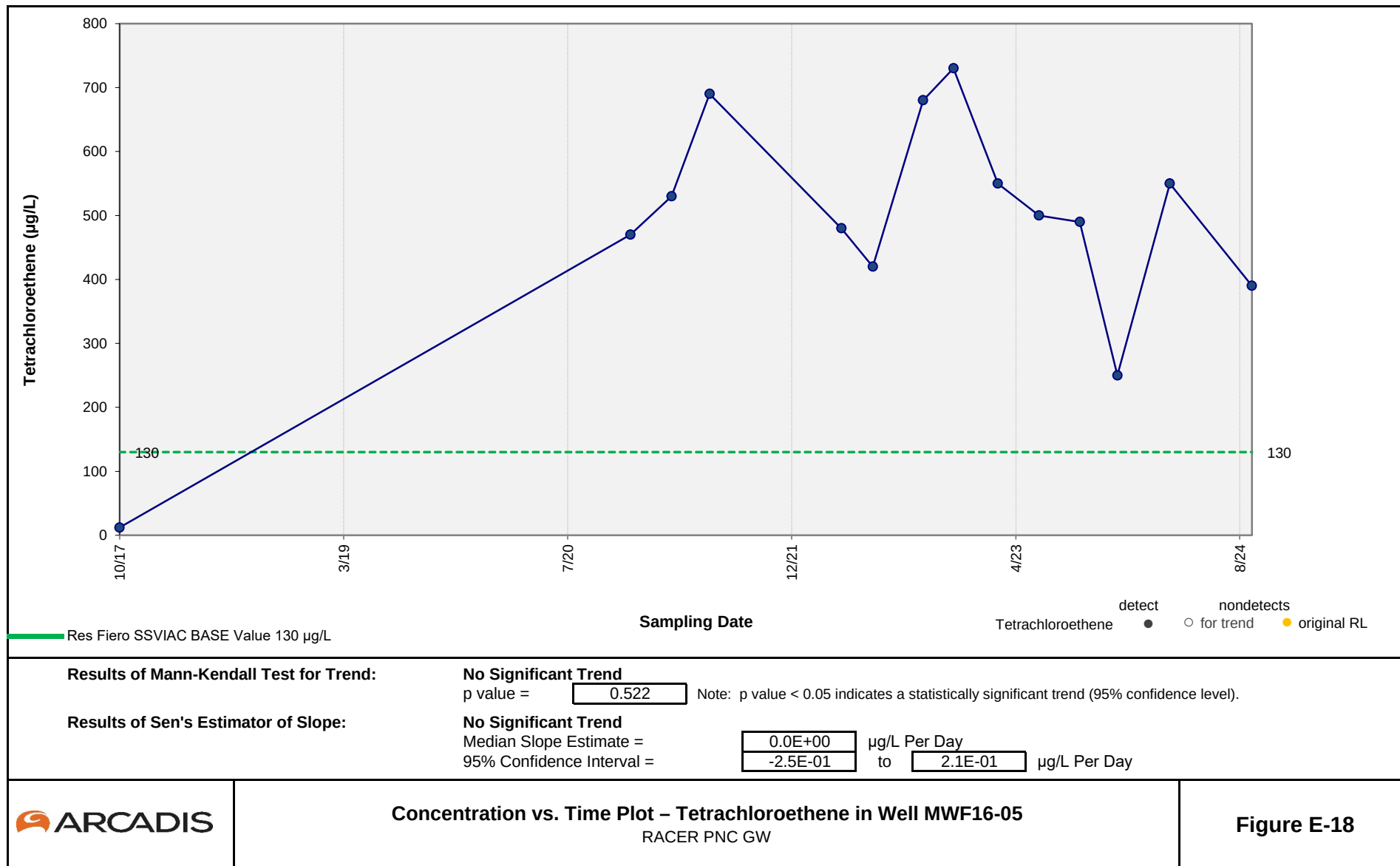
No Significant Trend

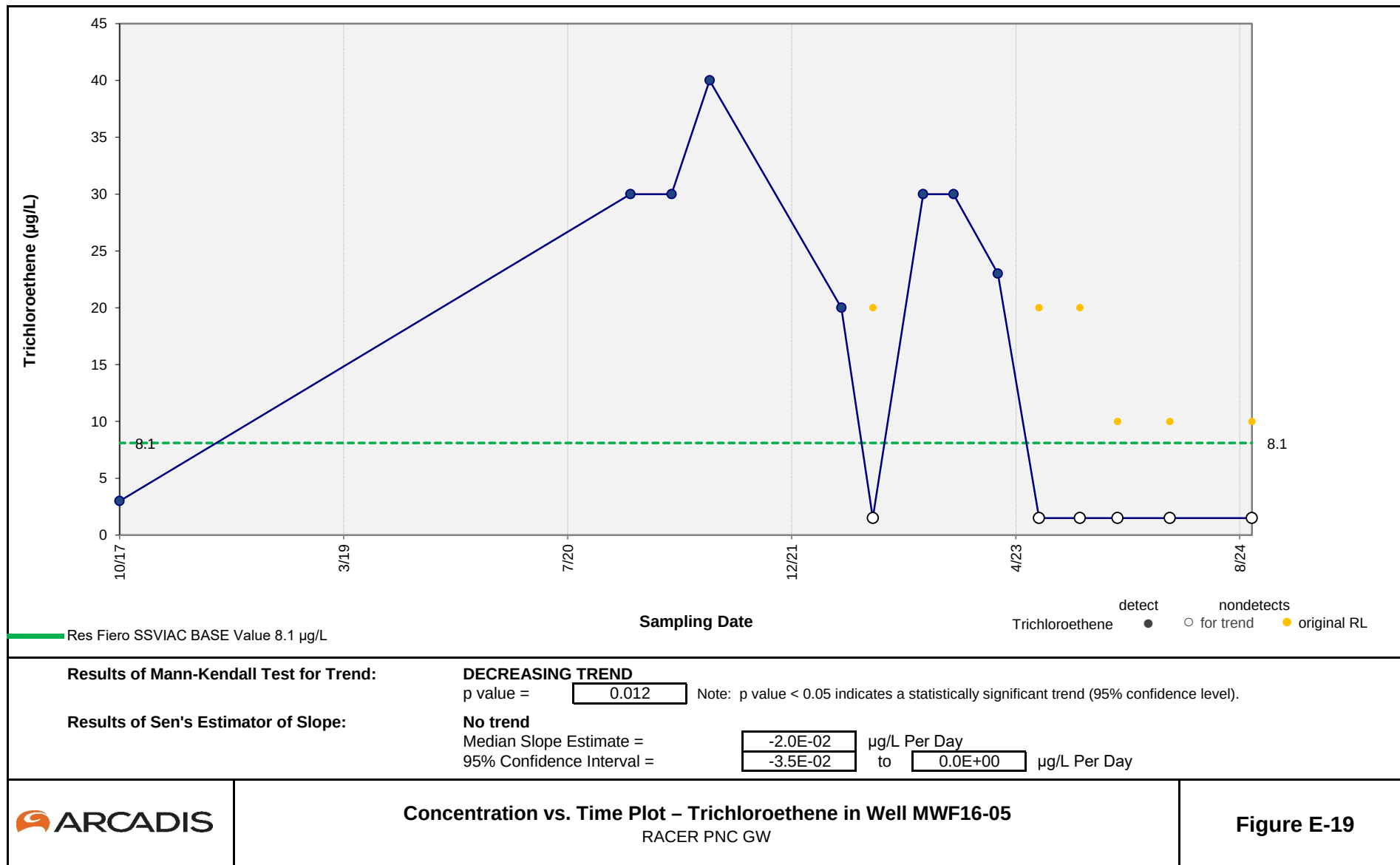
Median Slope Estimate = -8.5E-03 µg/L Per Day
 95% Confidence Interval = -4.0E-02 to 1.9E-02 µg/L Per Day

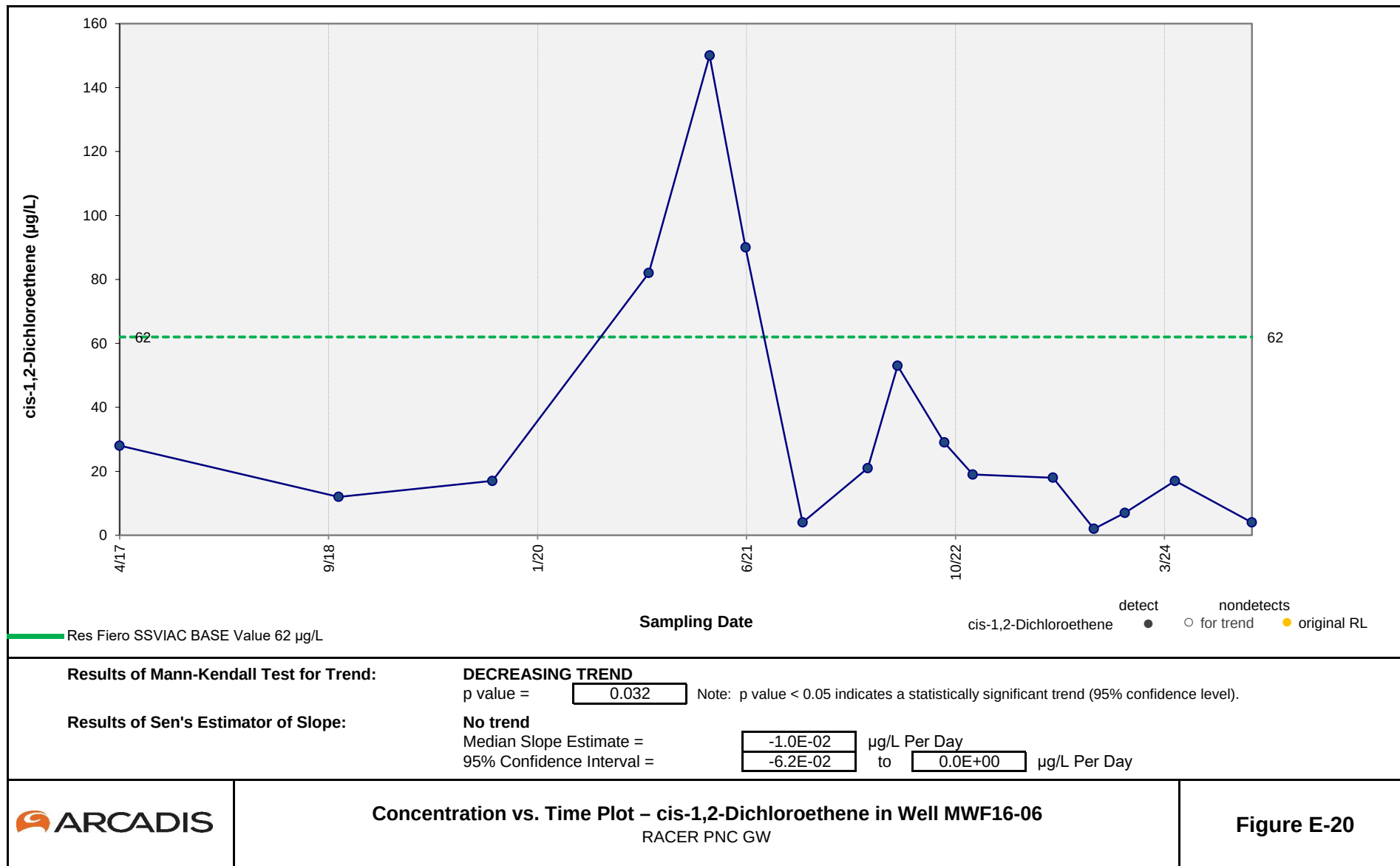


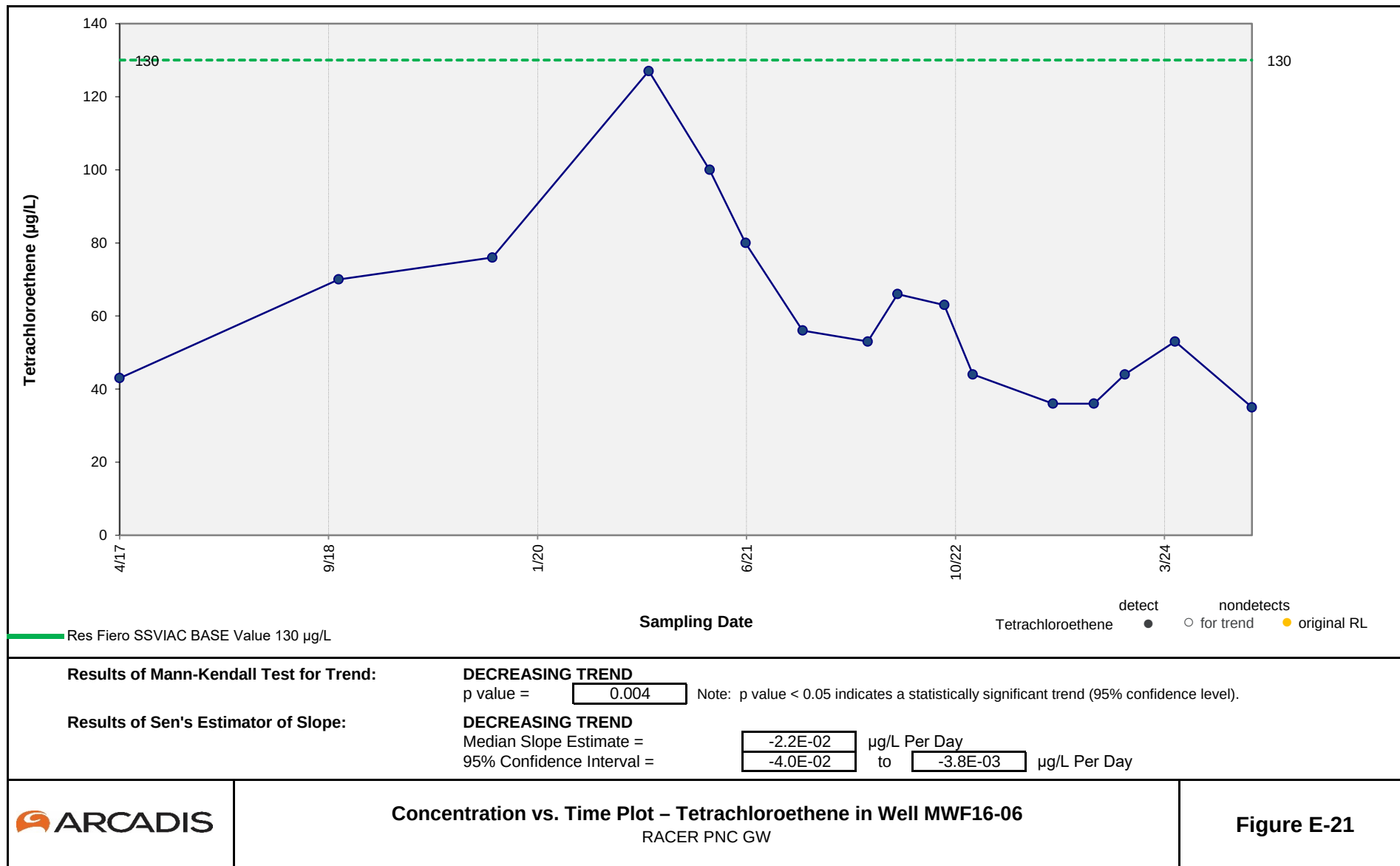
Concentration vs. Time Plot – Trichloroethene in Well MW-16-22
 RACER PNC GW

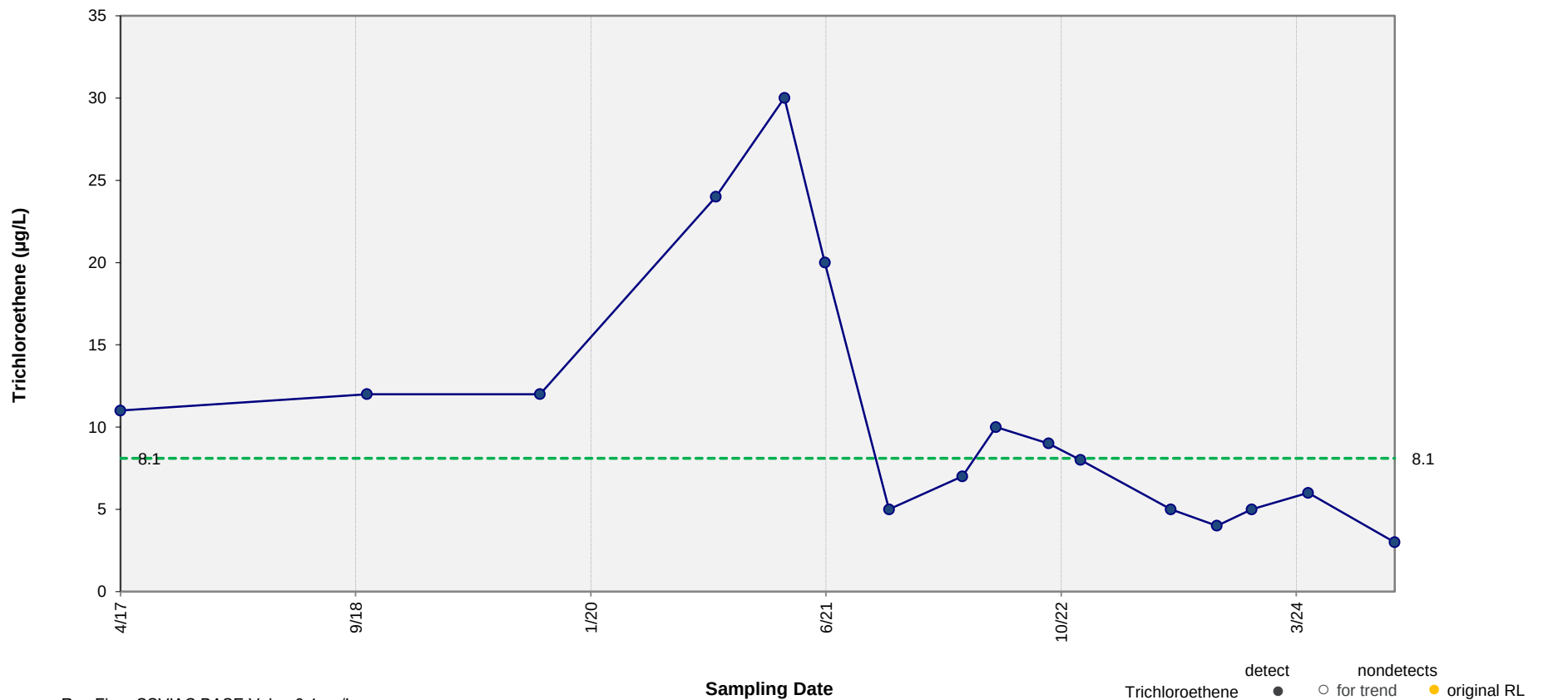
Figure E-17











Results of Mann-Kendall Test for Trend:

DECREASING TREND

p value = 0.001

Note: p value < 0.05 indicates a statistically significant trend (95% confidence level).

Results of Sen's Estimator of Slope:

DECREASING TREND

Median Slope Estimate =

-4.6E-03

µg/L Per Day

95% Confidence Interval =

-1.4E-02

to

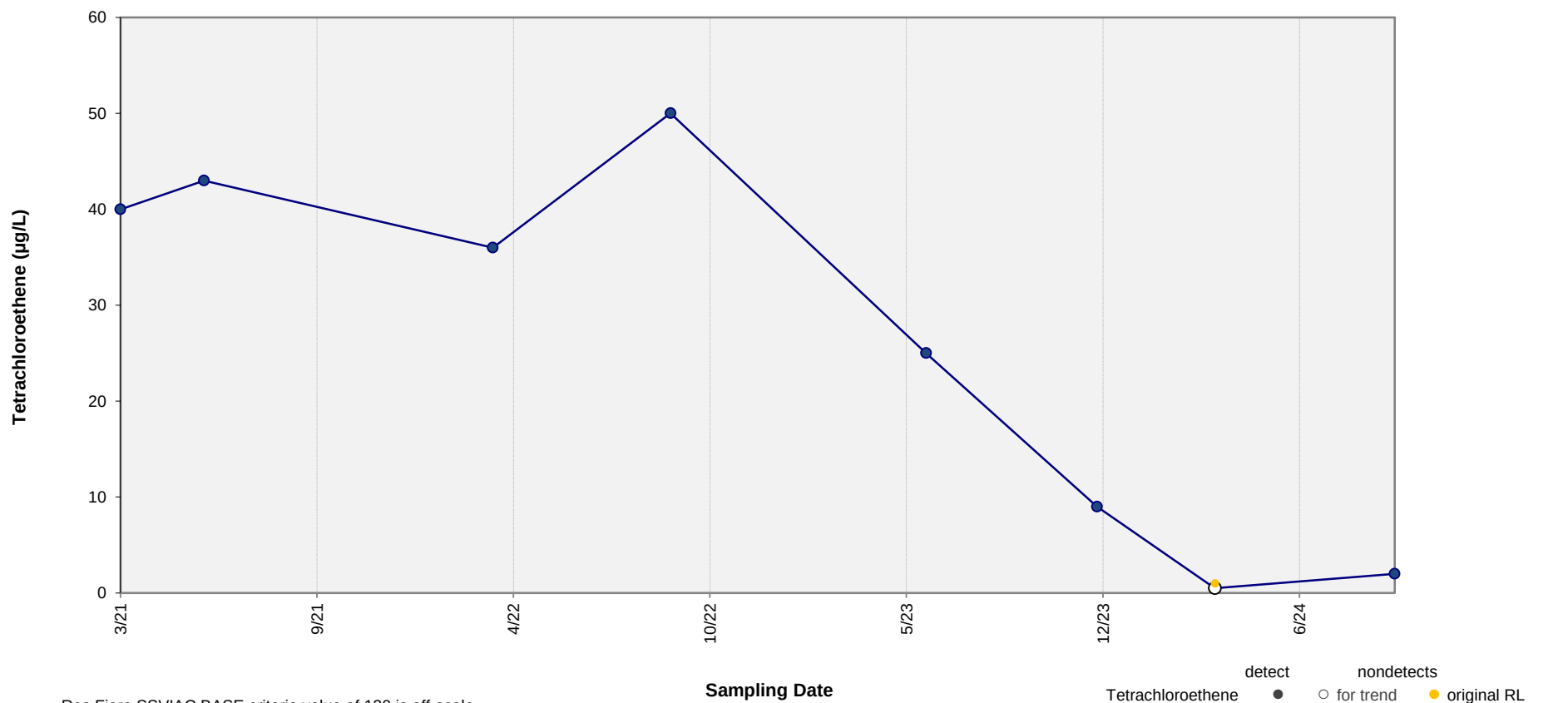
-2.3E-03

µg/L Per Day



Concentration vs. Time Plot – Trichloroethene in Well MWF16-06
RACER PNC GW

Figure E-22



Results of Mann-Kendall Test for Trend:

DECREASING TREND

p value = 0.016

Note: p value < 0.05 indicates a statistically significant trend (95% confidence level).

Results of Sen's Estimator of Slope:

No Significant Trend

Median Slope Estimate =

-3.5E-02

µg/L Per Day

95% Confidence Interval =

-7.0E-02

to

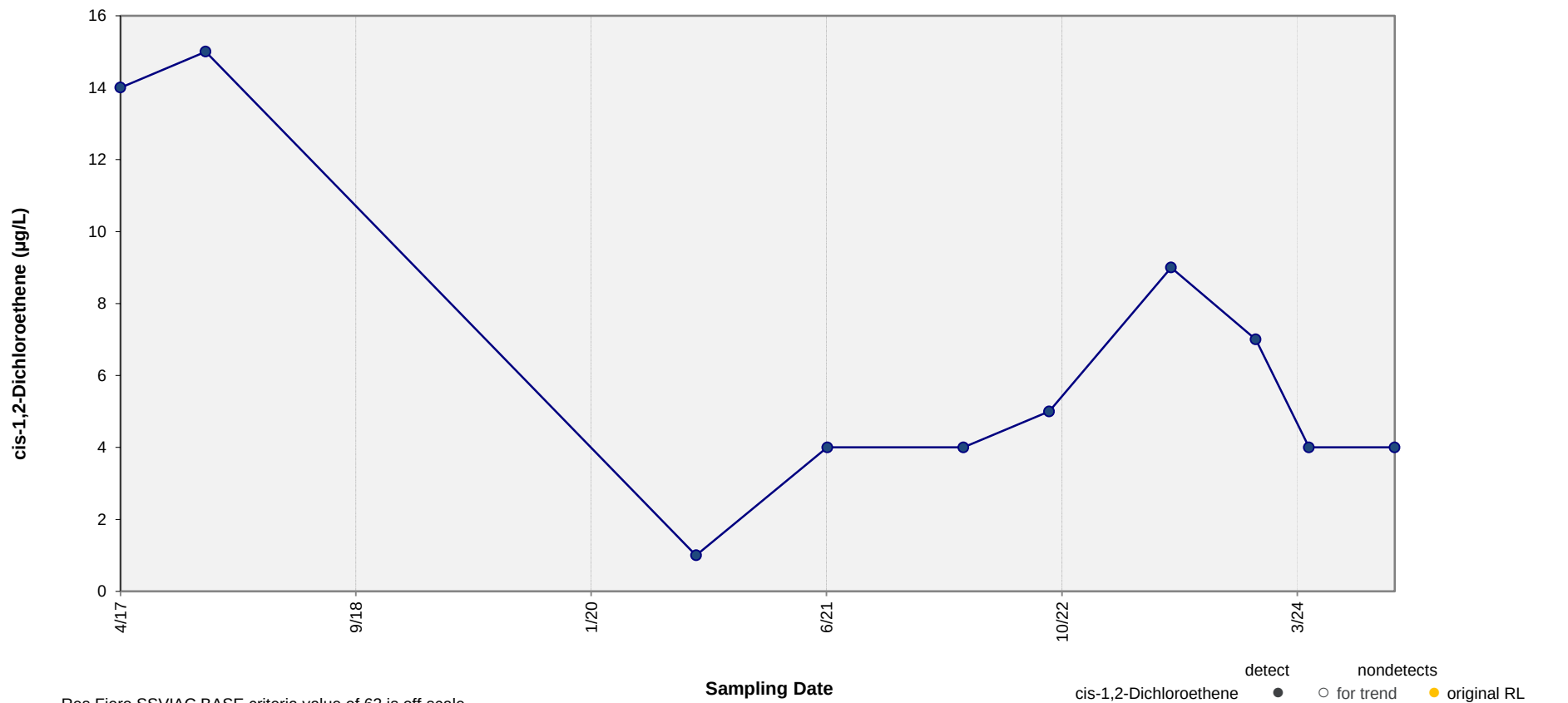
-1.9E-02

µg/L Per Day



Concentration vs. Time Plot – Tetrachloroethene in Well MWF16-12
RACER PNC GW

Figure E-23



Results of Mann-Kendall Test for Trend:

No Significant Trend

p value = 0.300 Note: p value < 0.05 indicates a statistically significant trend (95% confidence level).

Results of Sen's Estimator of Slope:

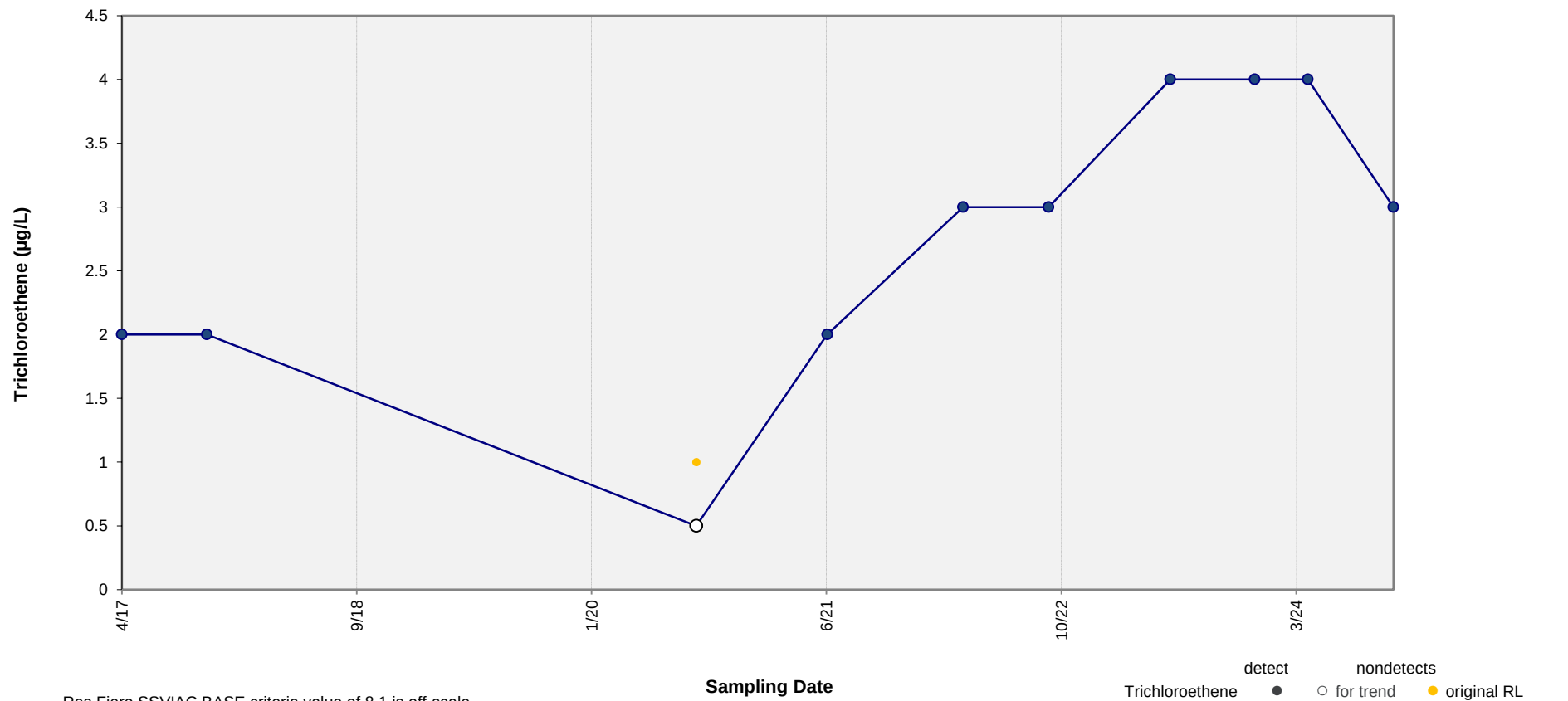
No Significant Trend

Median Slope Estimate = -1.4E-03 µg/L Per Day
 95% Confidence Interval = -5.6E-03 to 3.4E-03 µg/L Per Day



Concentration vs. Time Plot – cis-1,2-Dichloroethene in Well MWF16-15
 RACER PNC GW

Figure E-24



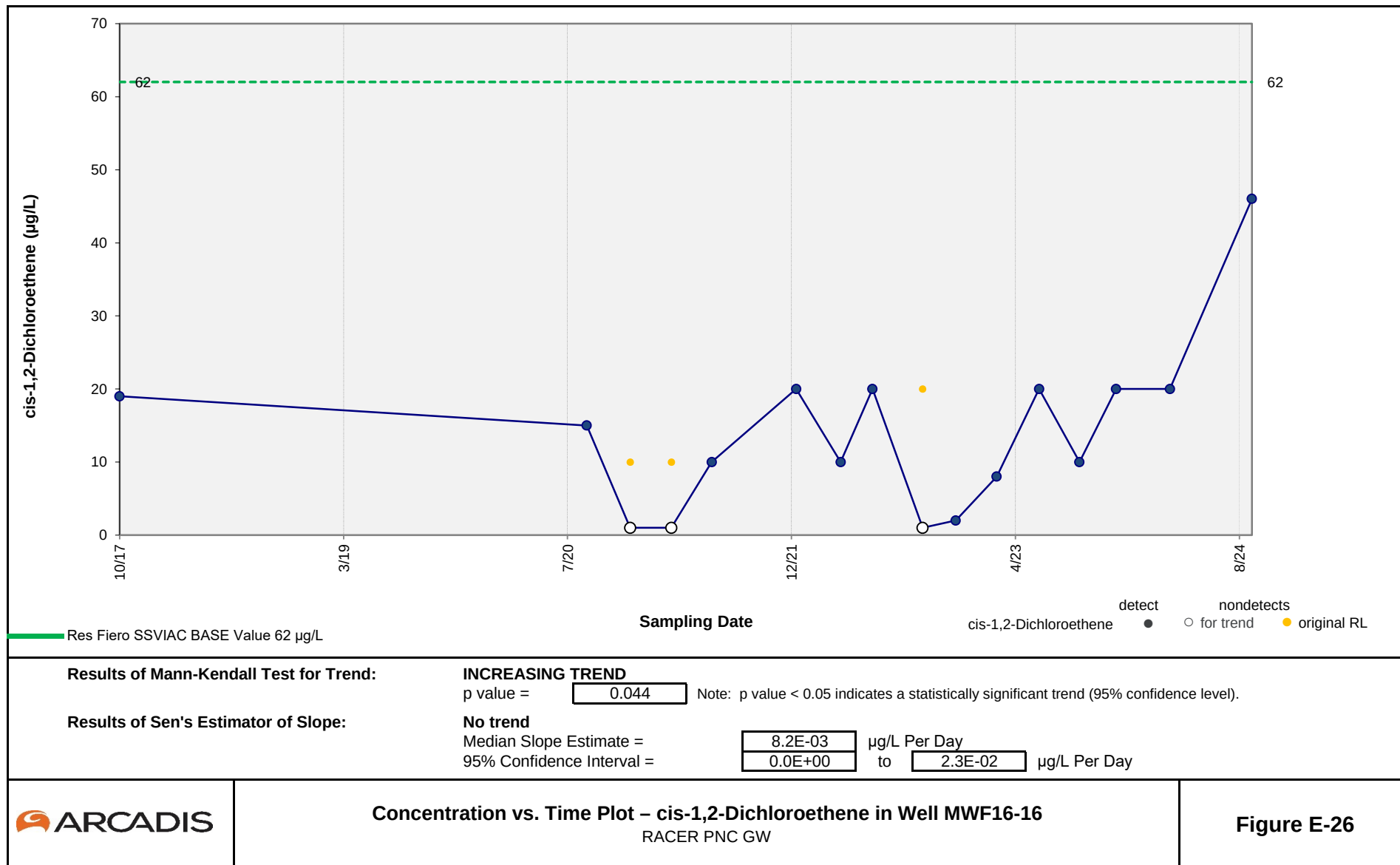
Results of Mann-Kendall Test for Trend: **INCREASING TREND**
 p value = 0.011 Note: p value < 0.05 indicates a statistically significant trend (95% confidence level).

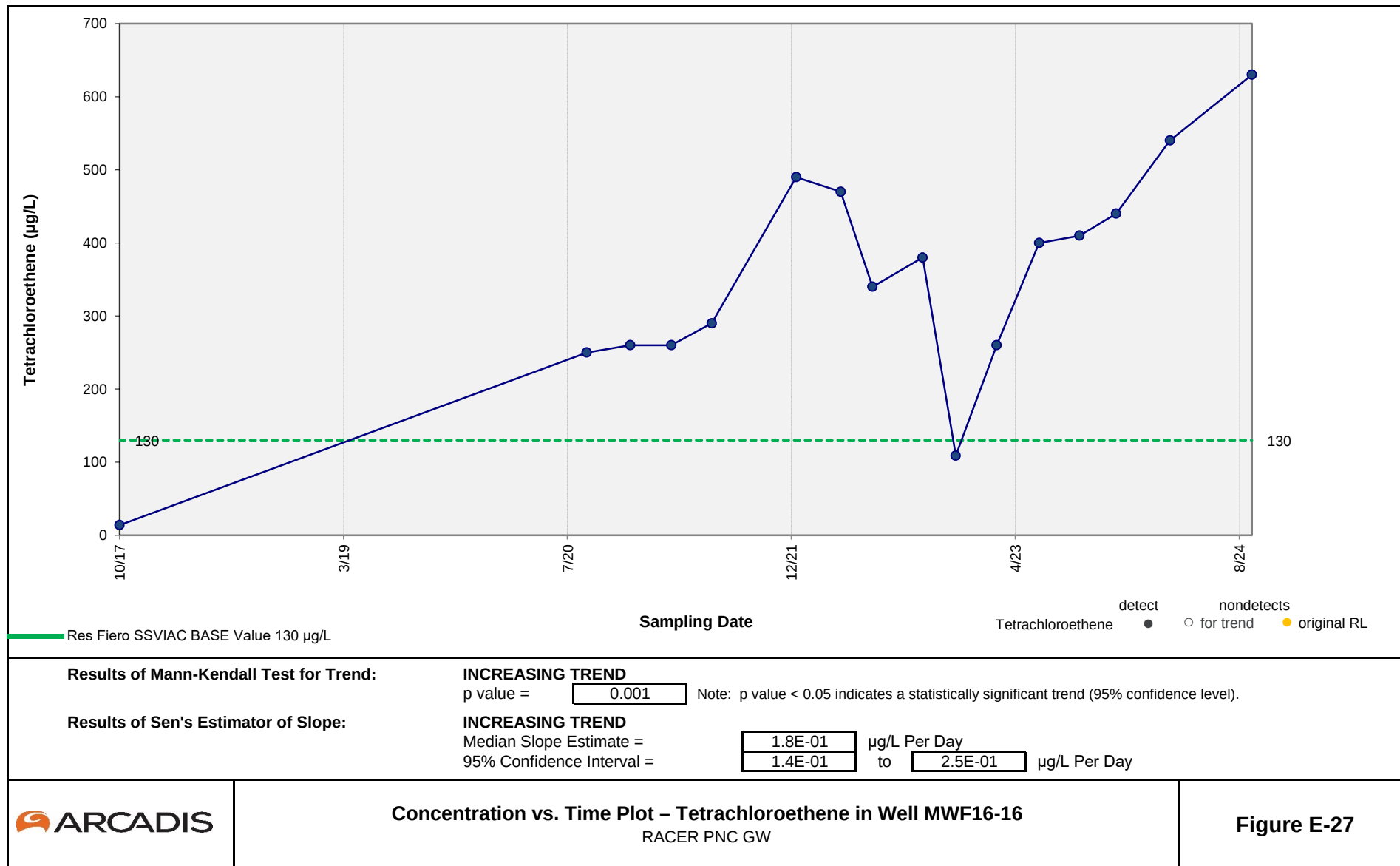
Results of Sen's Estimator of Slope: **No trend**
 Median Slope Estimate = 8.3E-04 µg/L Per Day
 95% Confidence Interval = 0.0E+00 to 2.1E-03 µg/L Per Day

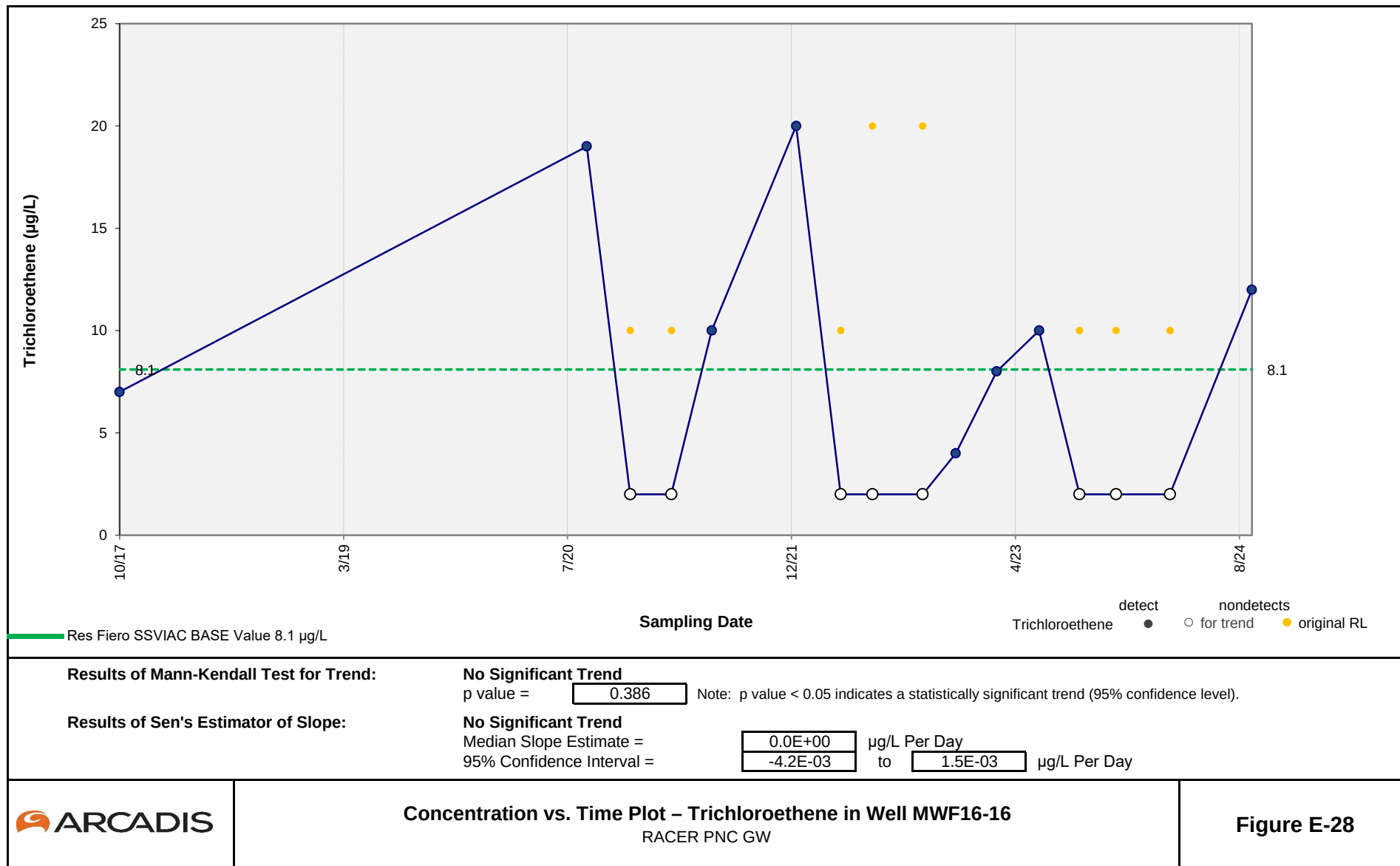


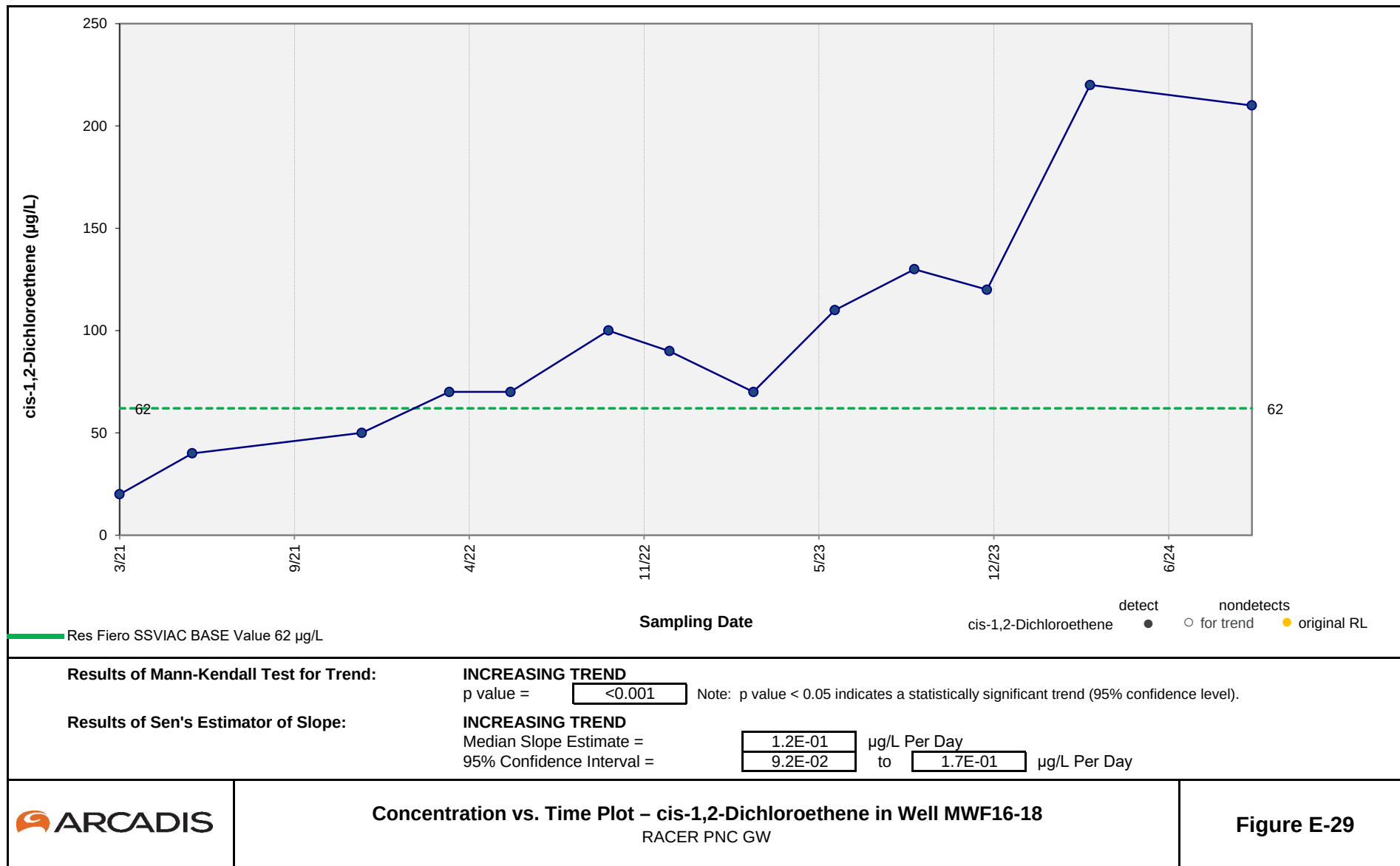
Concentration vs. Time Plot – Trichloroethene in Well MWF16-15
 RACER PNC GW

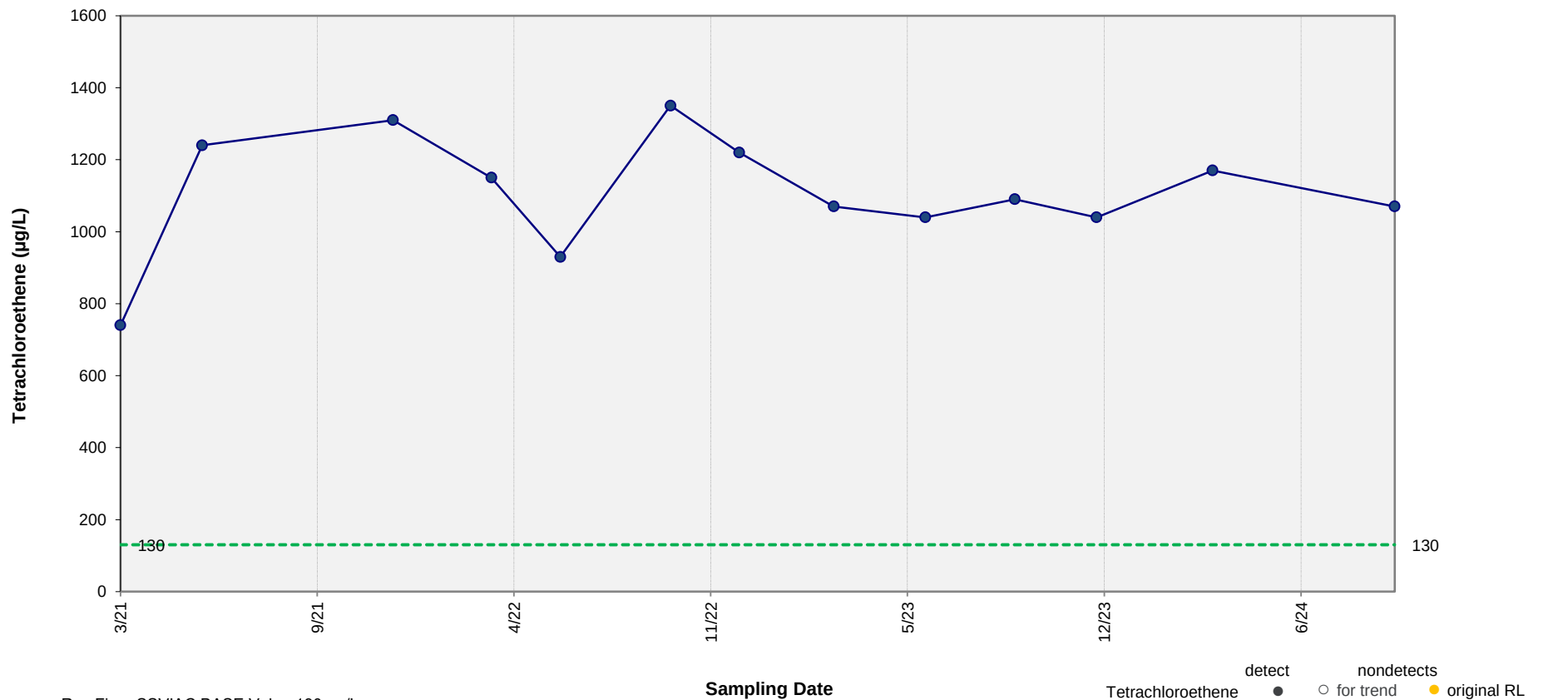
Figure E-25











Res Fiero SSVIAC BASE Value 130 µg/L

Results of Mann-Kendall Test for Trend:

No Significant Trend

p value = 0.334 Note: p value < 0.05 indicates a statistically significant trend (95% confidence level).

Results of Sen's Estimator of Slope:

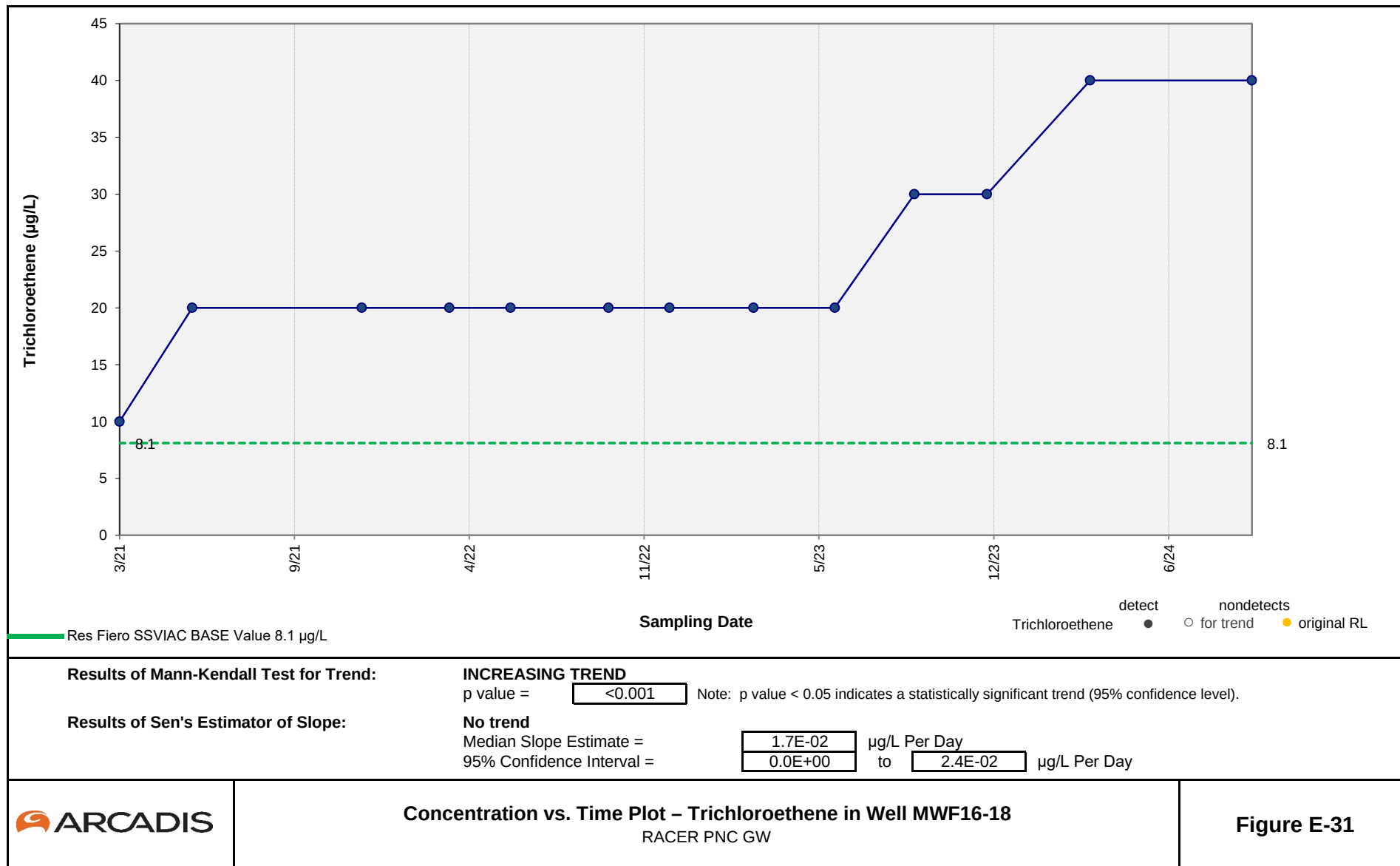
No Significant Trend

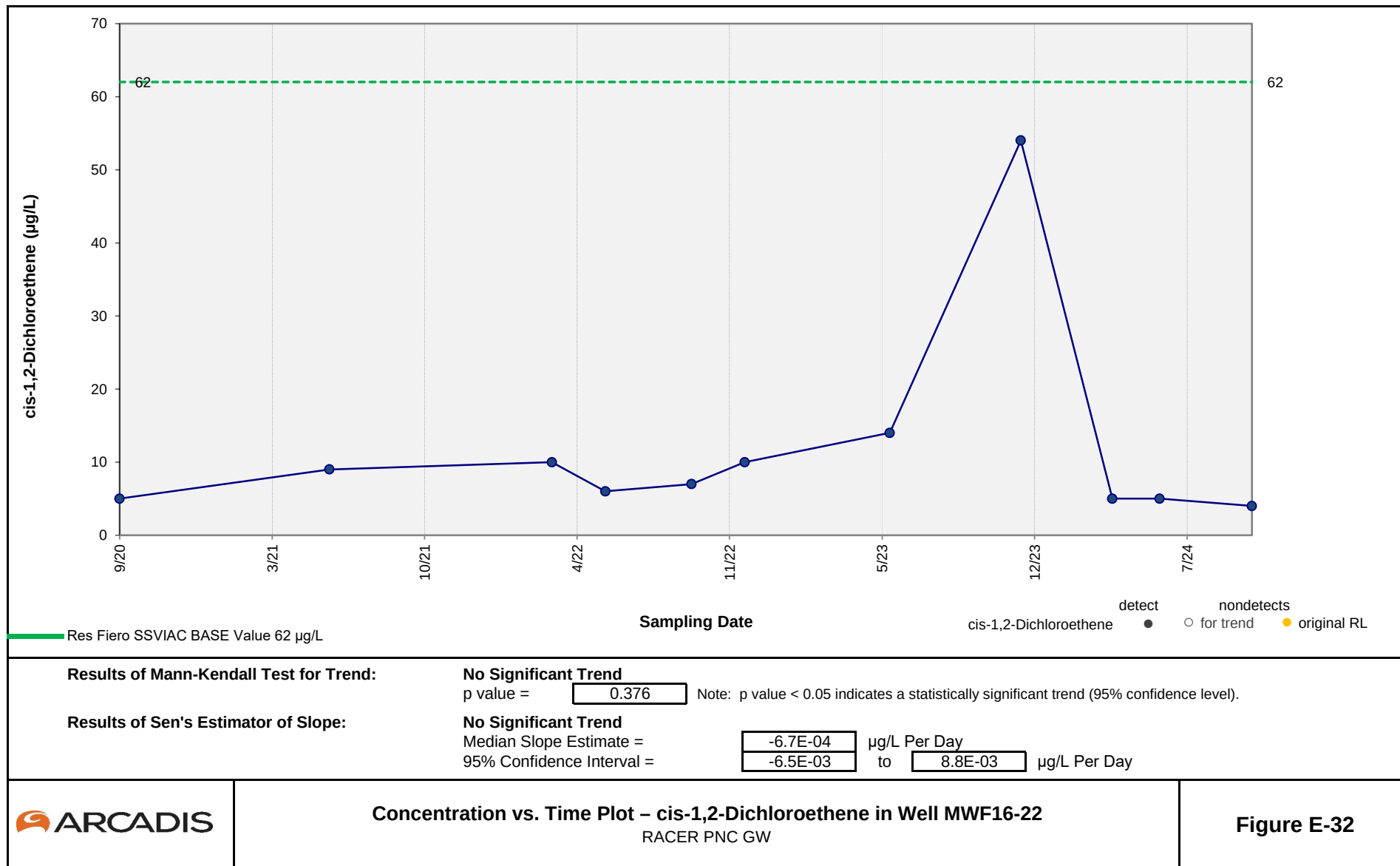
Median Slope Estimate = -7.8E-02 µg/L Per Day
 95% Confidence Interval = -3.1E-01 to 2.8E-01 µg/L Per Day

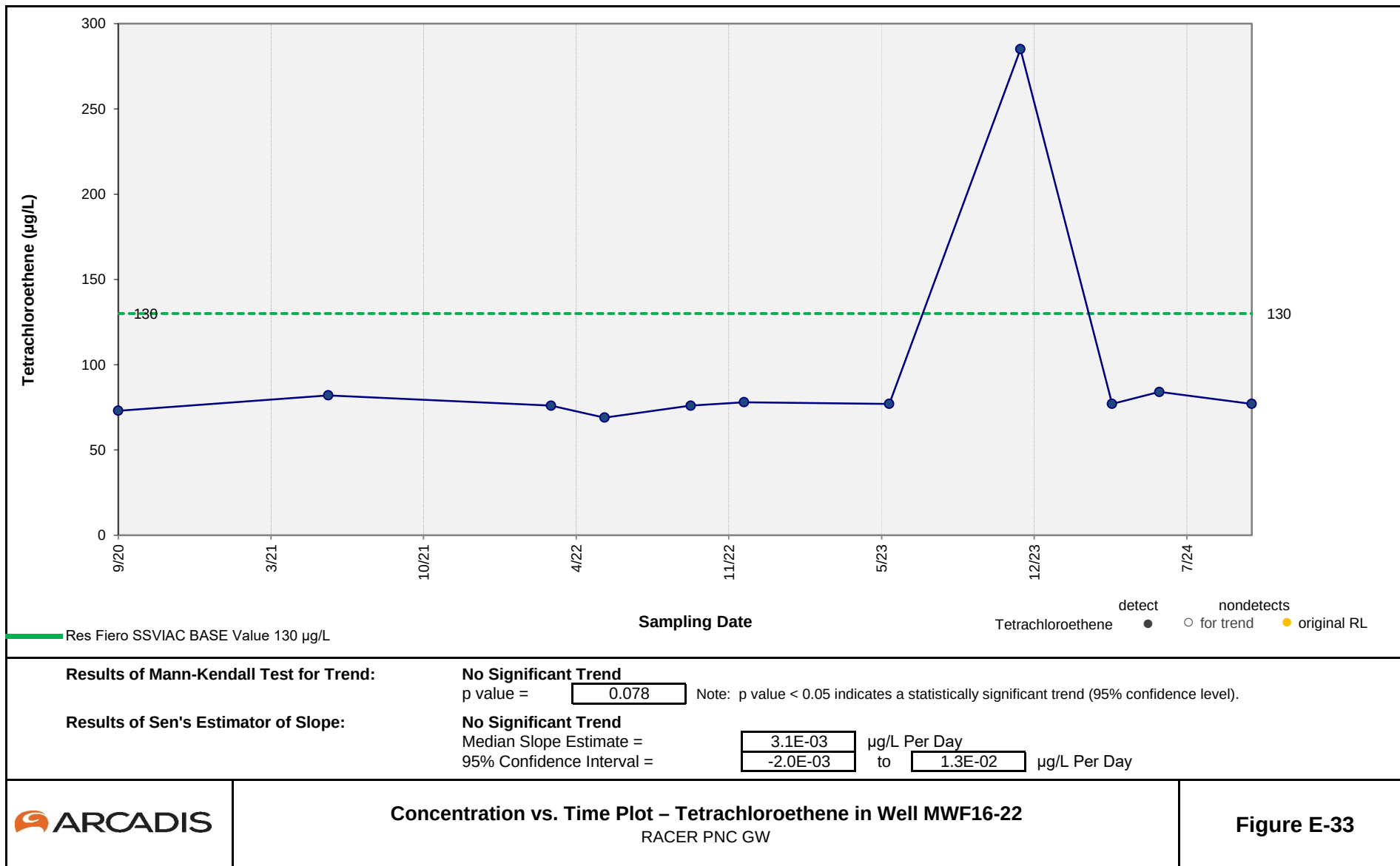


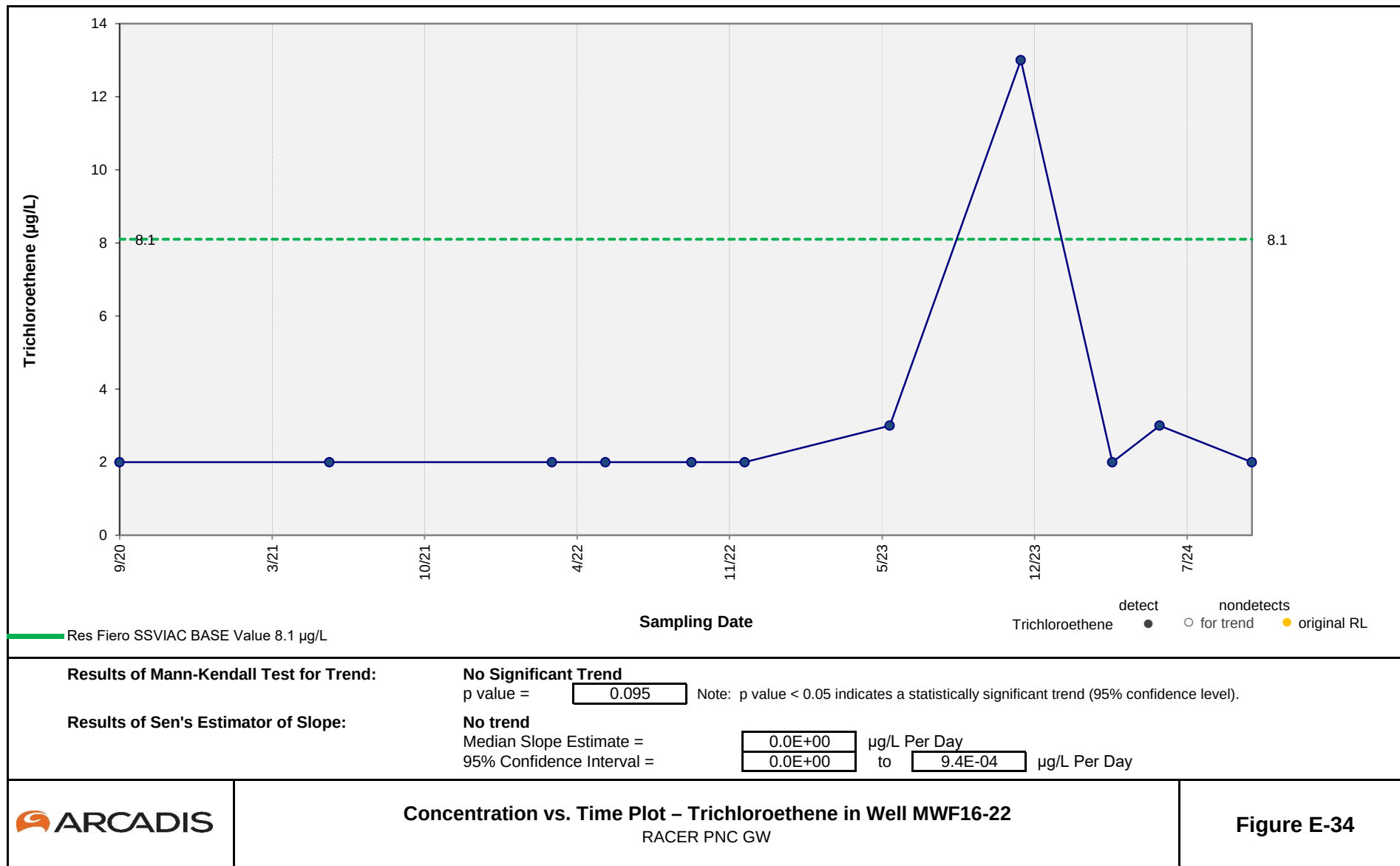
Concentration vs. Time Plot – Tetrachloroethene in Well MWF16-18
 RACER PNC GW

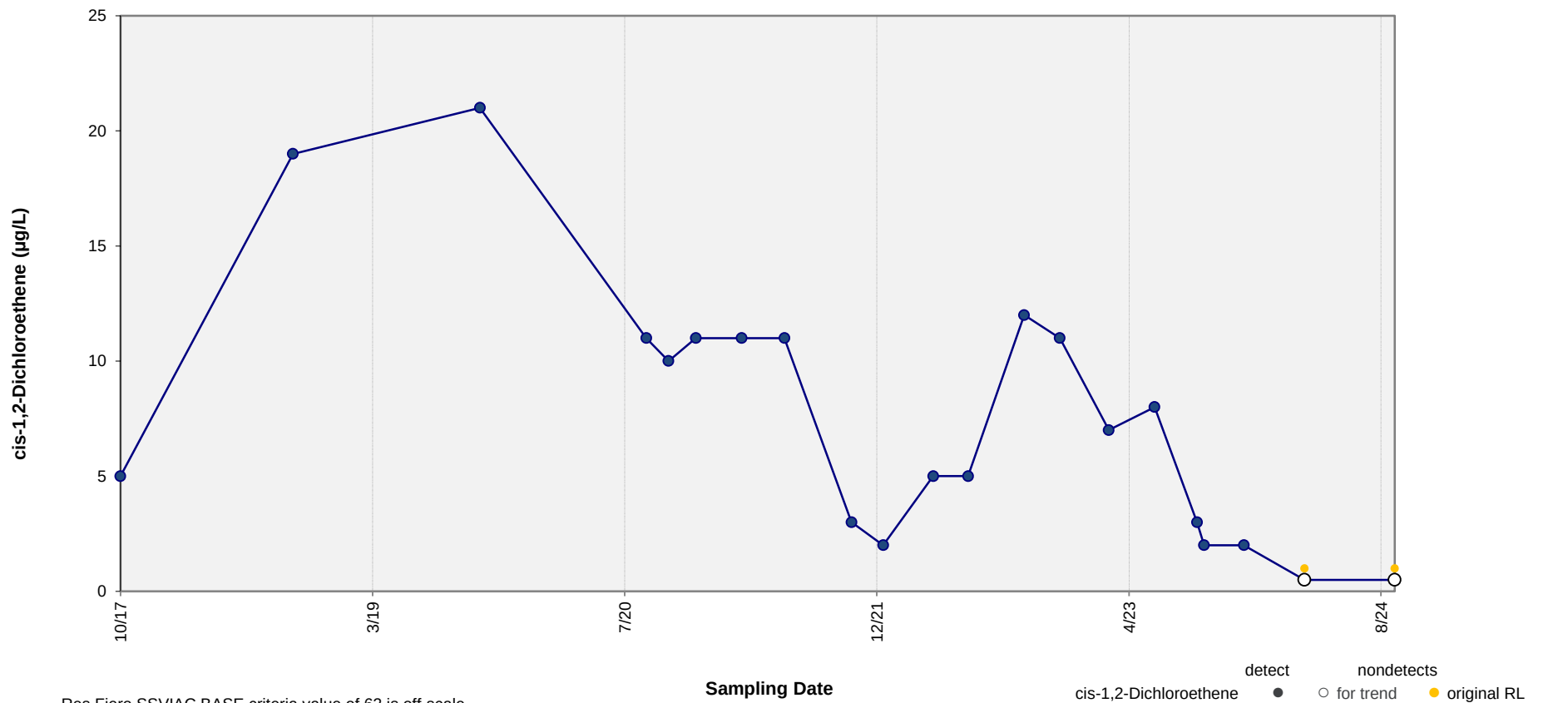
Figure E-30











Results of Mann-Kendall Test for Trend:

DECREASING TREND

p value = <0.001 Note: p value < 0.05 indicates a statistically significant trend (95% confidence level).

Results of Sen's Estimator of Slope:

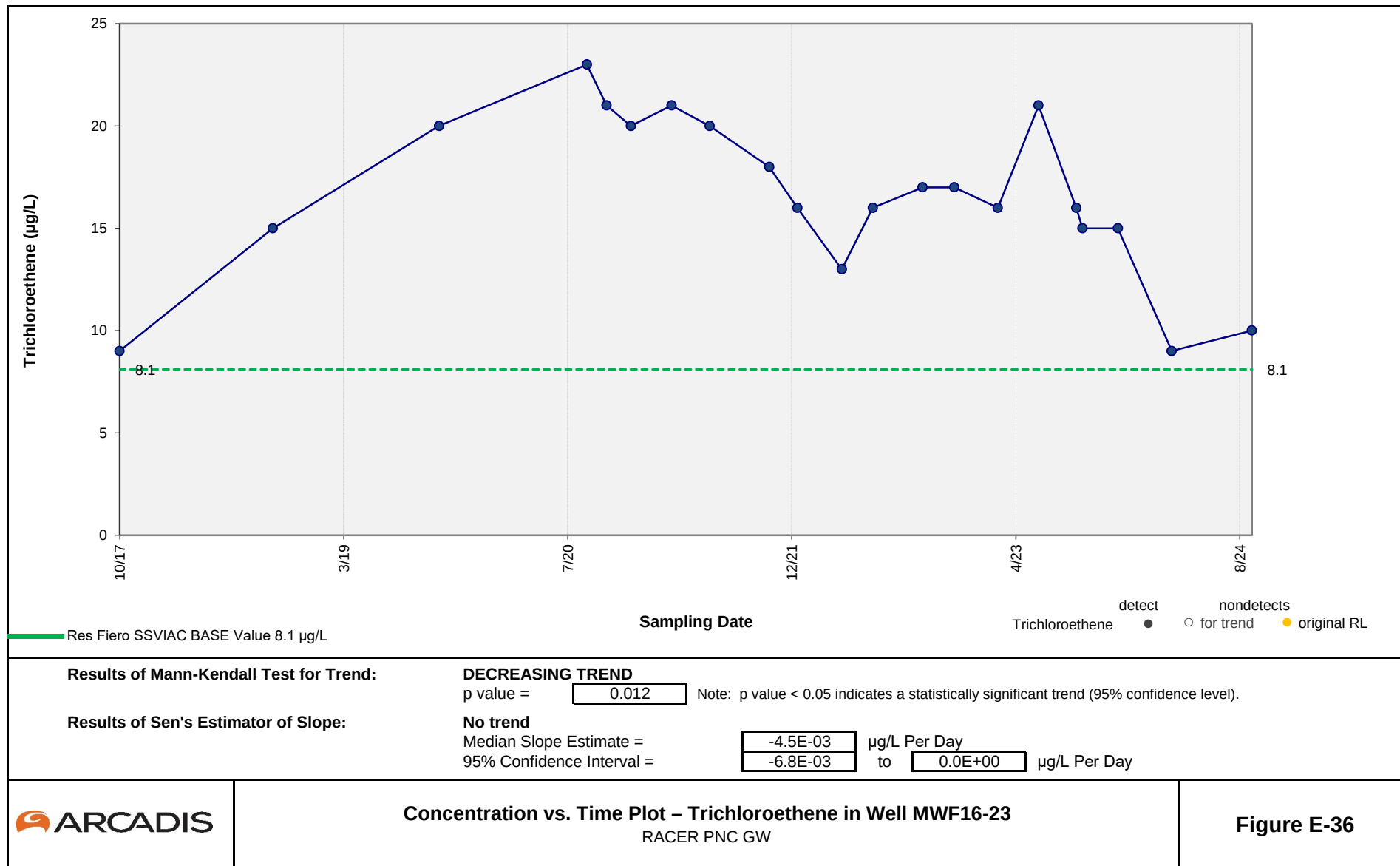
DECREASING TREND

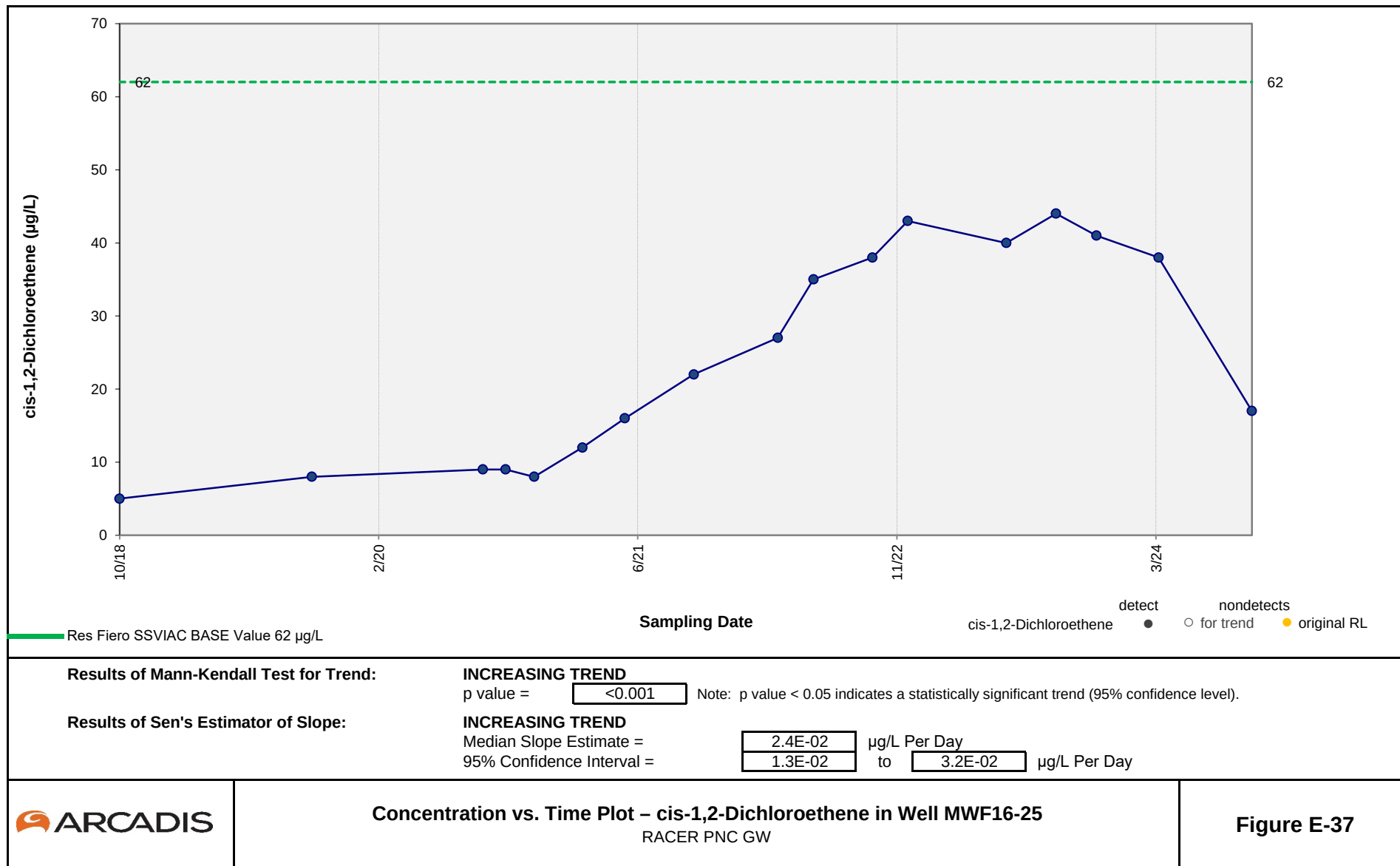
Median Slope Estimate = -7.4E-03 µg/L Per Day
 95% Confidence Interval = -9.9E-03 to -2.3E-03 µg/L Per Day

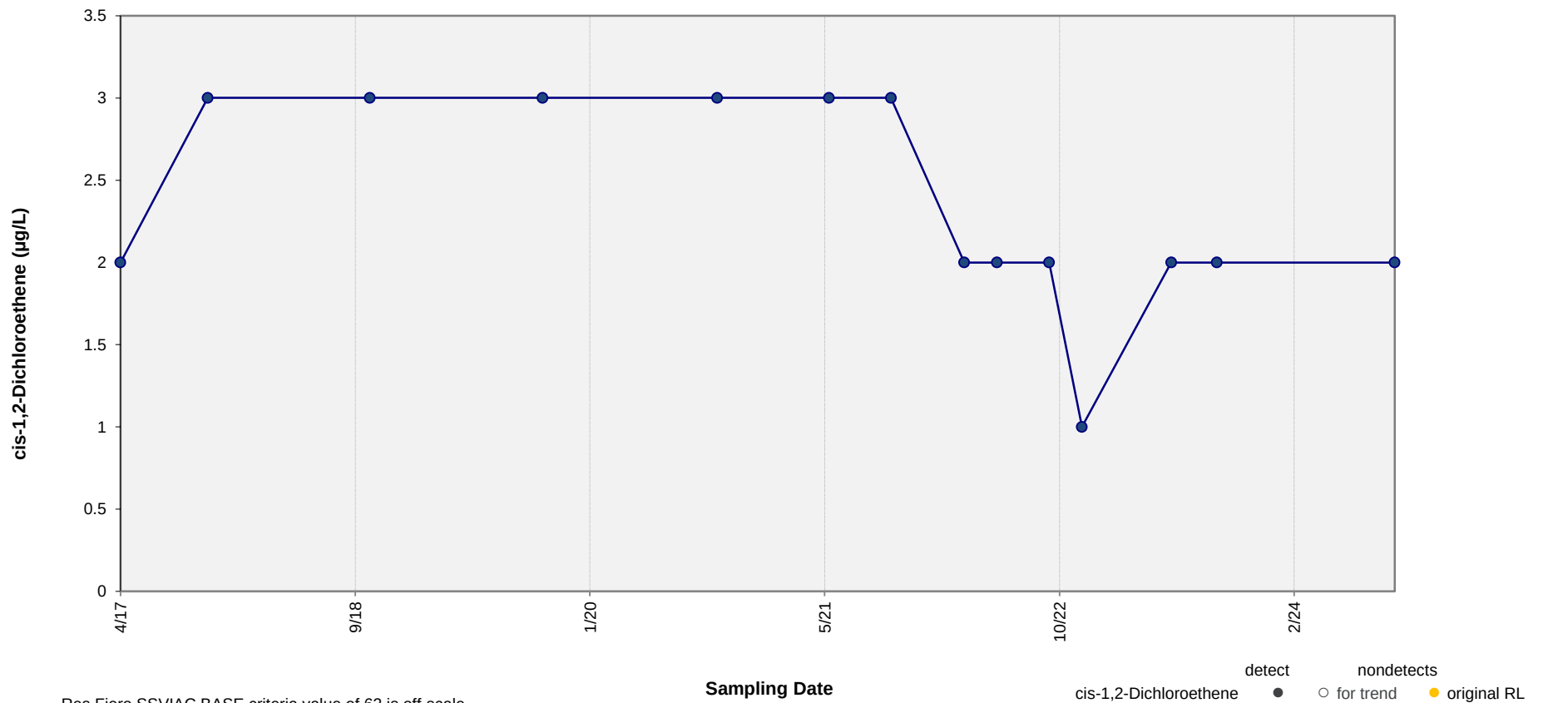


Concentration vs. Time Plot – cis-1,2-Dichloroethene in Well MWF16-23
 RACER PNC GW

Figure E-35







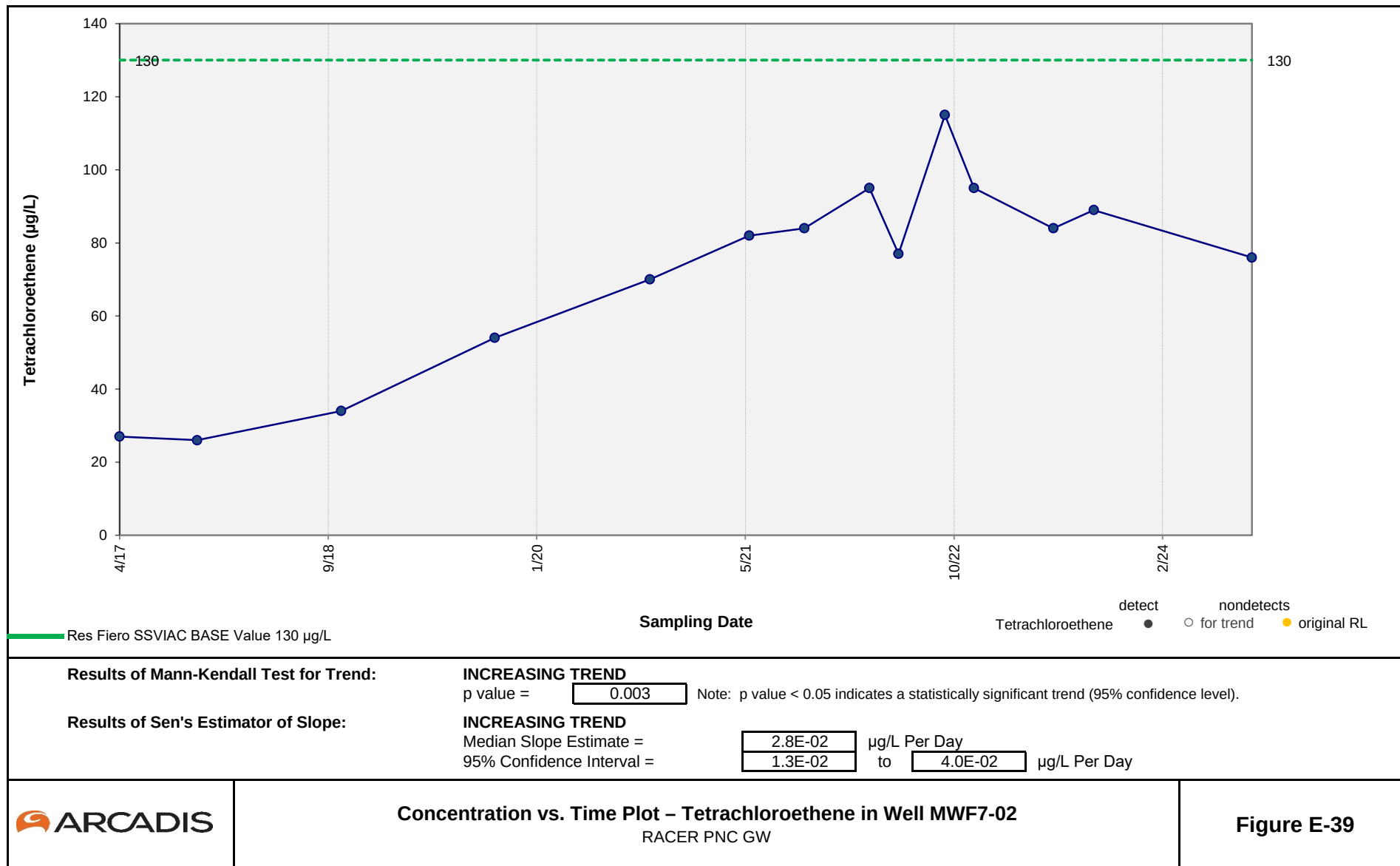
Results of Mann-Kendall Test for Trend: **DECREASING TREND**
 p value = 0.013 Note: p value < 0.05 indicates a statistically significant trend (95% confidence level).

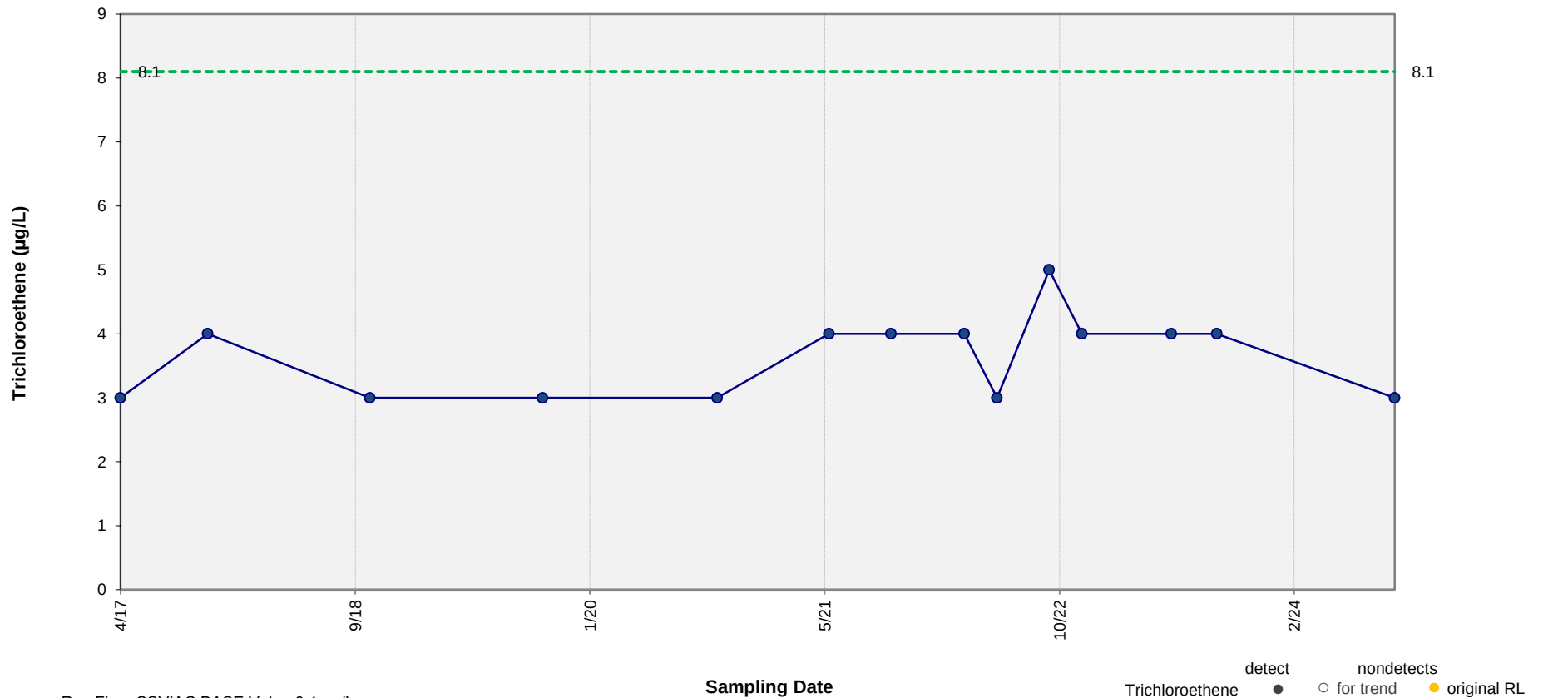
Results of Sen's Estimator of Slope: **No trend**
 Median Slope Estimate = -4.0E-04 µg/L Per Day
 95% Confidence Interval = -8.0E-04 to 0.0E+00 µg/L Per Day



Concentration vs. Time Plot – cis-1,2-Dichloroethene in Well MWF7-02
 RACER PNC GW

Figure E-38





Results of Mann-Kendall Test for Trend:

No Significant Trend

p value = 0.133 Note: p value < 0.05 indicates a statistically significant trend (95% confidence level).

Results of Sen's Estimator of Slope:

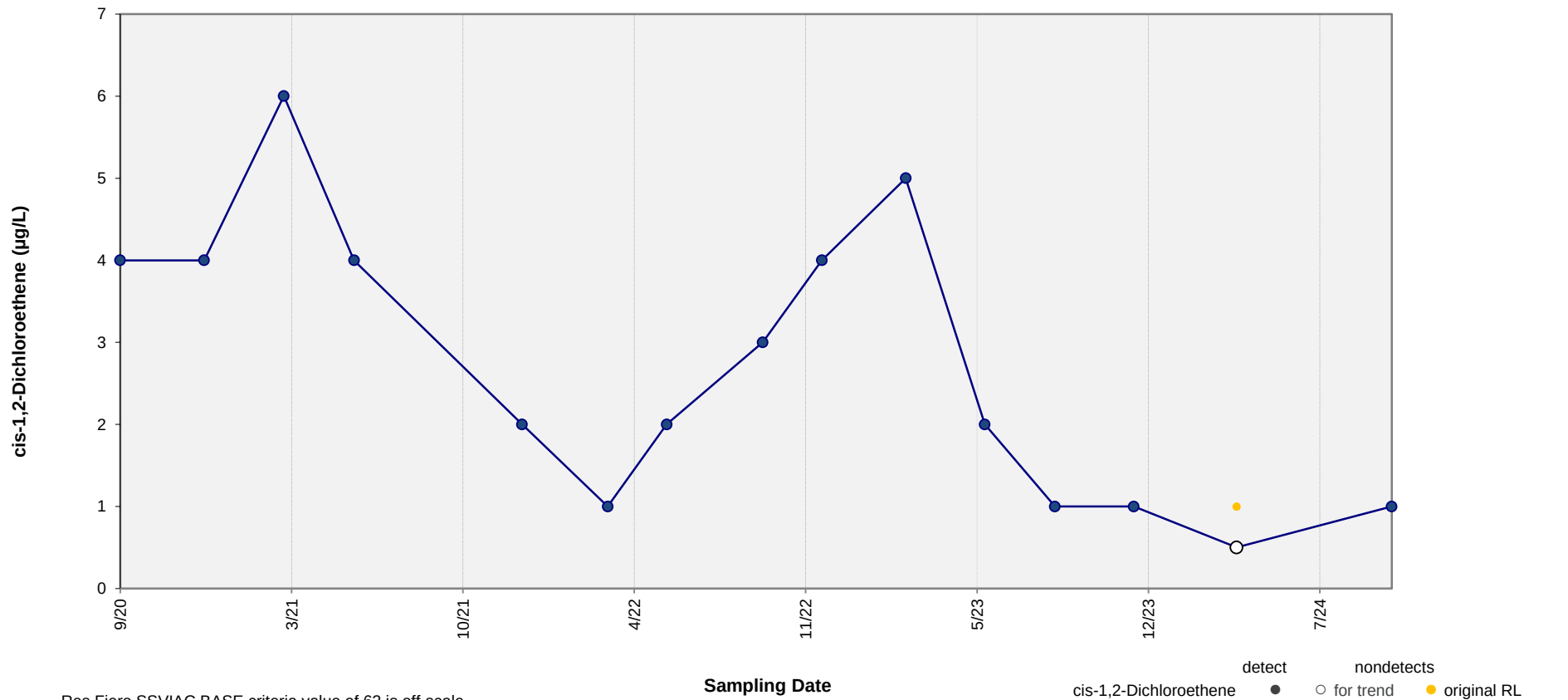
No trend

Median Slope Estimate = 0.0E+00 µg/L Per Day
 95% Confidence Interval = 0.0E+00 to 5.9E-04 µg/L Per Day



Concentration vs. Time Plot – Trichloroethene in Well MWF7-02
 RACER PNC GW

Figure E-40



Results of Mann-Kendall Test for Trend:

DECREASING TREND

p value = Note: p value < 0.05 indicates a statistically significant trend (95% confidence level).

Results of Sen's Estimator of Slope:

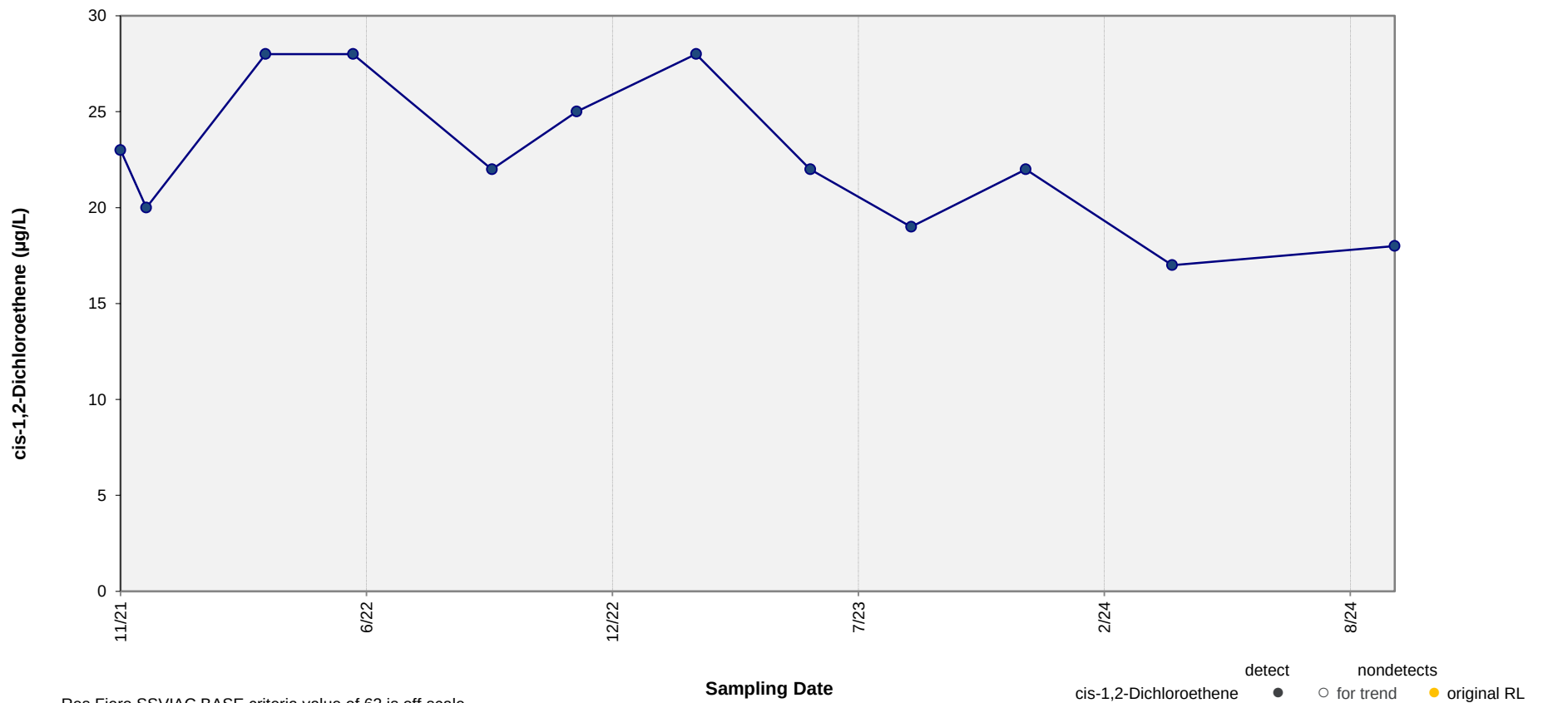
No trend

Median Slope Estimate = µg/L Per Day
 95% Confidence Interval = to µg/L Per Day



Concentration vs. Time Plot – cis-1,2-Dichloroethene in Well MWOS-08
 RACER PNC GW

Figure E-41



Res Fiero SSVIAC BASE criteria value of 62 is off-scale.

Results of Mann-Kendall Test for Trend:

DECREASING TREND

p value = Note: p value < 0.05 indicates a statistically significant trend (95% confidence level).

Results of Sen's Estimator of Slope:

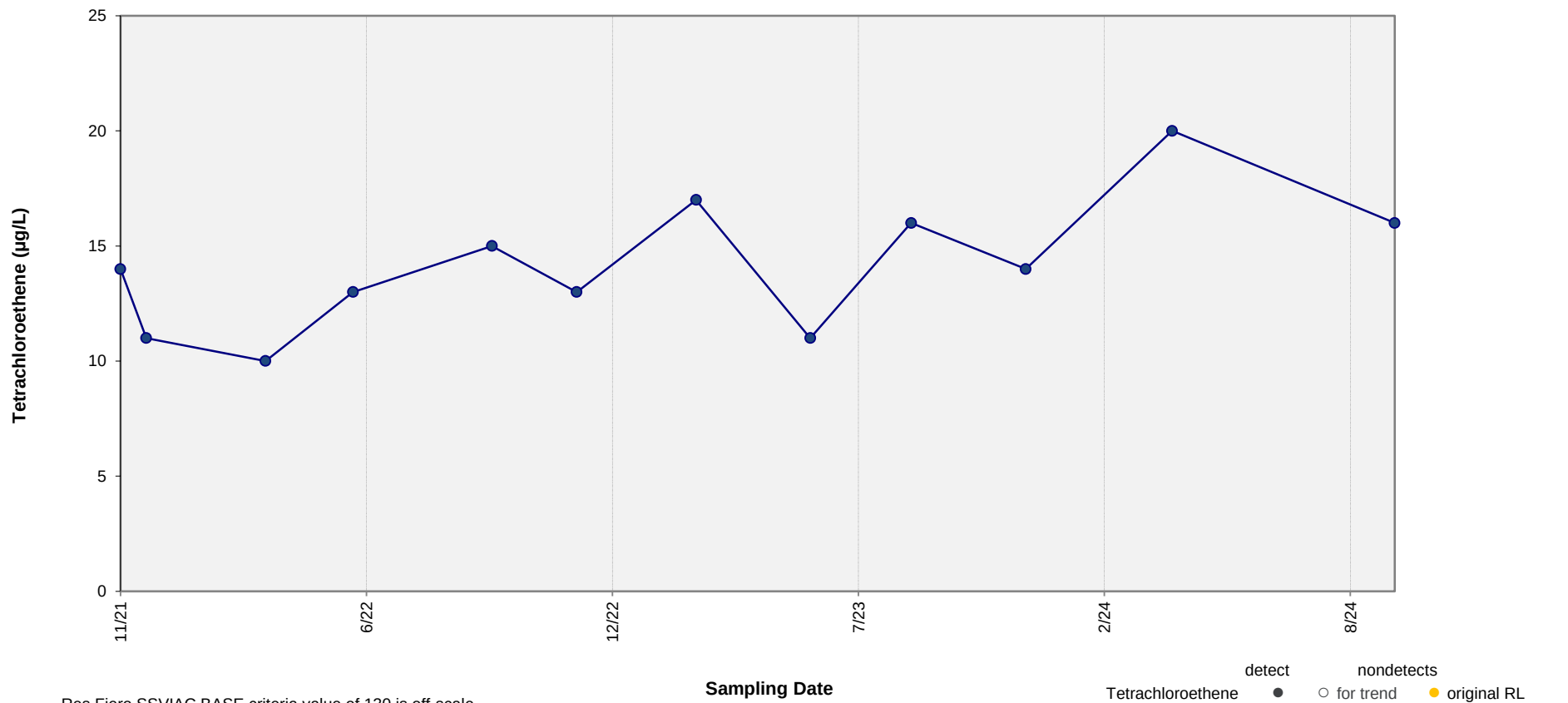
No trend

Median Slope Estimate = µg/L Per Day
 95% Confidence Interval = to µg/L Per Day



Concentration vs. Time Plot – cis-1,2-Dichloroethene in Well MWOS-09R
 RACER PNC GW

Figure E-42



Results of Mann-Kendall Test for Trend:

INCREASING TREND

p value = 0.031

Note: p value < 0.05 indicates a statistically significant trend (95% confidence level).

Results of Sen's Estimator of Slope:

No trend

Median Slope Estimate =

5.3E-03

µg/L Per Day

95% Confidence Interval =

0.0E+00

to

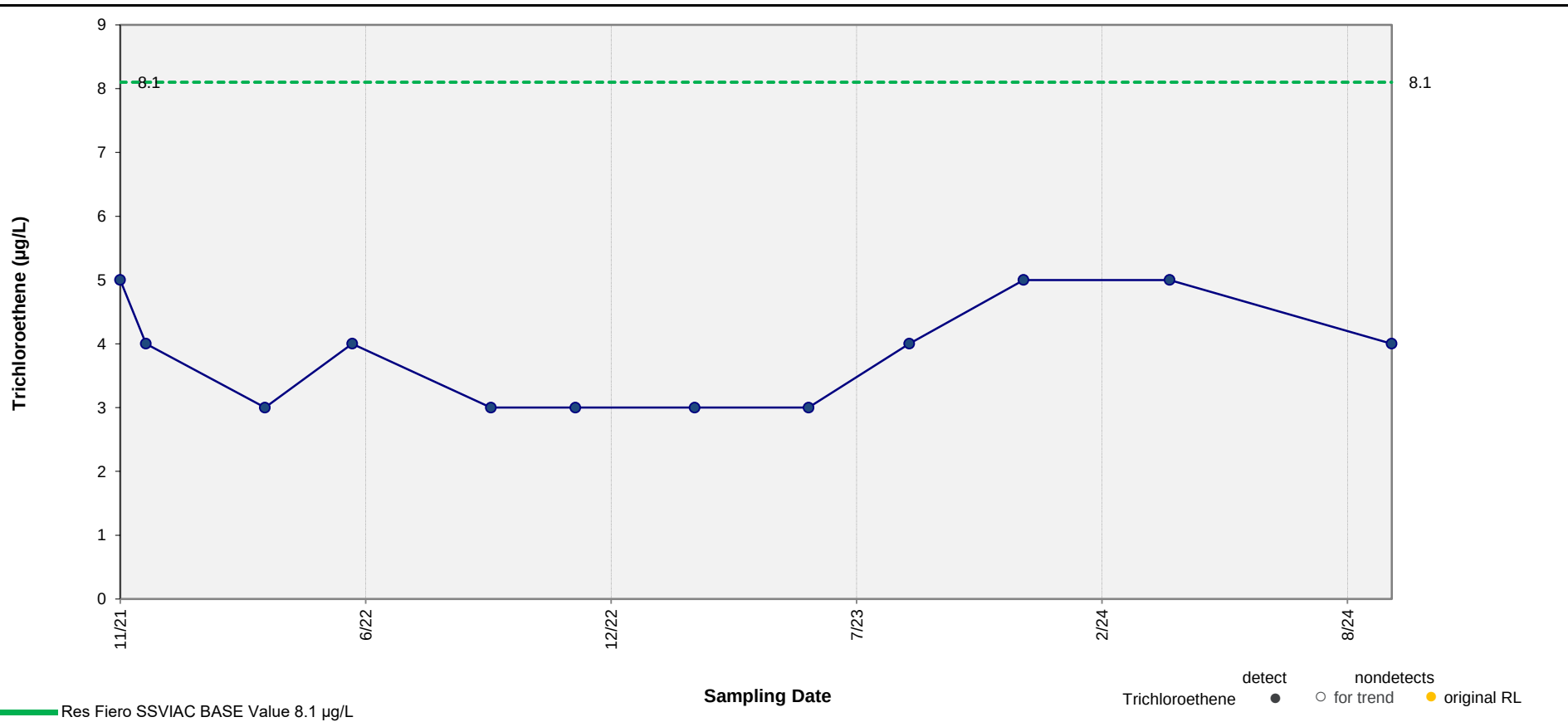
1.1E-02

µg/L Per Day



Concentration vs. Time Plot – Tetrachloroethene in Well MWOS-09R
RACER PNC GW

Figure E-43



Results of Mann-Kendall Test for Trend:

No Significant Trend

p value = 0.329

Note: p value < 0.05 indicates a statistically significant trend (95% confidence level).

Results of Sen's Estimator of Slope:

No Significant Trend

Median Slope Estimate =

0.0E+00

µg/L Per Day

95% Confidence Interval =

-1.1E-03

to

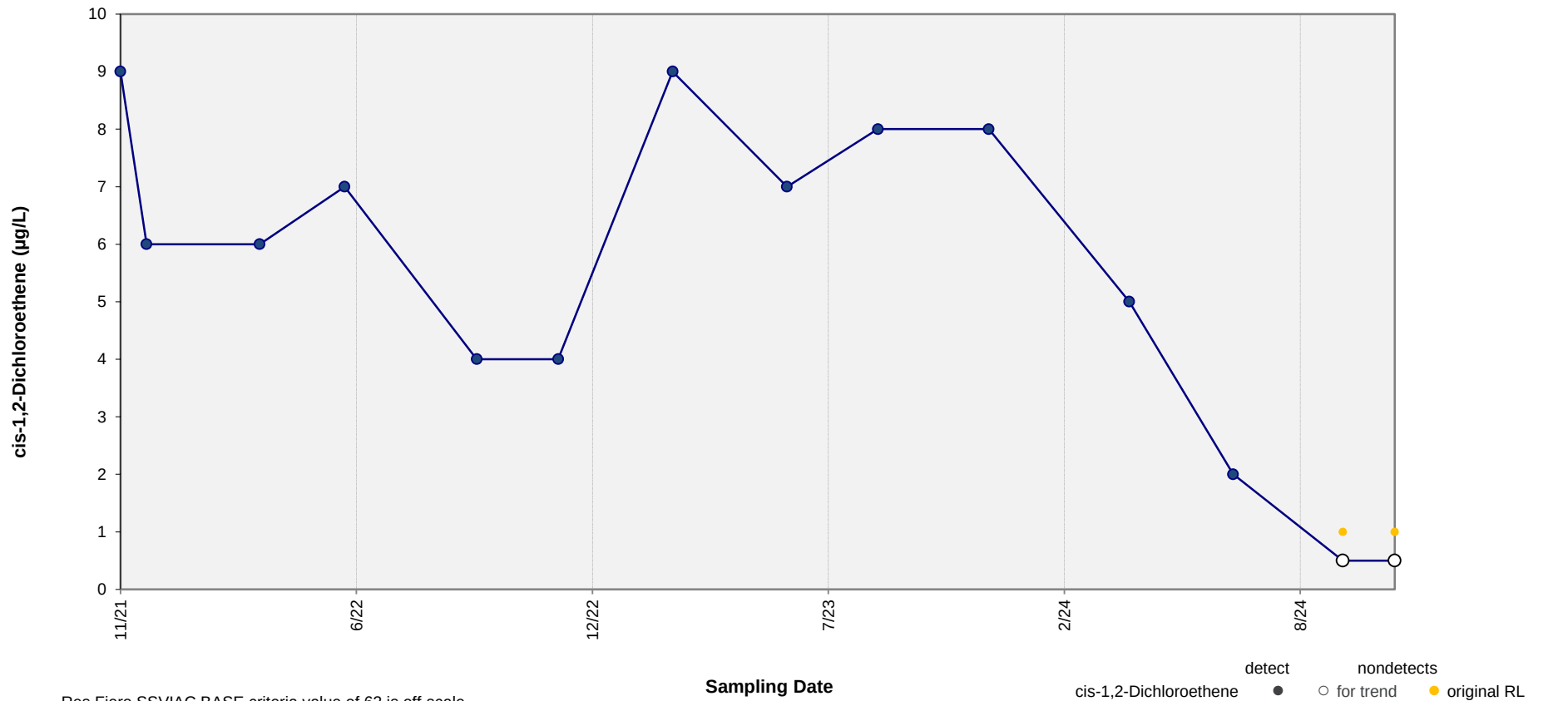
1.8E-03

µg/L Per Day



Concentration vs. Time Plot – Trichloroethene in Well MWOS-09R
RACER PNC GW

Figure E-44



Results of Mann-Kendall Test for Trend:

DECREASING TREND

p value = Note: p value < 0.05 indicates a statistically significant trend (95% confidence level).

Results of Sen's Estimator of Slope:

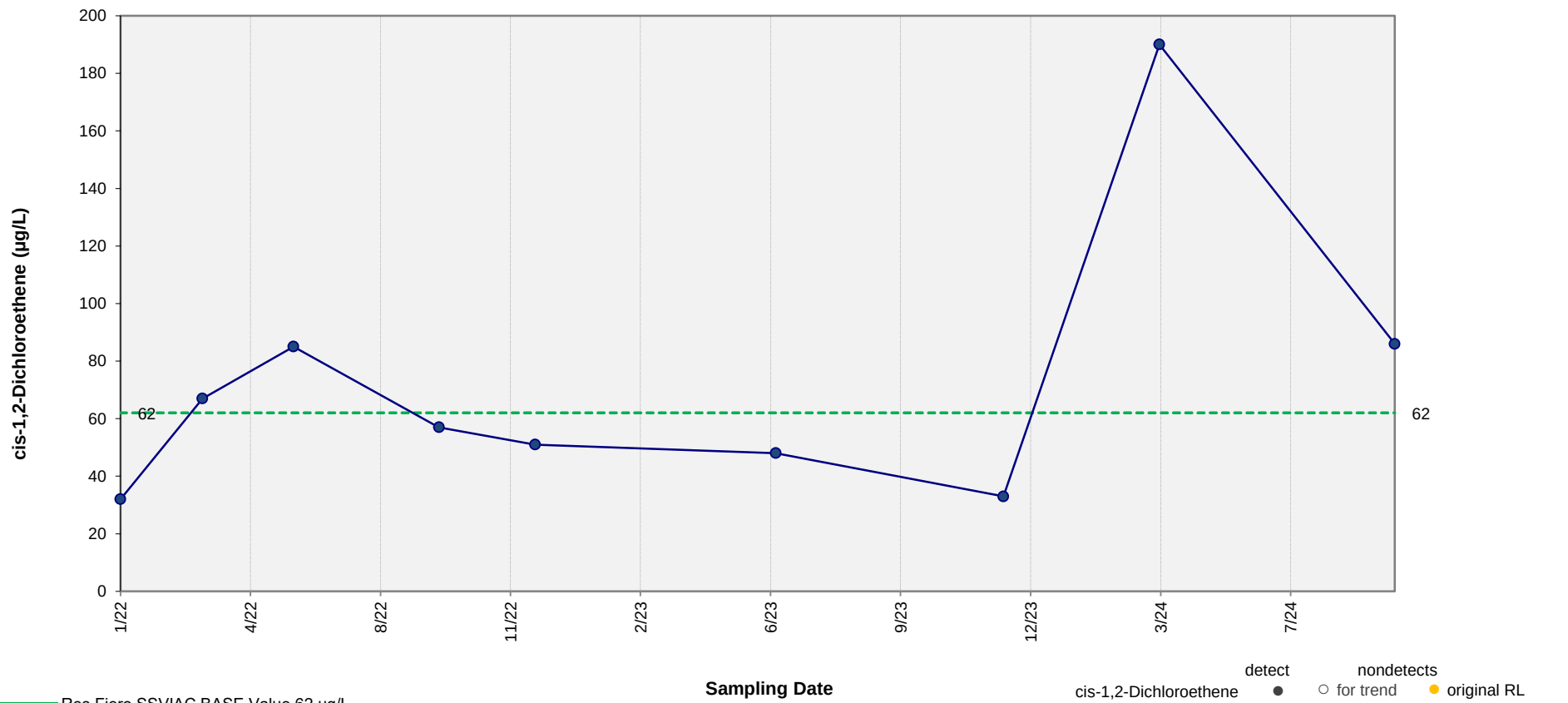
No trend

Median Slope Estimate = µg/L Per Day
 95% Confidence Interval = to µg/L Per Day



Concentration vs. Time Plot – cis-1,2-Dichloroethene in Well MWOS-10
 RACER PNC GW

Figure E-45



Res Fiero SSVIAC BASE Value 62 µg/L

Results of Mann-Kendall Test for Trend:

No Significant Trend

p value = 0.306

Note: p value < 0.05 indicates a statistically significant trend (95% confidence level).

Results of Sen's Estimator of Slope:

No Significant Trend

Median Slope Estimate =

2.6E-02

µg/L Per Day

95% Confidence Interval =

-5.8E-02

to

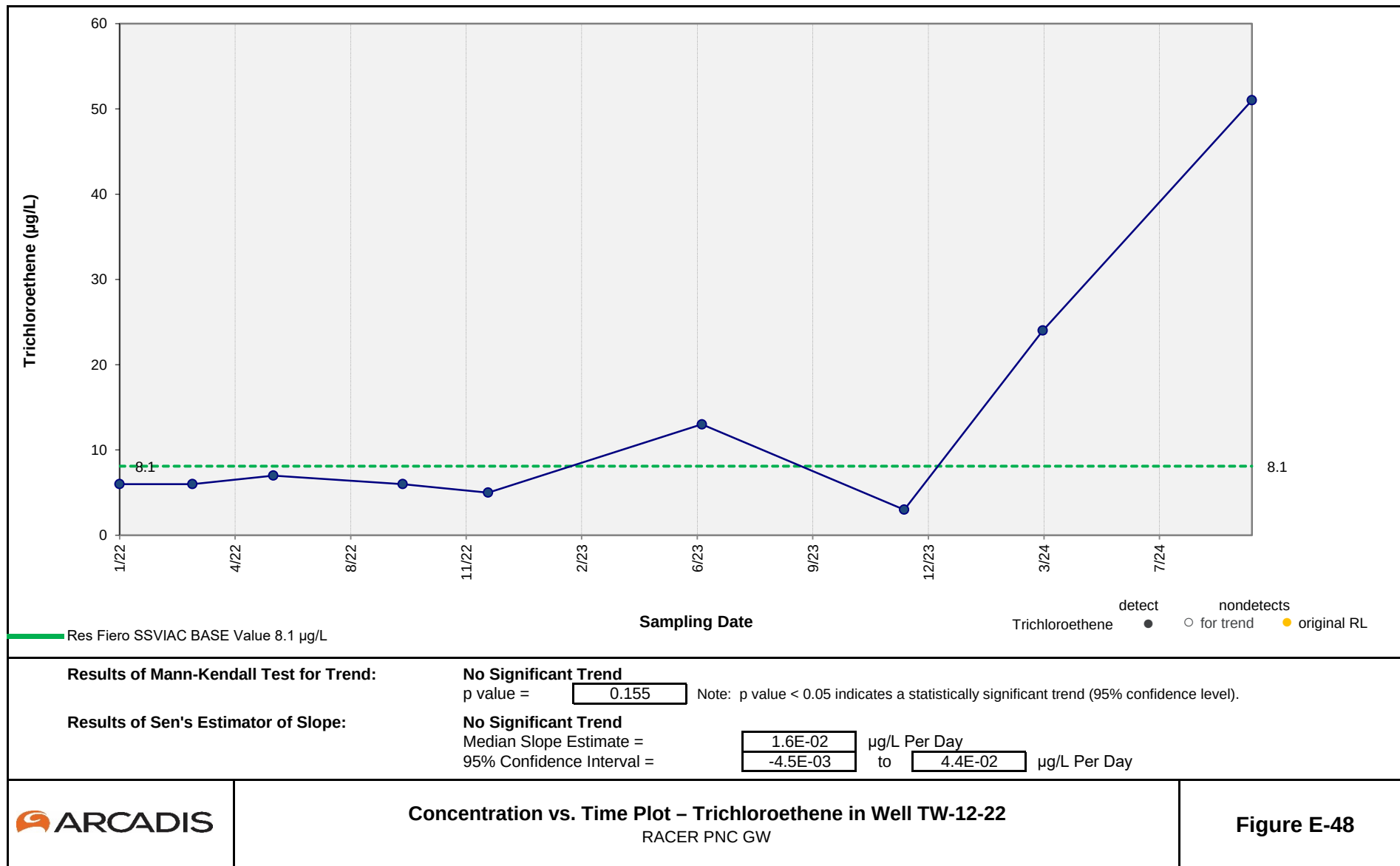
1.7E-01

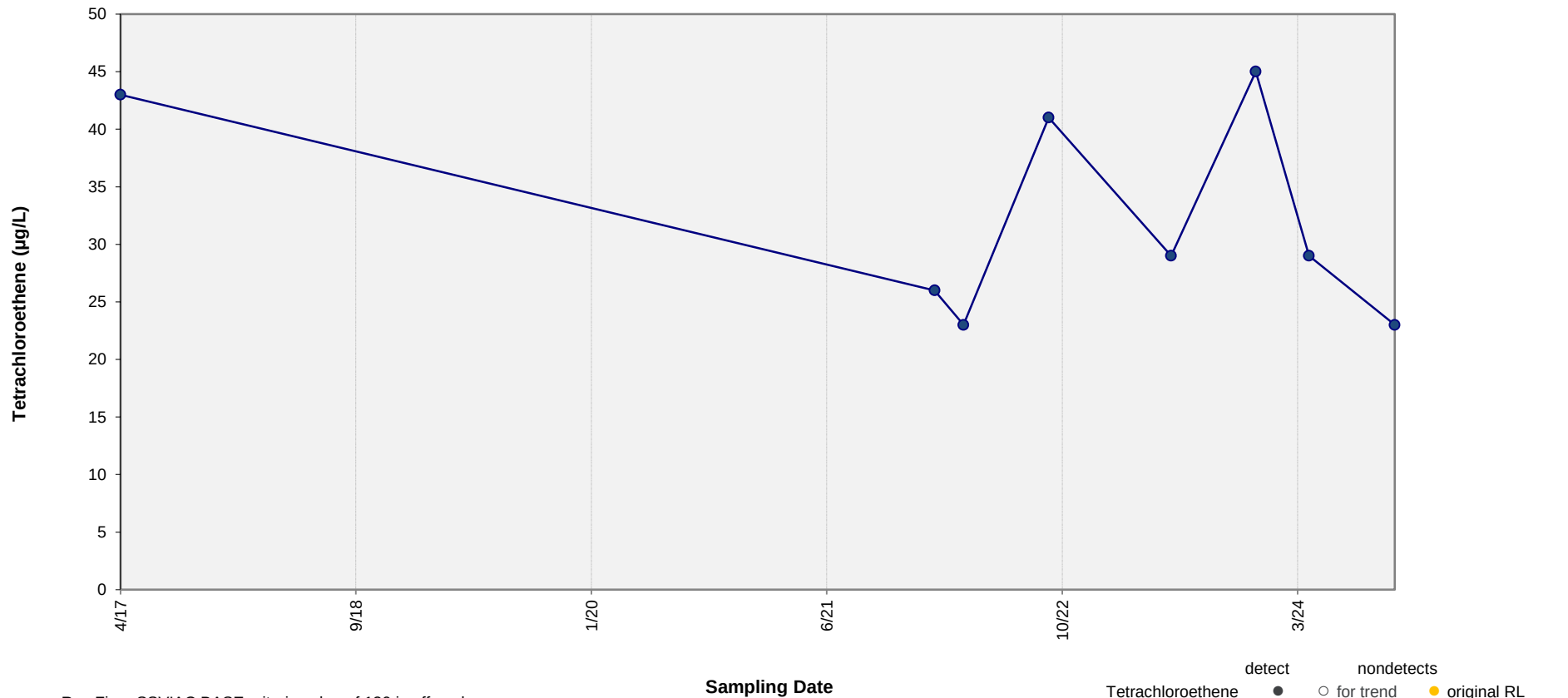
µg/L Per Day



Concentration vs. Time Plot – cis-1,2-Dichloroethene in Well TW-12-22
RACER PNC GW

Figure E-47





Res Fiero SSVIAC BASE criteria value of 130 is off-scale.

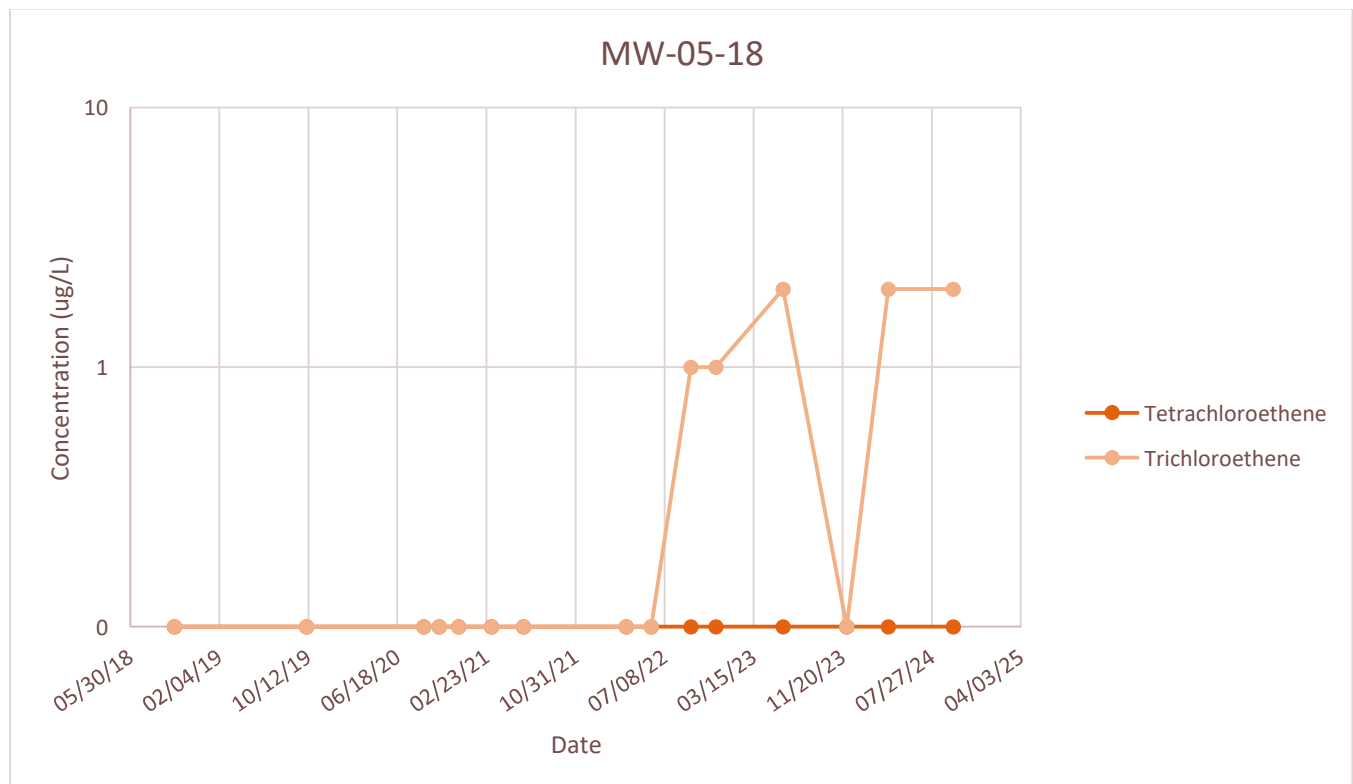
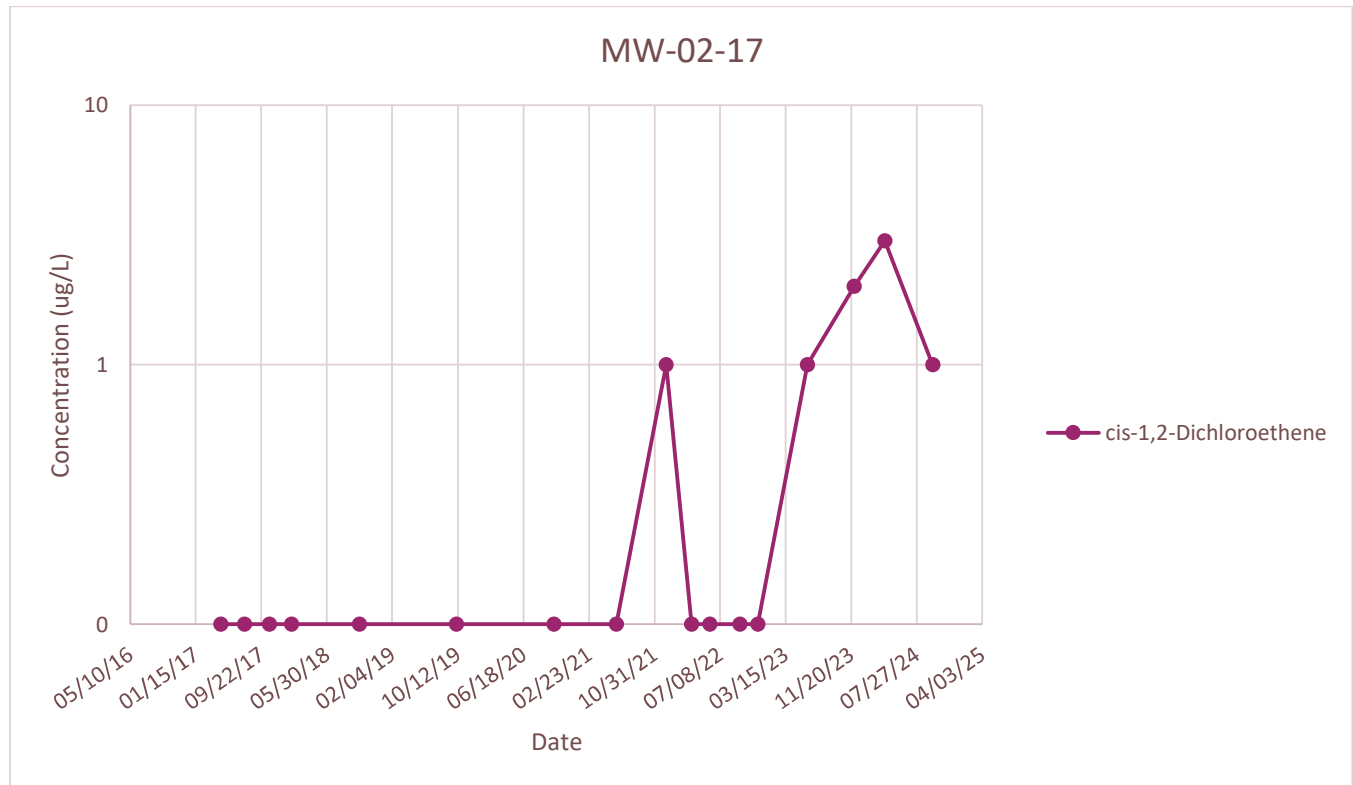
Results of Mann-Kendall Test for Trend: No Significant Trend
 p value = 0.360 Note: p value < 0.05 indicates a statistically significant trend (95% confidence level).

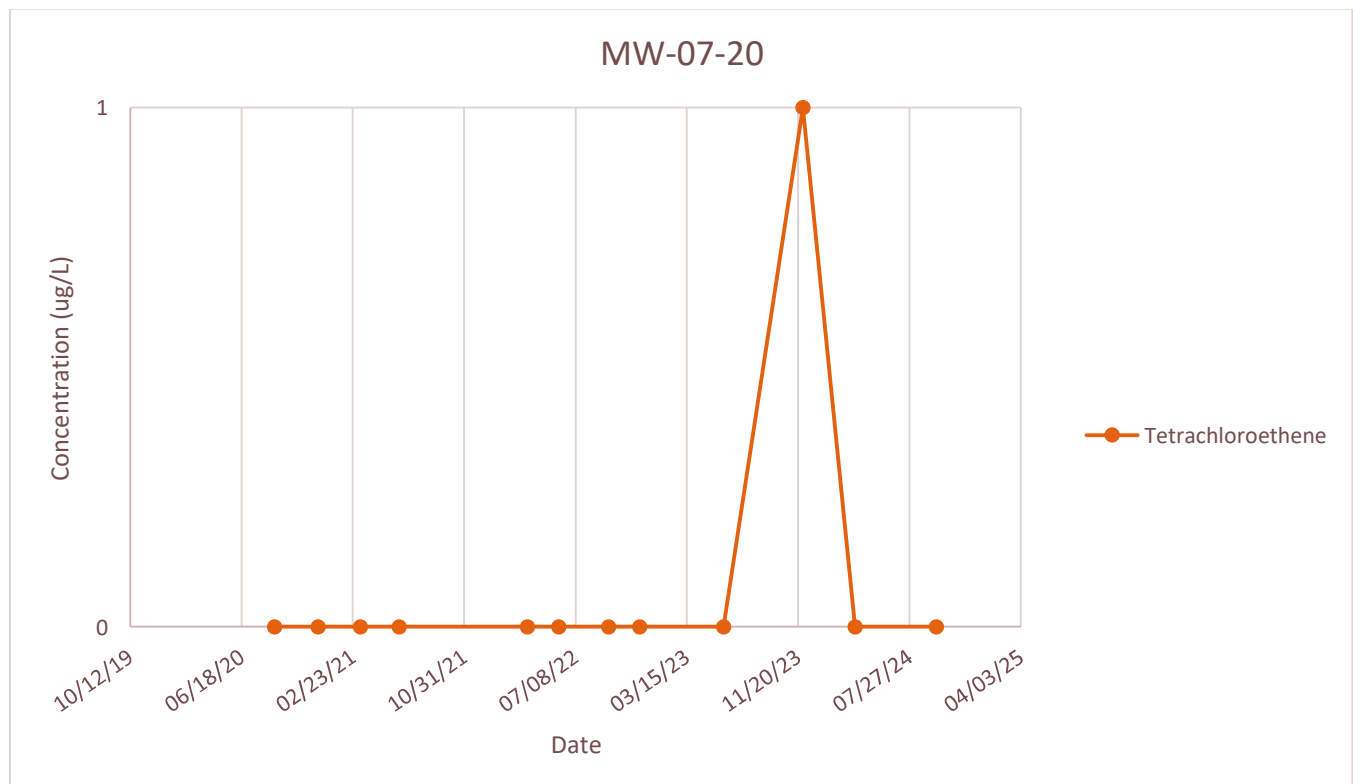
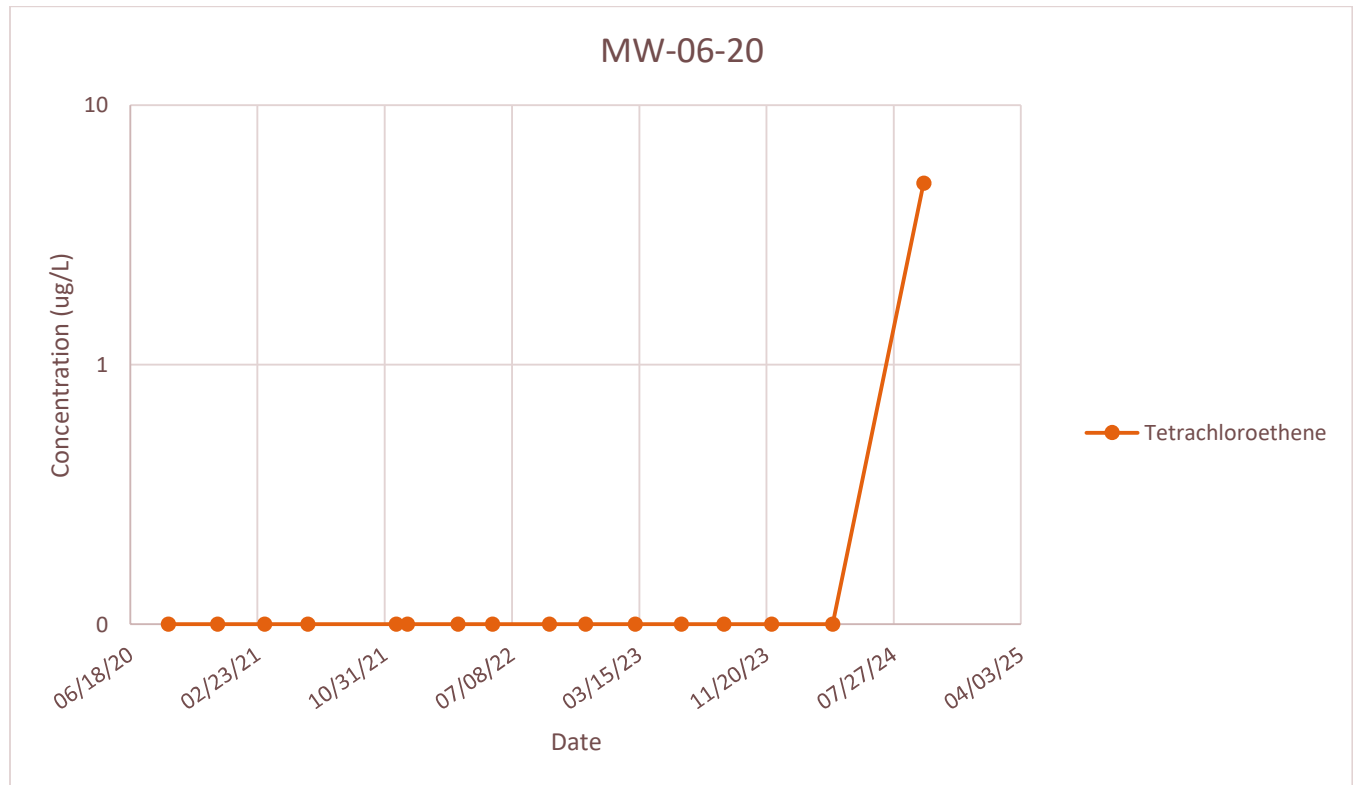
Results of Sen's Estimator of Slope: No Significant Trend
 Median Slope Estimate = -2.0E-03 µg/L Per Day
 95% Confidence Interval = -2.4E-02 to 8.9E-03 µg/L Per Day



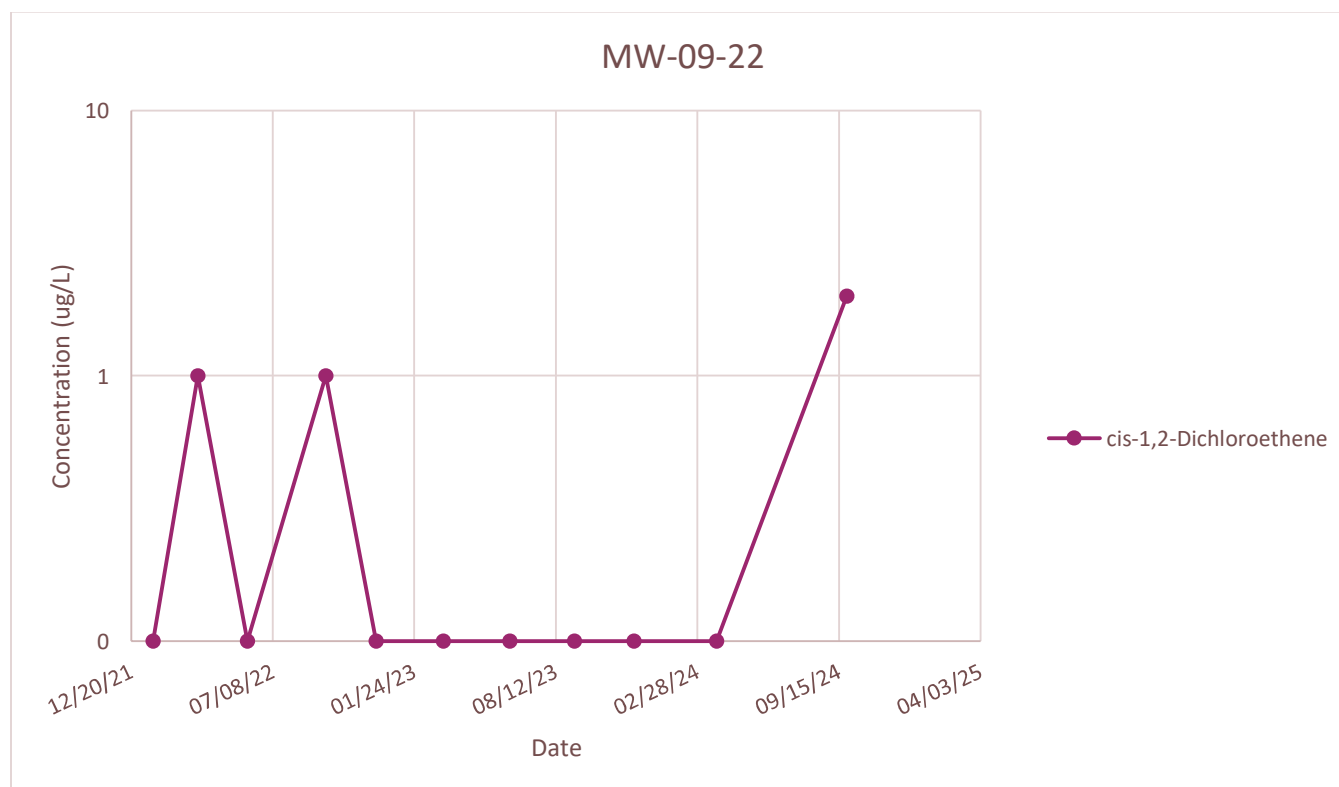
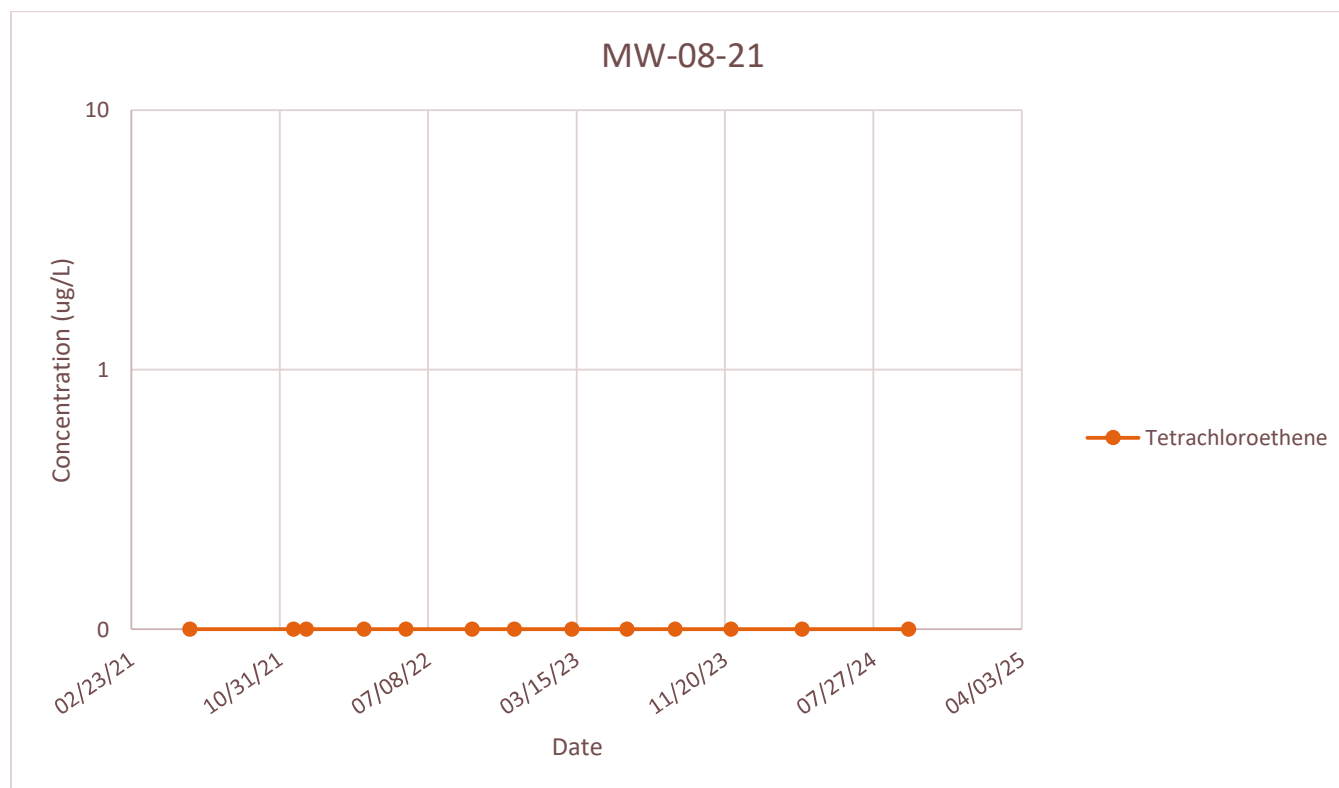
Concentration vs. Time Plot – Tetrachloroethene in Well Unknown-1
 RACER PNC GW

Figure E-49



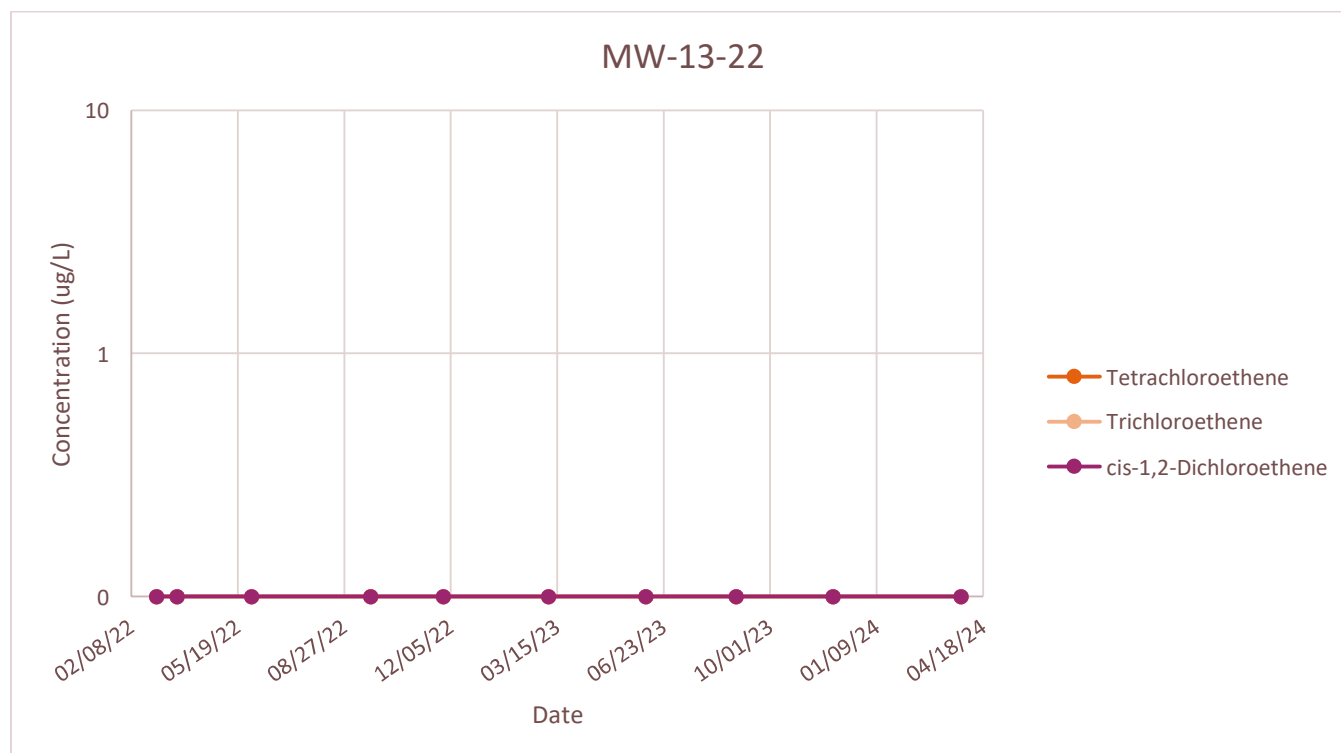
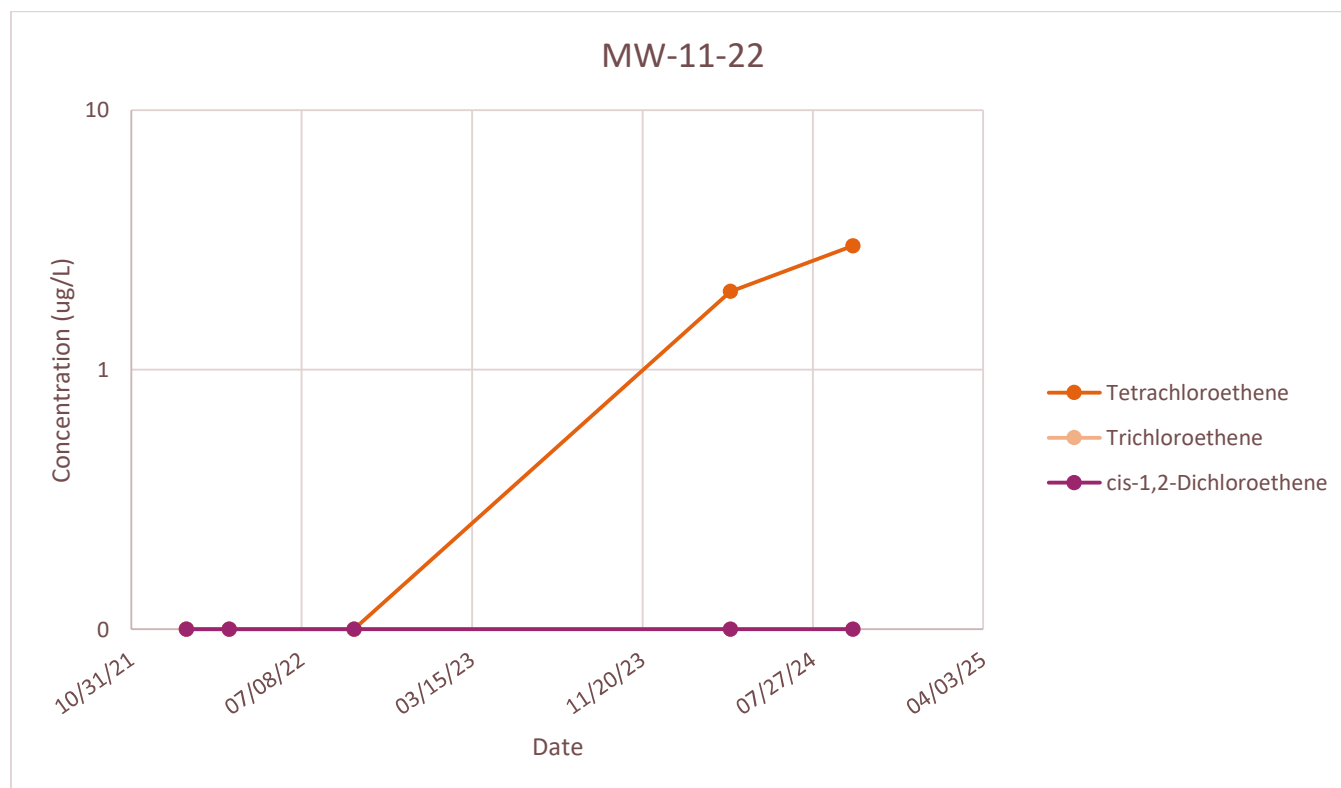


Groundwater Trend Graphs

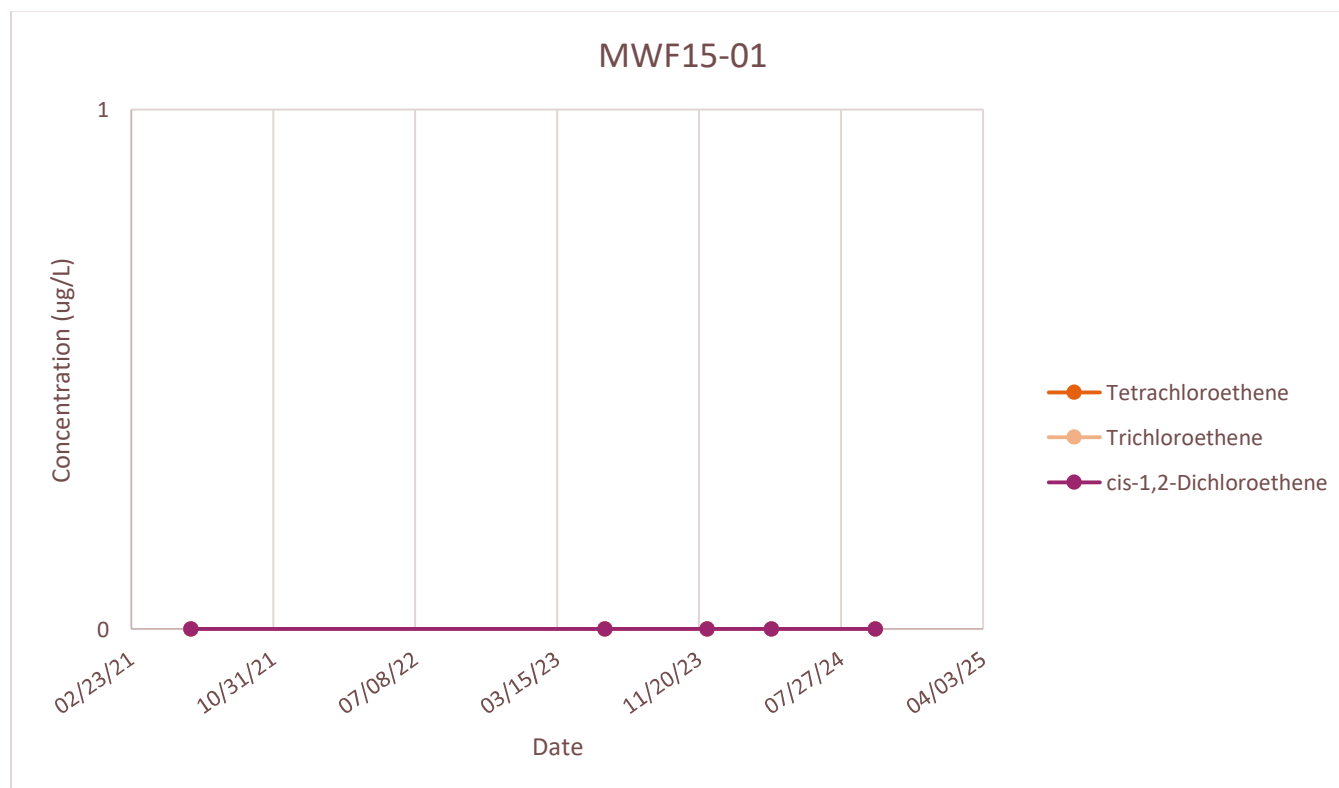
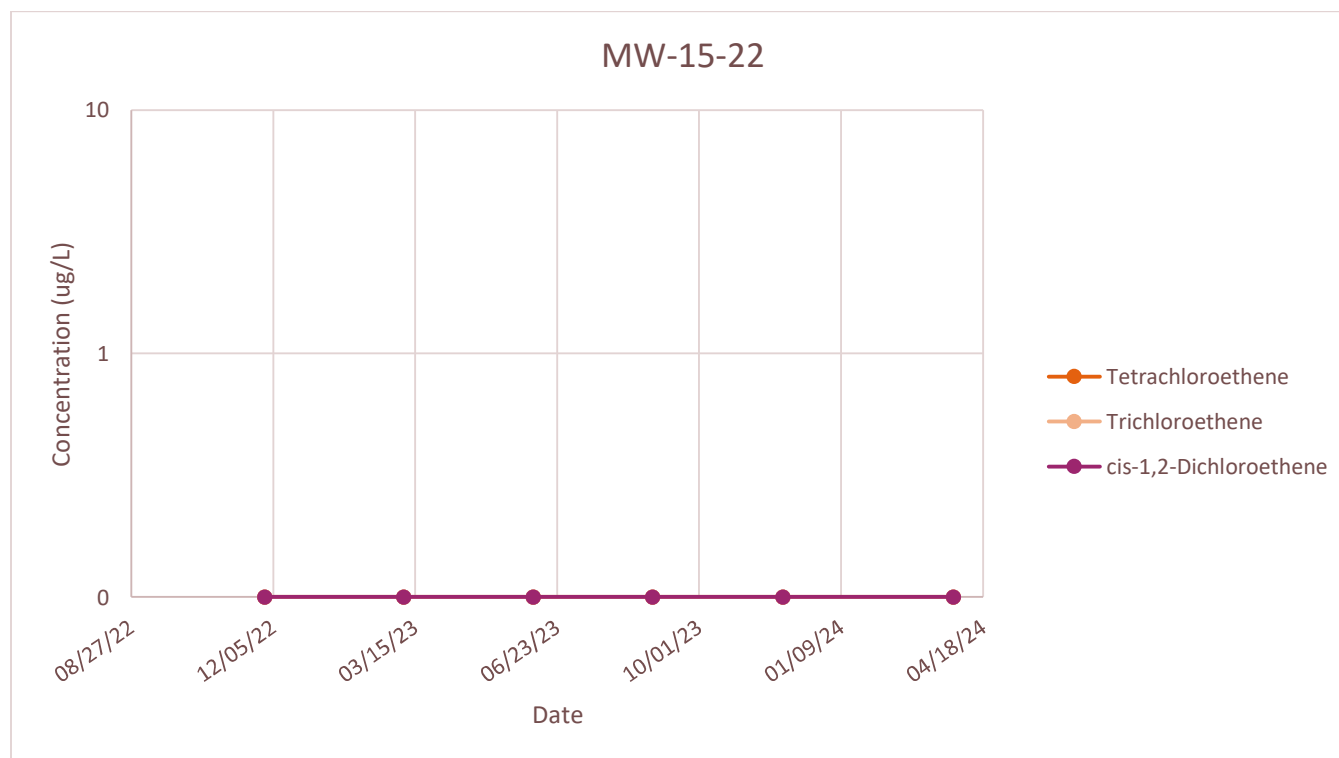


Appendix E

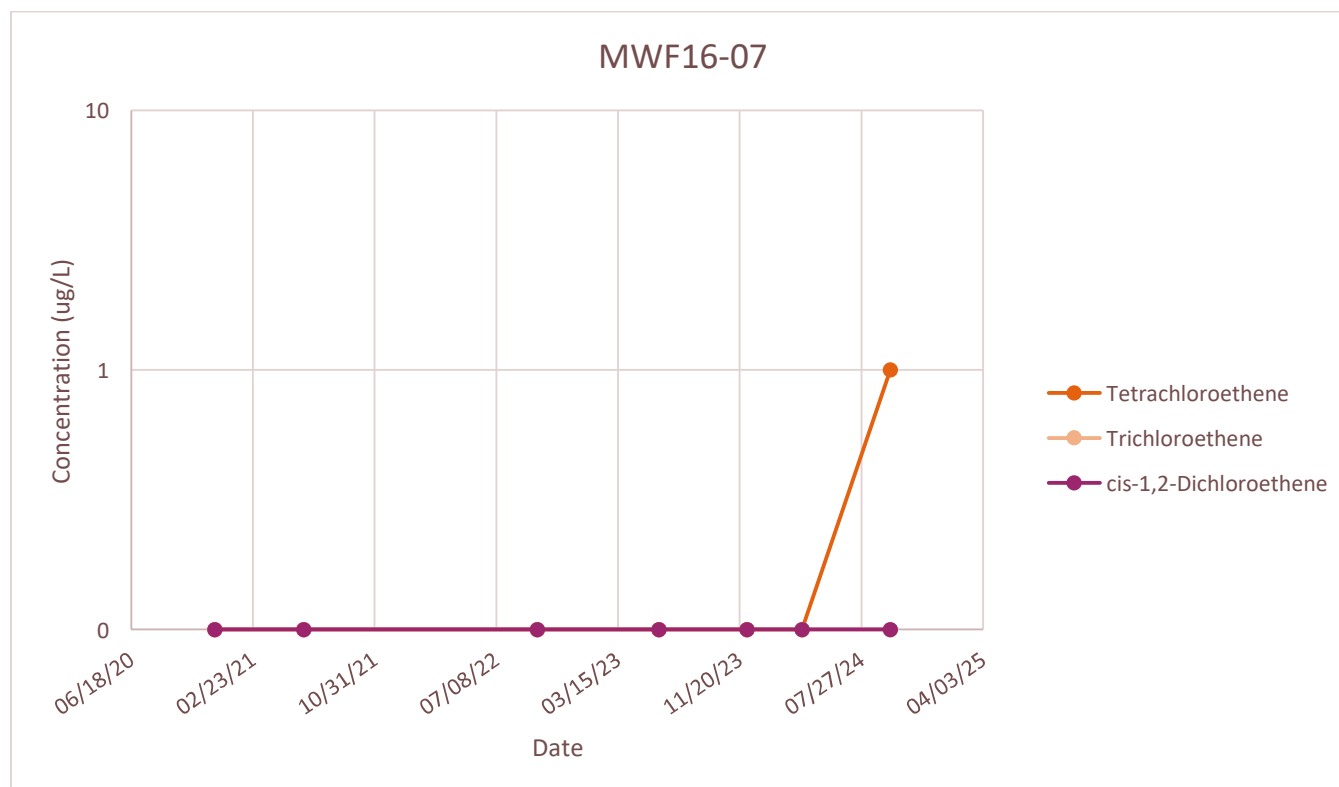
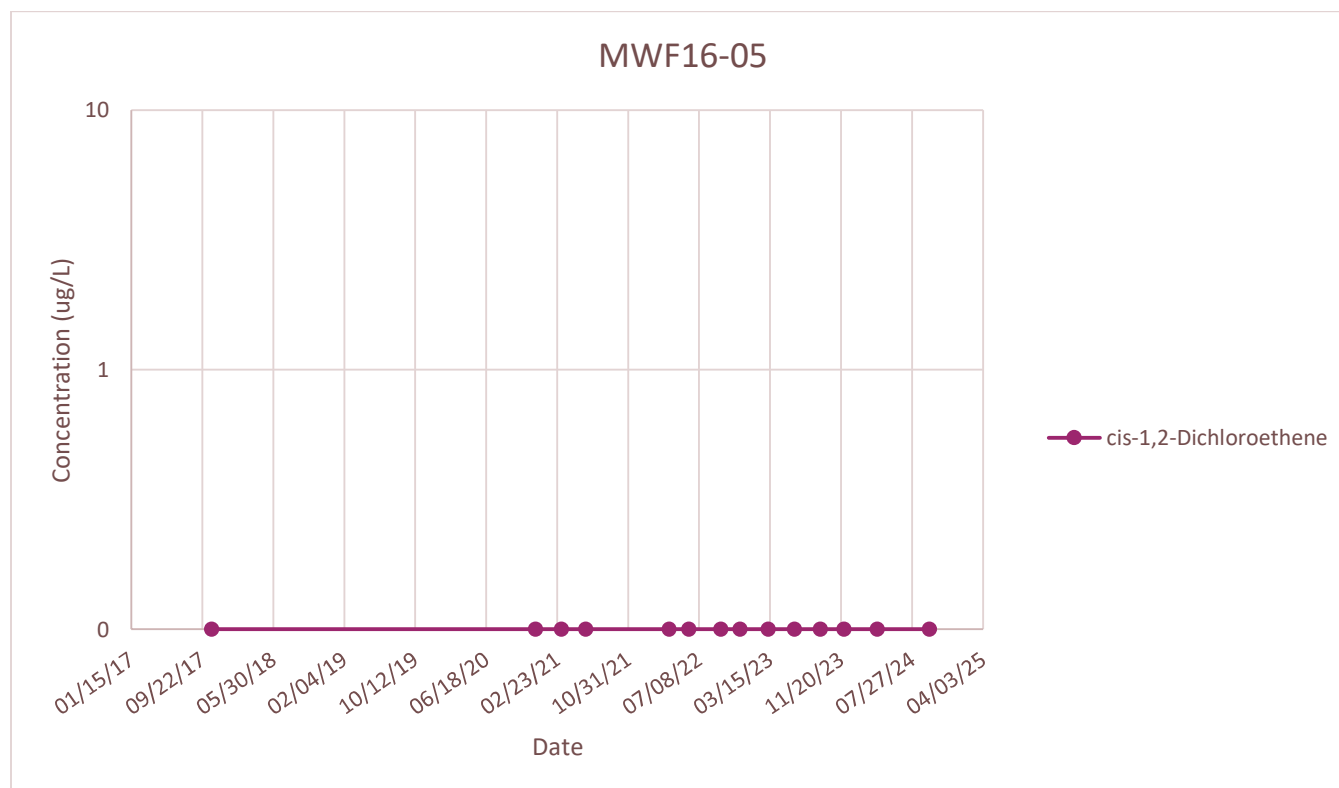
Groundwater Trend Graphs



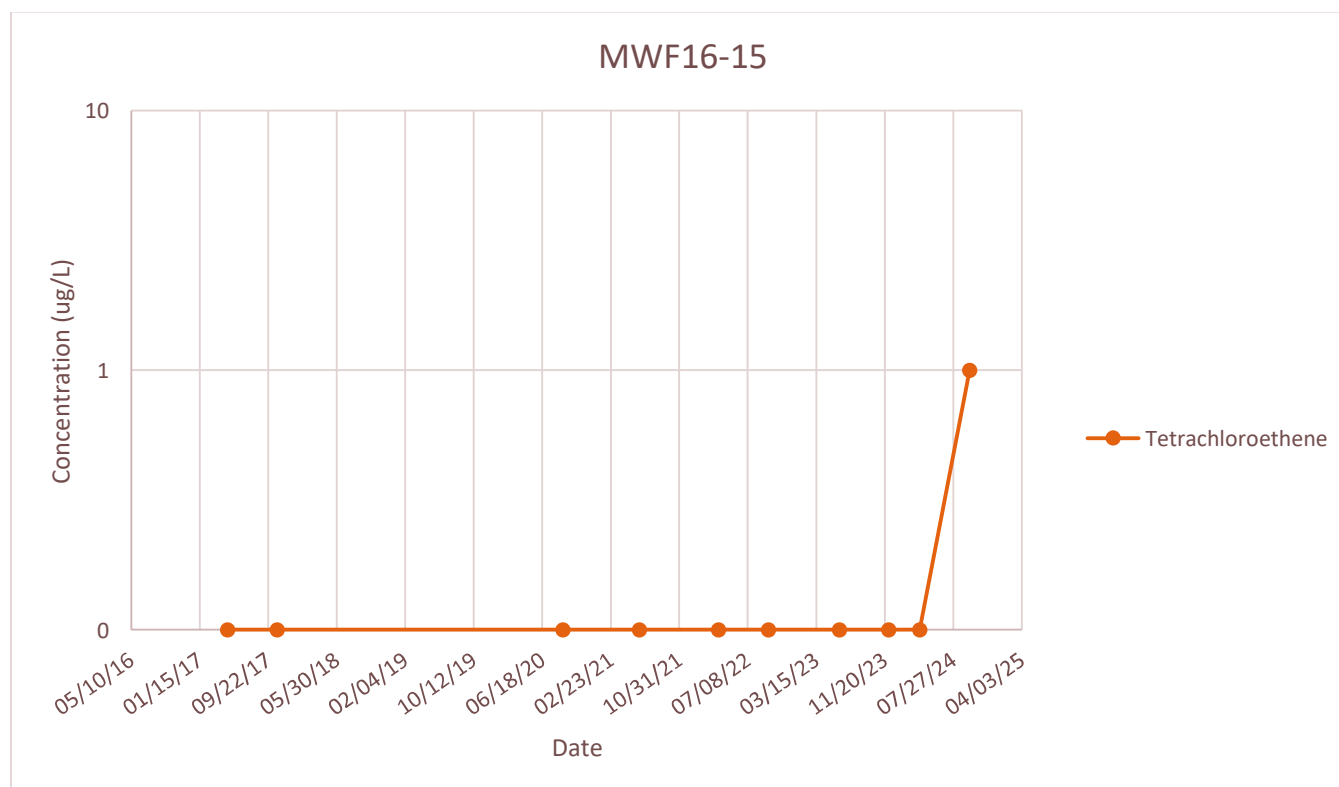
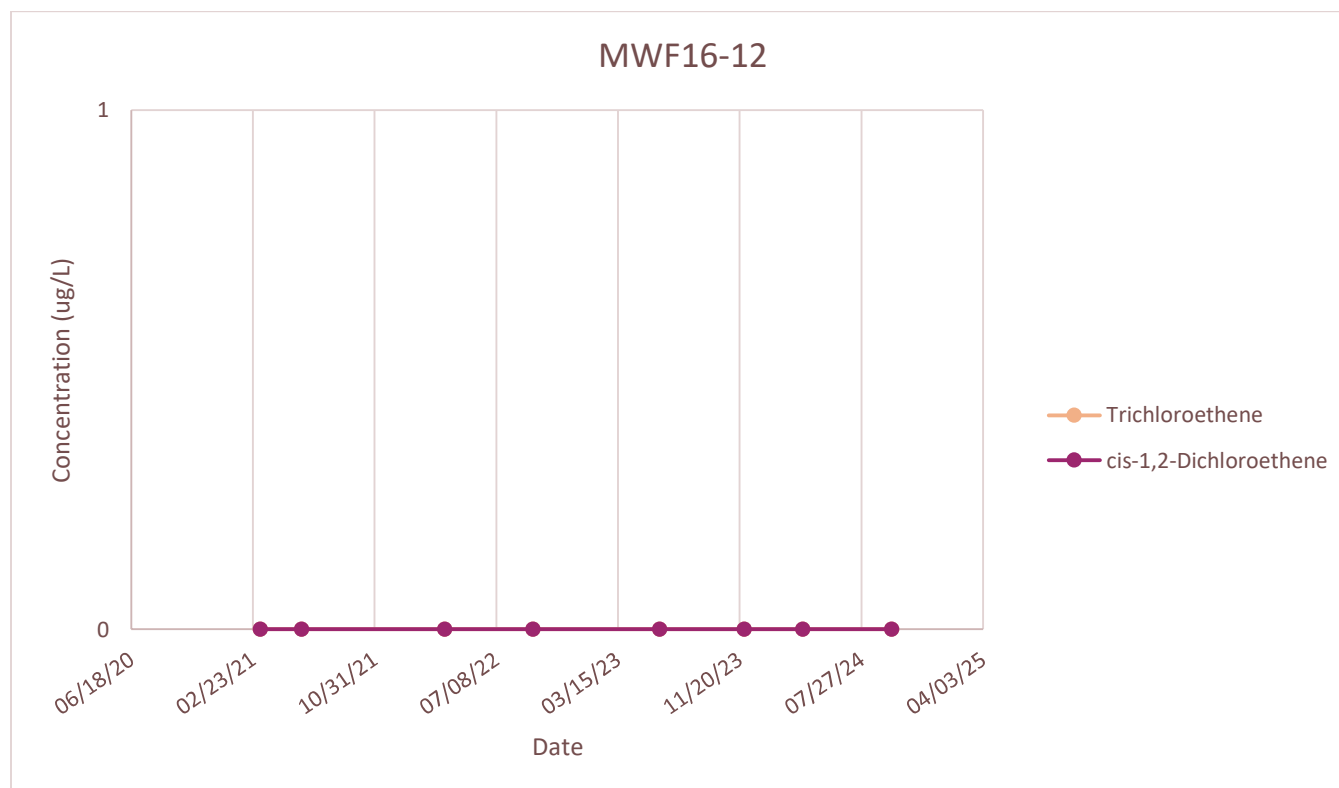
Groundwater Trend Graphs

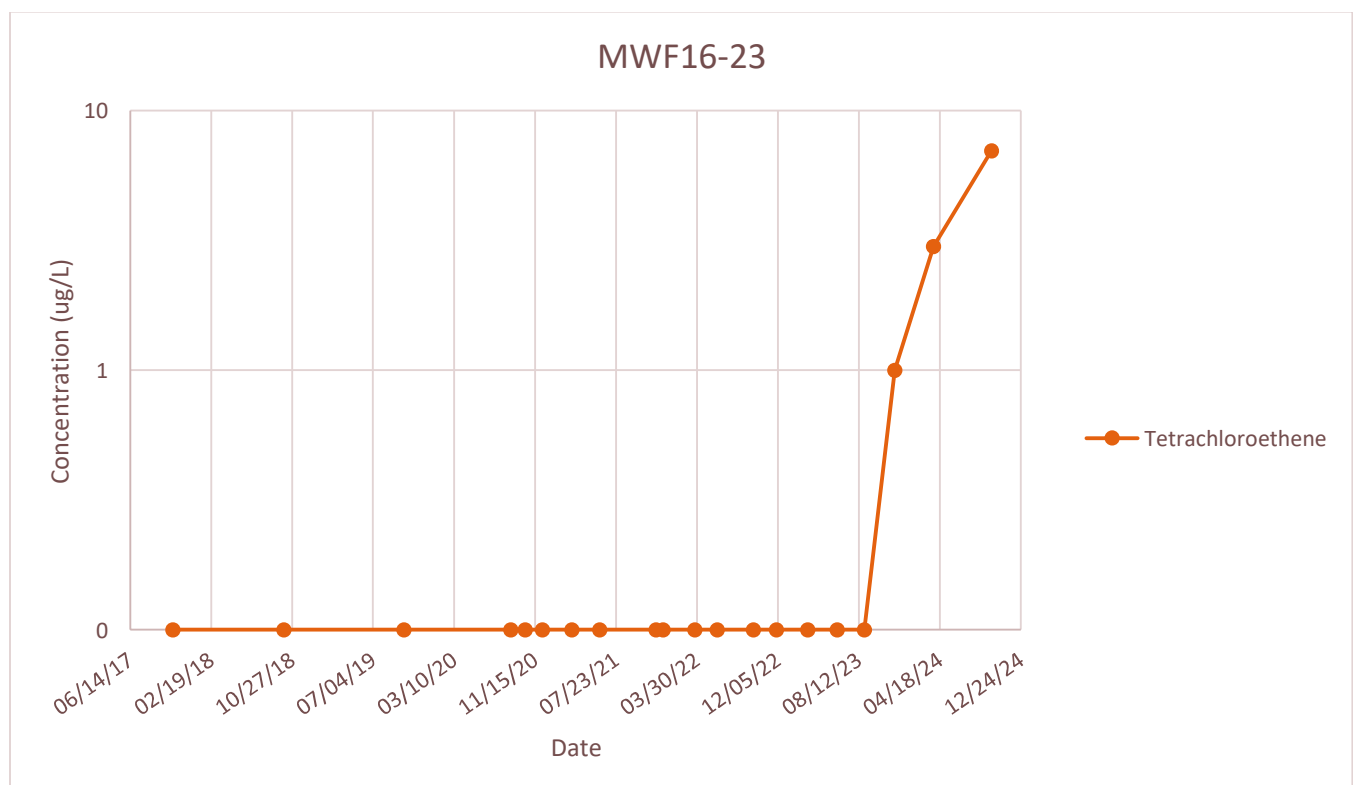
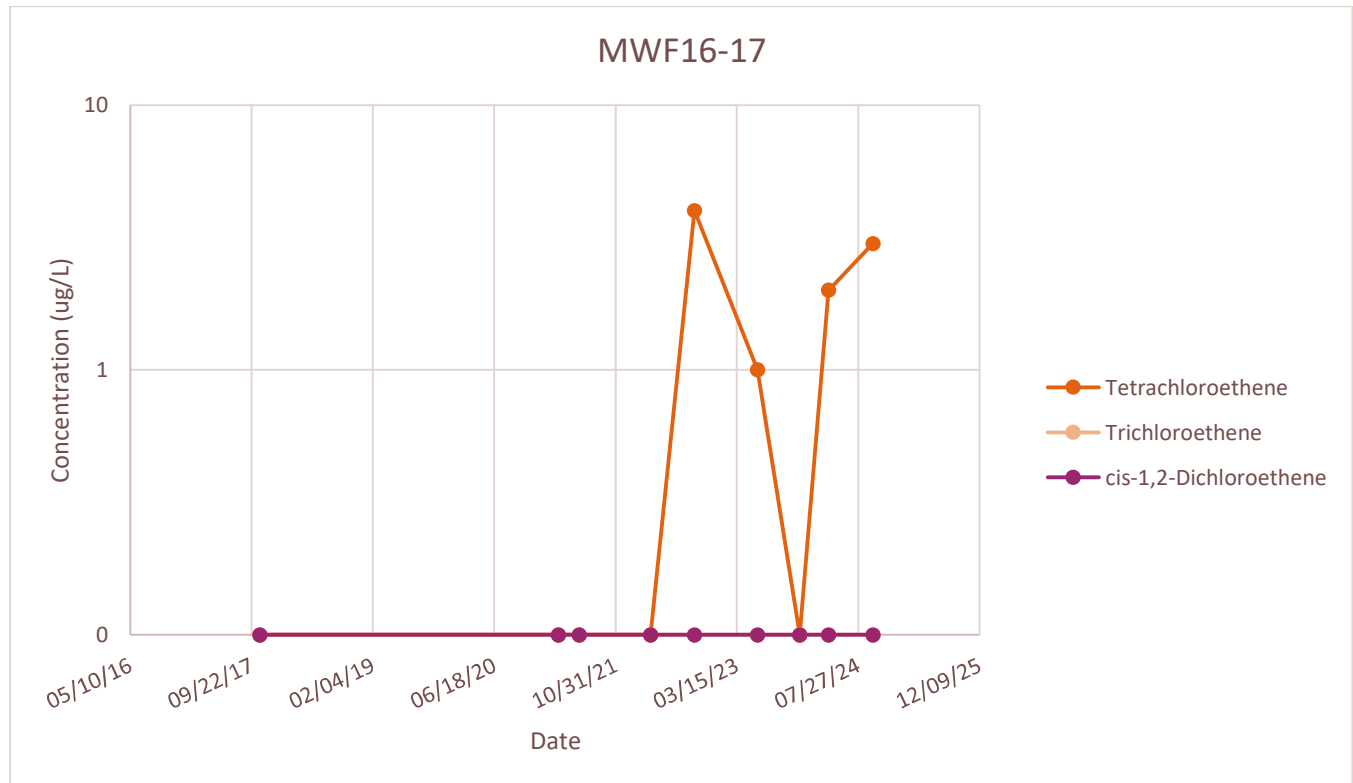


Groundwater Trend Graphs

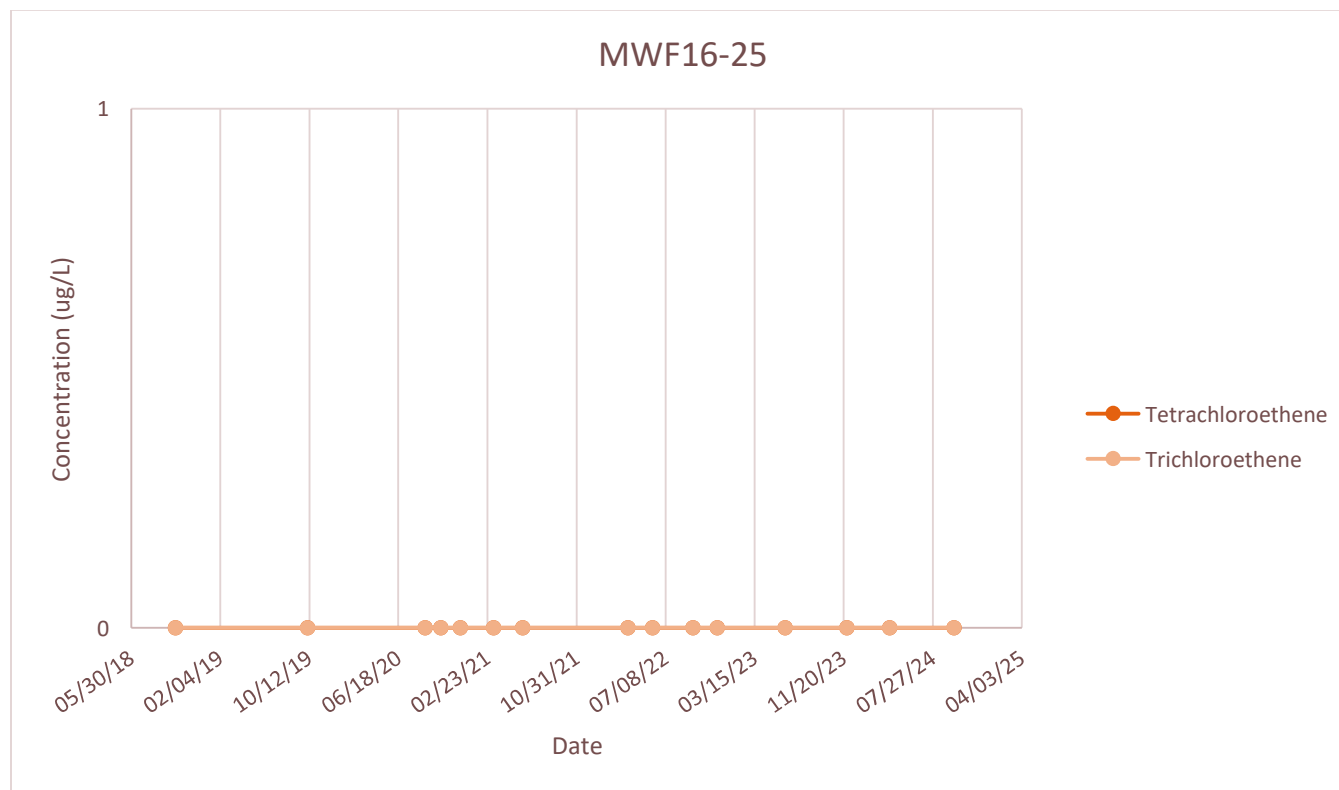
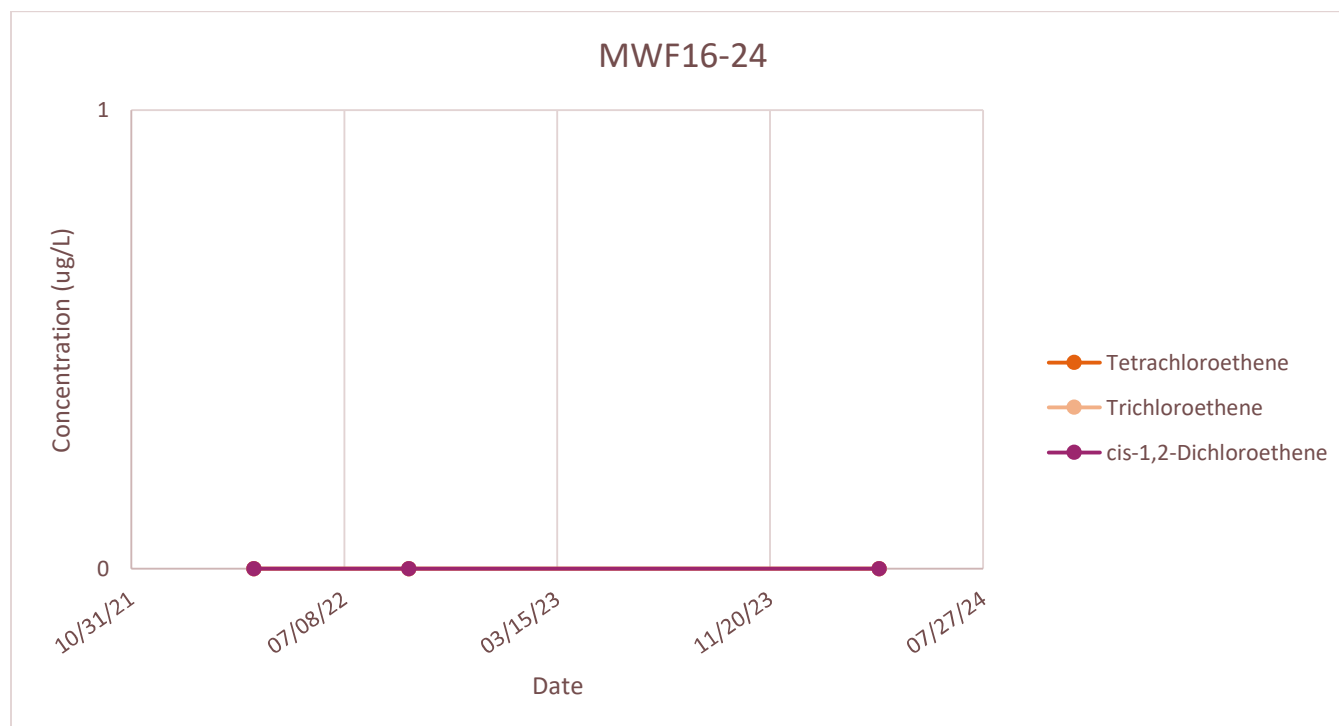


Groundwater Trend Graphs

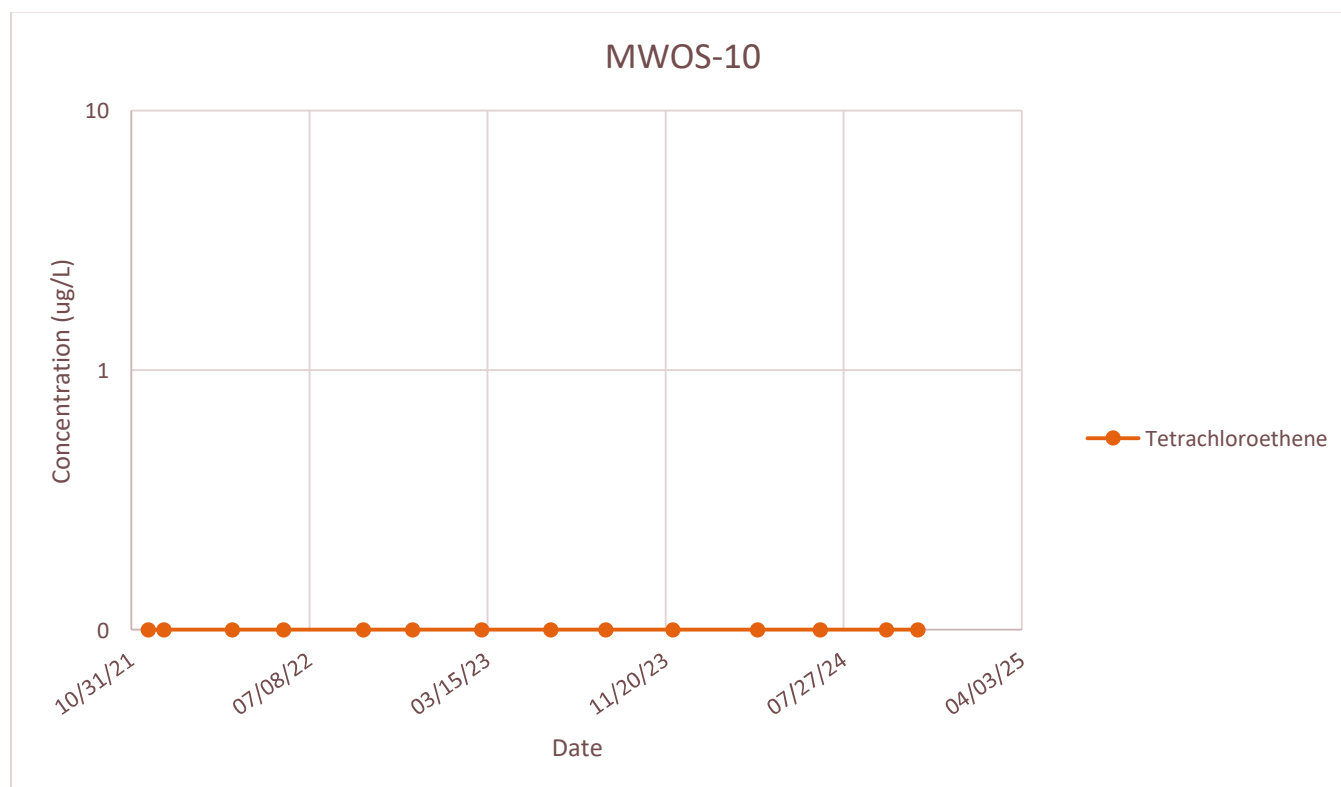
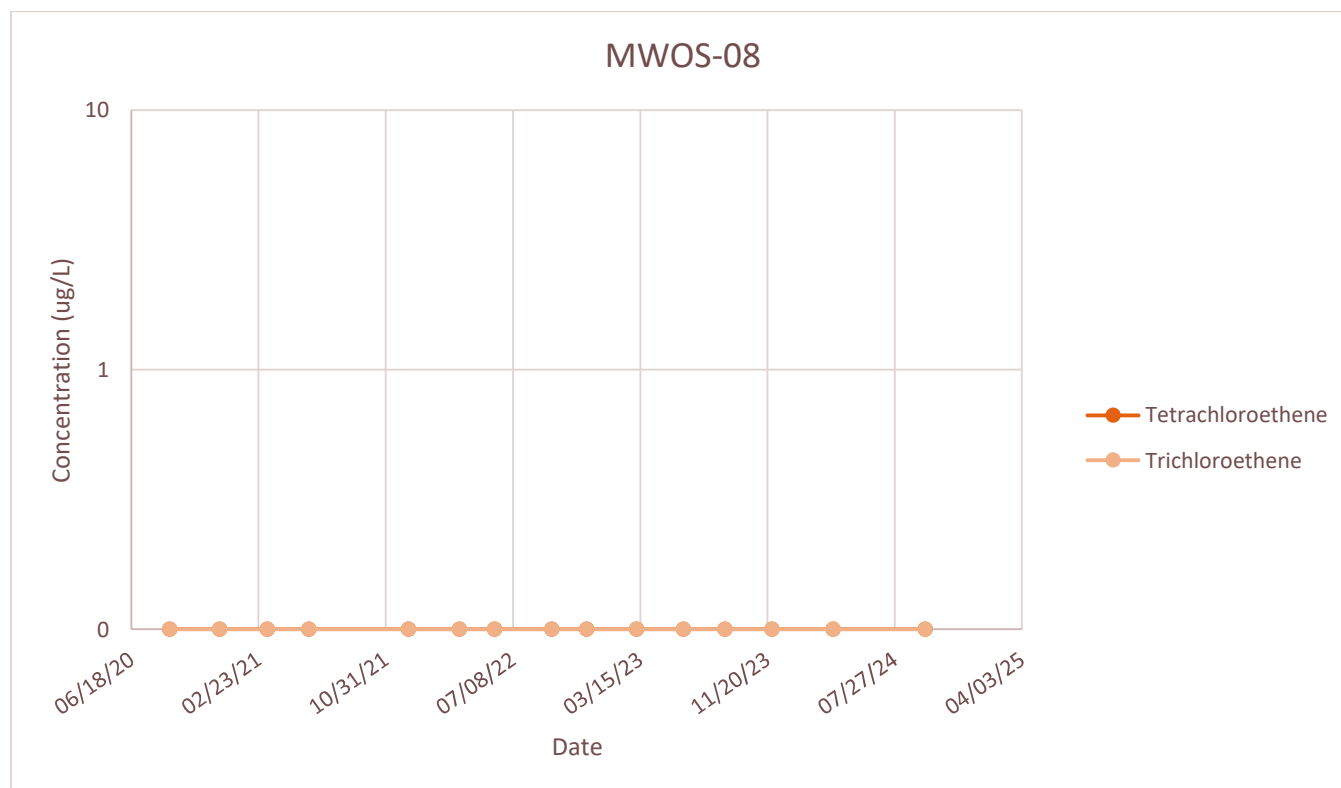




Groundwater Trend Graphs



Groundwater Trend Graphs



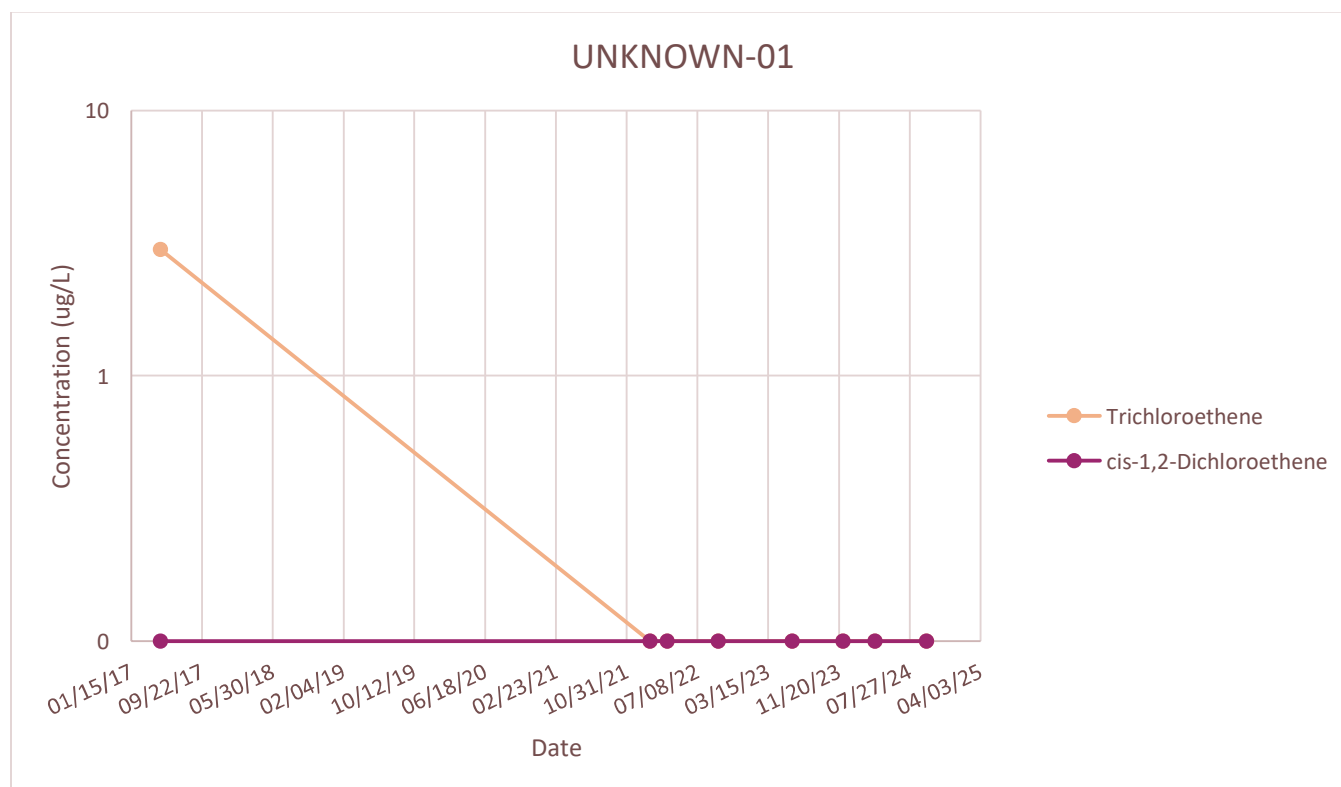
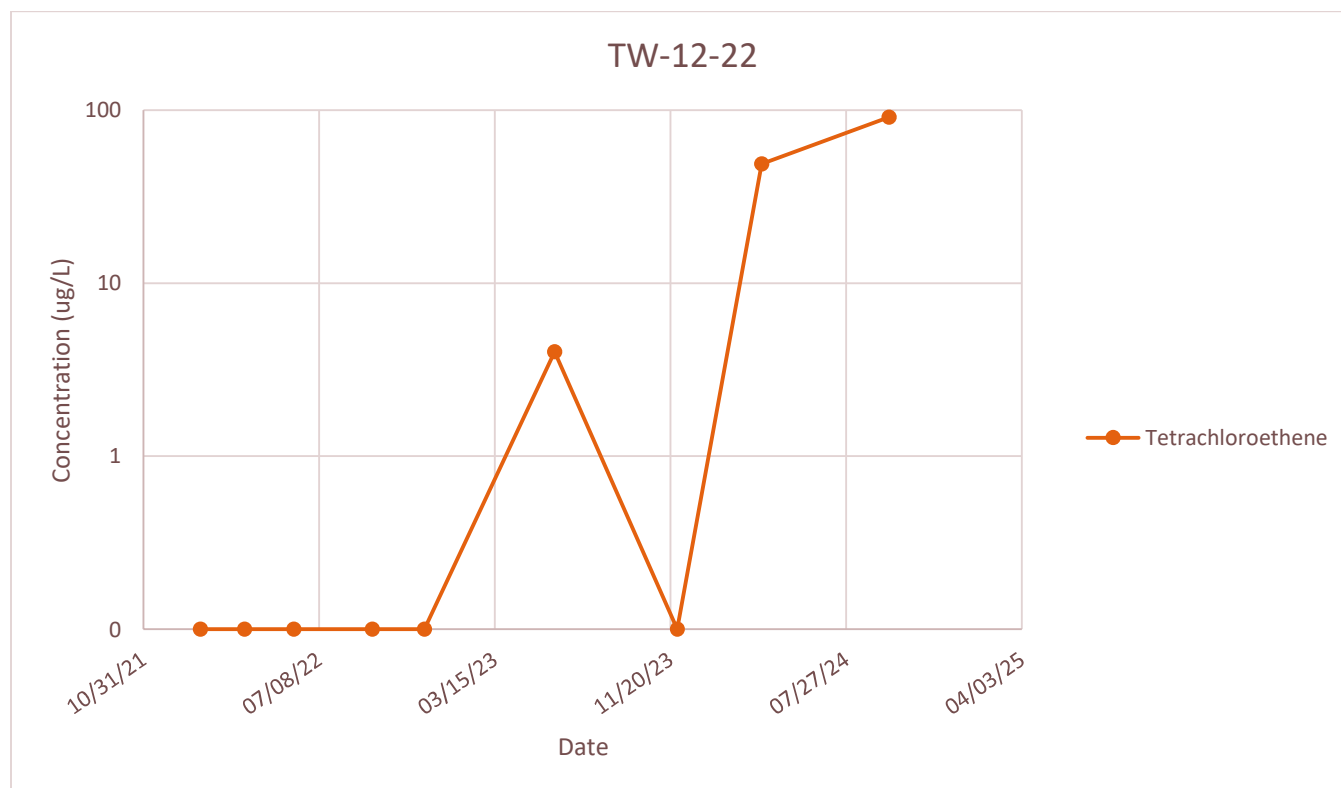


TABLE E-2
Soil Vapor Summary Statistics and Trend Results (Excluding November 2022)
RACER Pontiac North Campus
February, 2025

Well ID	Analyte	Date Range	Figure	FOD	Detected Results Summary ¹				Mann-Kendall Test ²			Sen's Estimator of Slope ²		
					Range	Mean	Median	SD	Result ⁴	P-Value	S Value	Result ⁴	Slope (Units/Day)	95% CI (Units/Day)
SV-01-21	Tetrachloroethene	05/21 - 09/24	E-50	9 / 12	7.5 - 20	12.8	13	4	NST	0.472	2	NST	0	-0.0111 to 0.0104
SV-01-21	Trichloroethene	05/21 - 09/24	E-51	12 / 12	8 - 32	15.5	14	7.2	NST	0.500	-1	NST	-0.000826	-0.0147 to 0.0157
SV-02-21	Tetrachloroethene	05/21 - 09/24	E-52	11 / 12	7.5 - 12	9.1	8.3	1.5	NST	0.365	6	NST	0.000408	-0.00275 to 0.00412
SV-02-21	Trichloroethene	05/21 - 09/24	E-53	12 / 12	50 - 83	59.9	56	10.8	DWN	0.036	-27	NT	-0.0112	-0.0338 to 0
SV-04-21	Trichloroethene	10/21 - 09/24	E-54	11 / 11	11 - 18	15.4	16	2.5	NST	0.316	-7	NST	-0.00168	-0.00595 to 0.00531
SV-06-21	Trichloroethene	03/22 - 09/24	E-55	9 / 9	11 - 48	18.4	15	11.2	NST	0.381	4	NST	0.00168	-0.0104 to 0.00876

Abbreviations:

FOD = frequency of detection (# detects / # samples)
mean = arithmetic mean
SD = standard deviation

NST = no significant trend
NT = no trend
DWN = downward trend
UP = upward trend

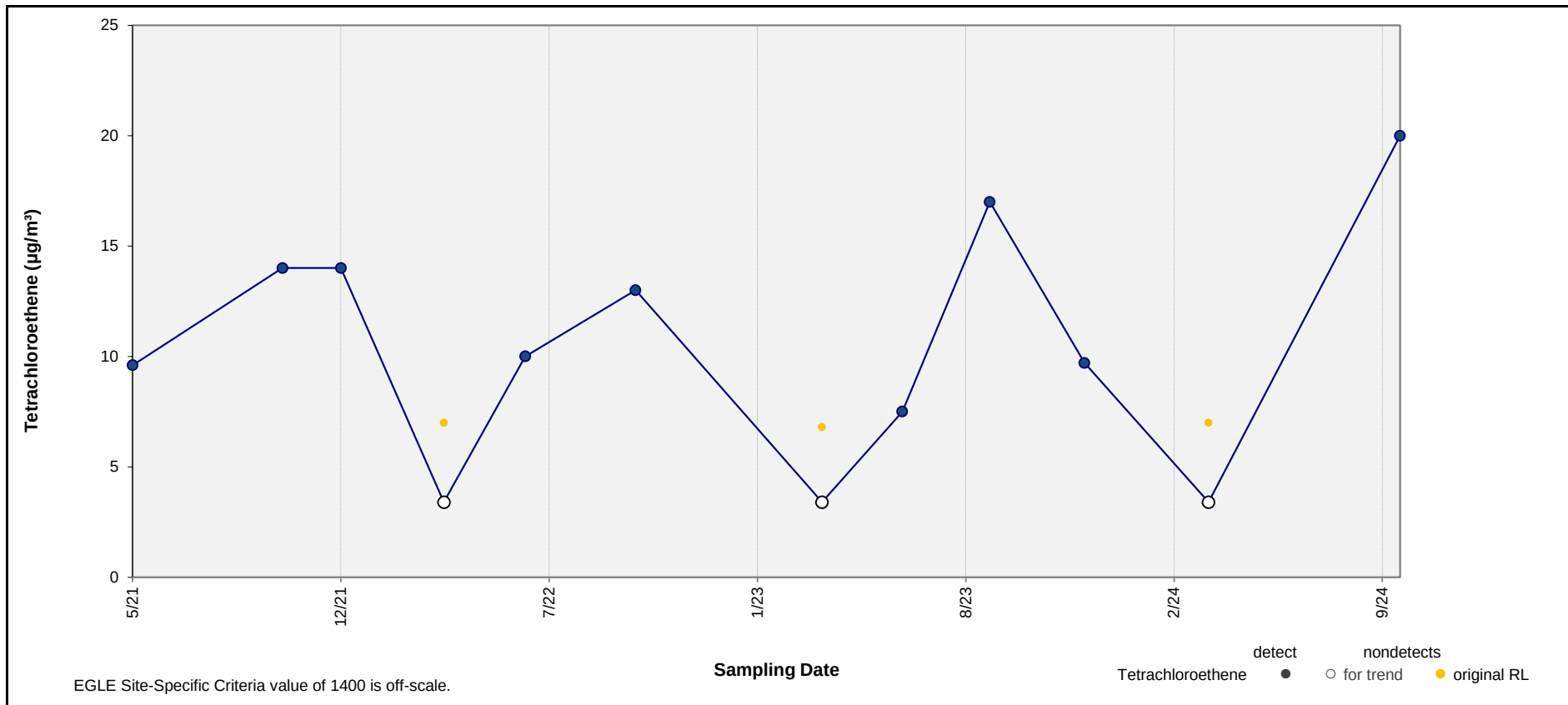
95% CI = 95% confidence interval

Notes:

1. All analytical results are in µg/m³.
2. Trend results are presented when at least five samples and 50% detected values are available, excluding November 2022 results.
3. Non-detects were assigned a common value less than the minimum detected value, equal to half the minimum reporting limit (RL) in the dataset (USEPA, 2009).
If half the minimum RL was greater than the minimum detected value, then half the minimum detect was assigned.
4. Statistically significant trend defined as having p-value ≤ 0.05, or 95% confidence.

Reference:

USEPA. 2009. Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities. Unified Guidance. EPA/530/R-09/007, 2009.



Results of Mann-Kendall Test for Trend:

No Significant Trend

p value = 0.472 Note: p value < 0.05 indicates a statistically significant trend (95% confidence level).

Results of Sen's Estimator of Slope:

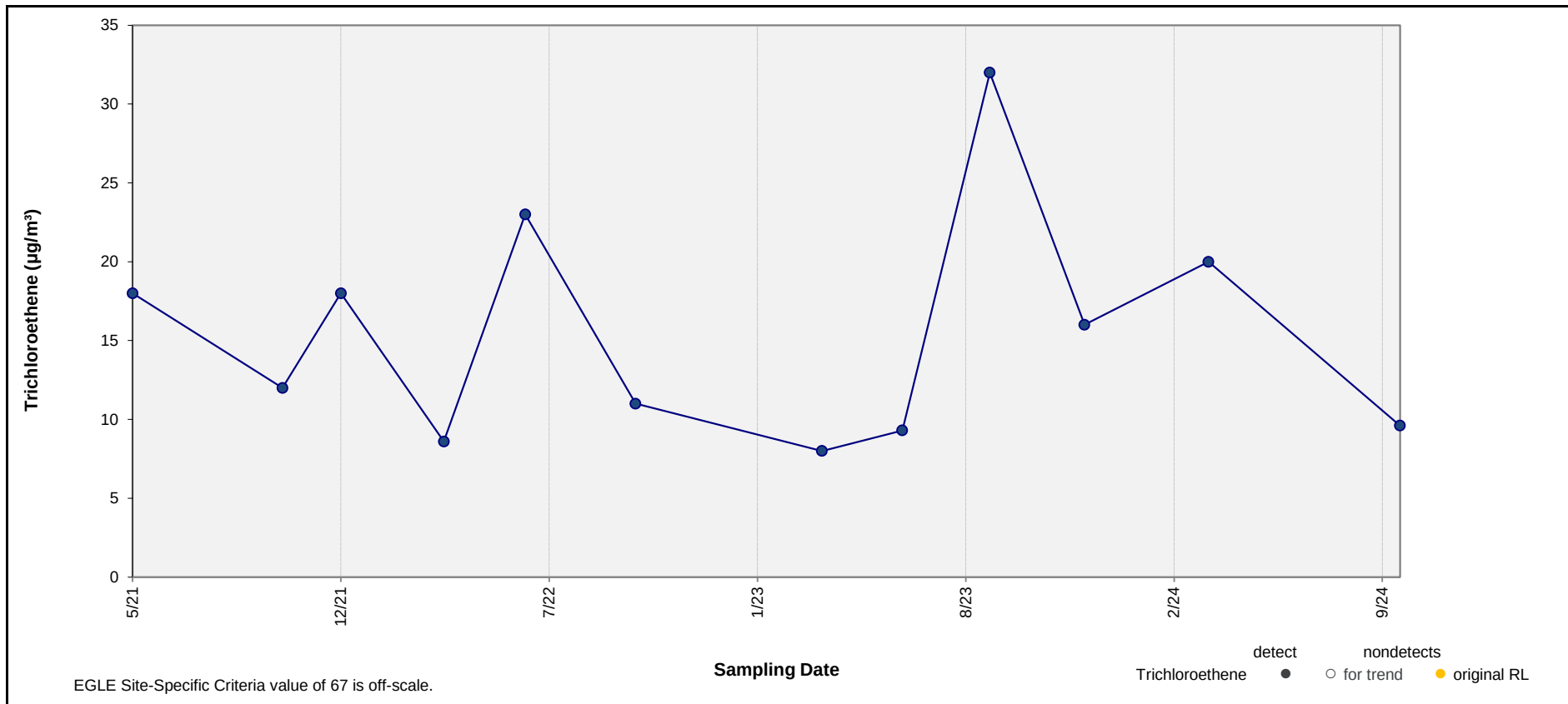
No Significant Trend

Median Slope Estimate = 0.0E+00 µg/m³ Per Day
 95% Confidence Interval = -1.1E-02 to 1.0E-02 µg/m³ Per Day



Concentration vs. Time Plot – Tetrachloroethene in Well SV-01-21
 RACER PNC Soil Vapor

Figure E-50



Results of Mann-Kendall Test for Trend:

No Significant Trend

p value = 0.500 Note: p value < 0.05 indicates a statistically significant trend (95% confidence level).

Results of Sen's Estimator of Slope:

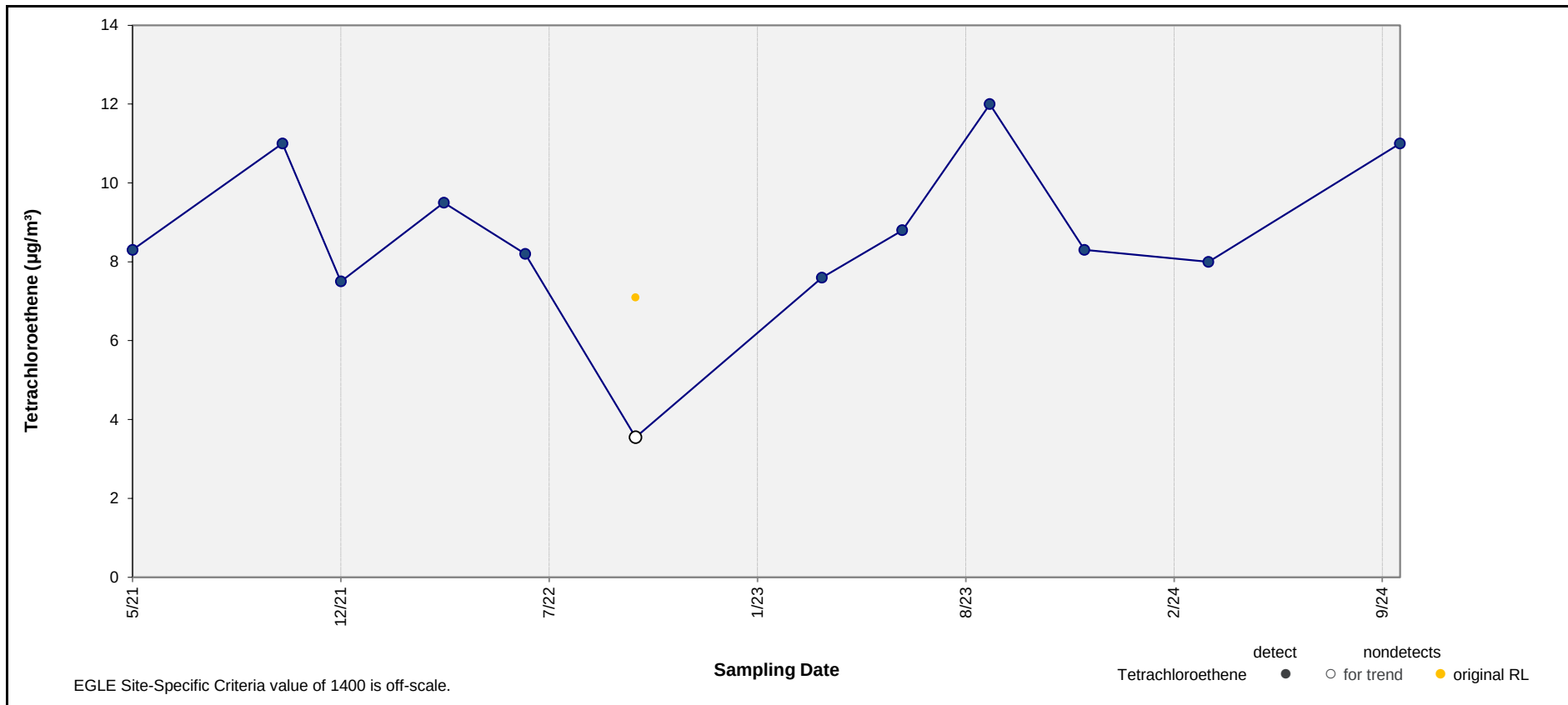
No Significant Trend

Median Slope Estimate = -8.3E-04 µg/m³ Per Day
95% Confidence Interval = -1.5E-02 to 1.6E-02 µg/m³ Per Day



Concentration vs. Time Plot – Trichloroethene in Well SV-01-21
RACER PNC Soil Vapor

Figure E-51



Results of Mann-Kendall Test for Trend:

No Significant Trend

p value = 0.365

Note: p value < 0.05 indicates a statistically significant trend (95% confidence level).

Results of Sen's Estimator of Slope:

No Significant Trend

Median Slope Estimate =

95% Confidence Interval =

4.1E-04

µg/m³ Per Day

-2.8E-03

to

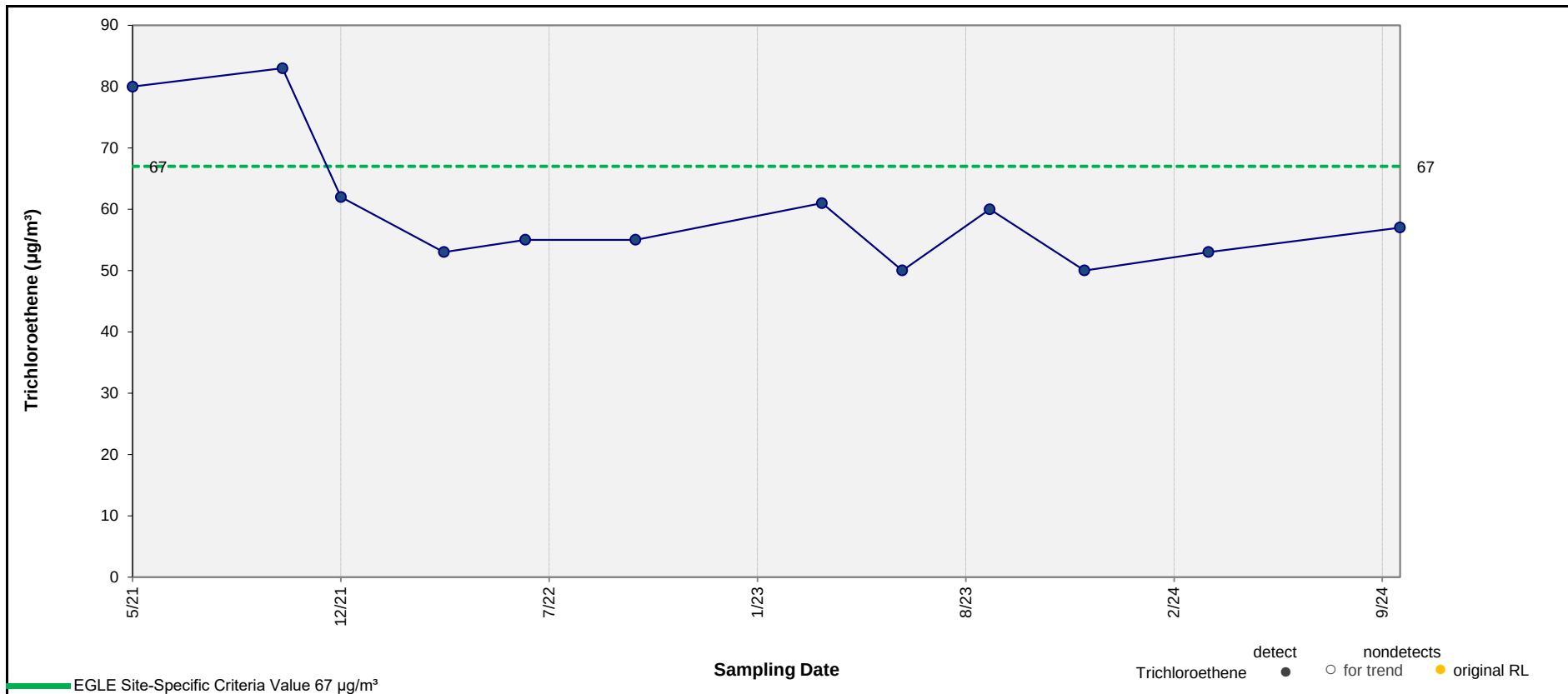
4.1E-03

µg/m³ Per Day



Concentration vs. Time Plot – Tetrachloroethene in Well SV-02-21
RACER PNC Soil Vapor

Figure E-52



Results of Mann-Kendall Test for Trend:

DECREASING TREND

p value = 0.036 Note: p value < 0.05 indicates a statistically significant trend (95% confidence level).

Results of Sen's Estimator of Slope:

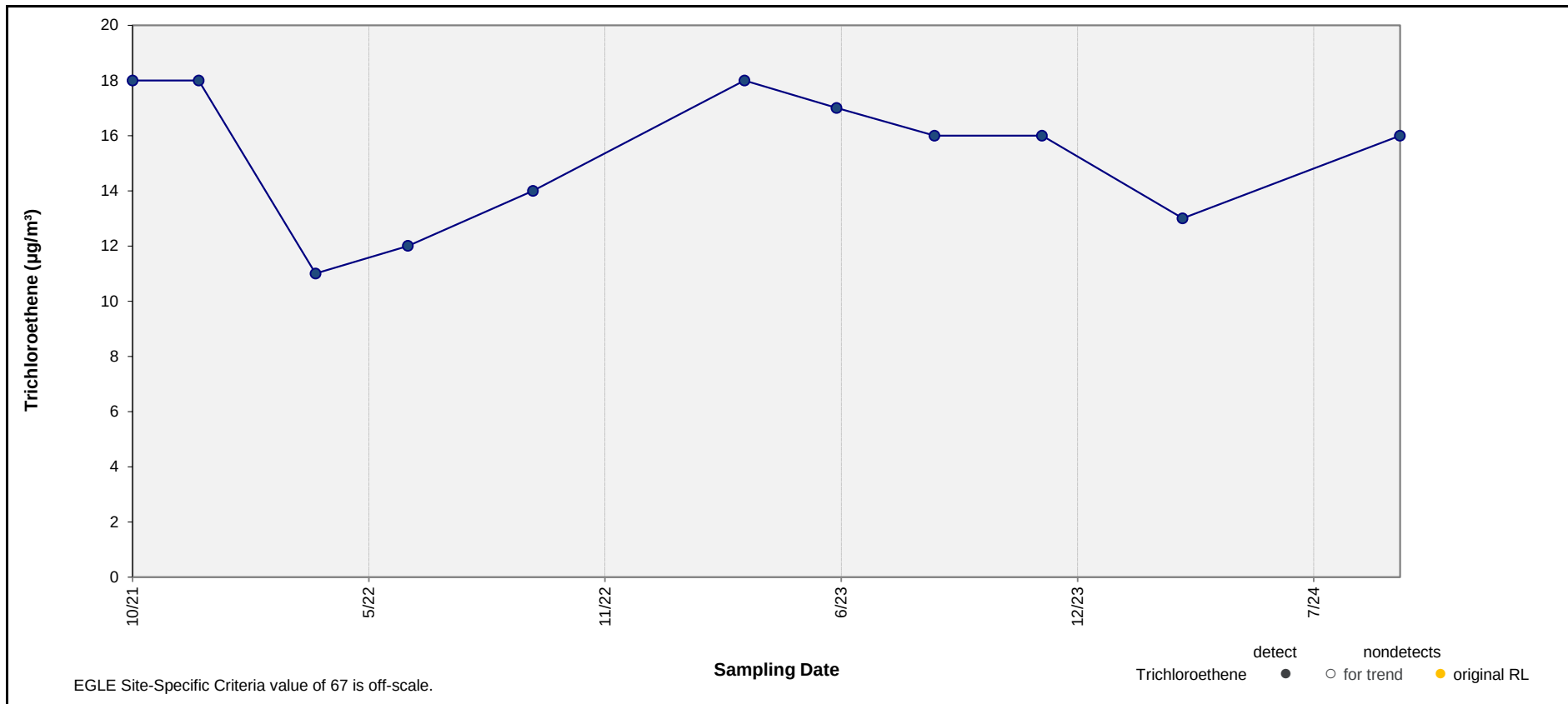
No trend

Median Slope Estimate = -1.1E-02 µg/m³ Per Day
 95% Confidence Interval = -3.4E-02 to 0.0E+00 µg/m³ Per Day



Concentration vs. Time Plot – Trichloroethene in Well SV-02-21
 RACER PNC Soil Vapor

Figure E-53



Results of Mann-Kendall Test for Trend:

No Significant Trend

p value = 0.316 Note: p value < 0.05 indicates a statistically significant trend (95% confidence level).

Results of Sen's Estimator of Slope:

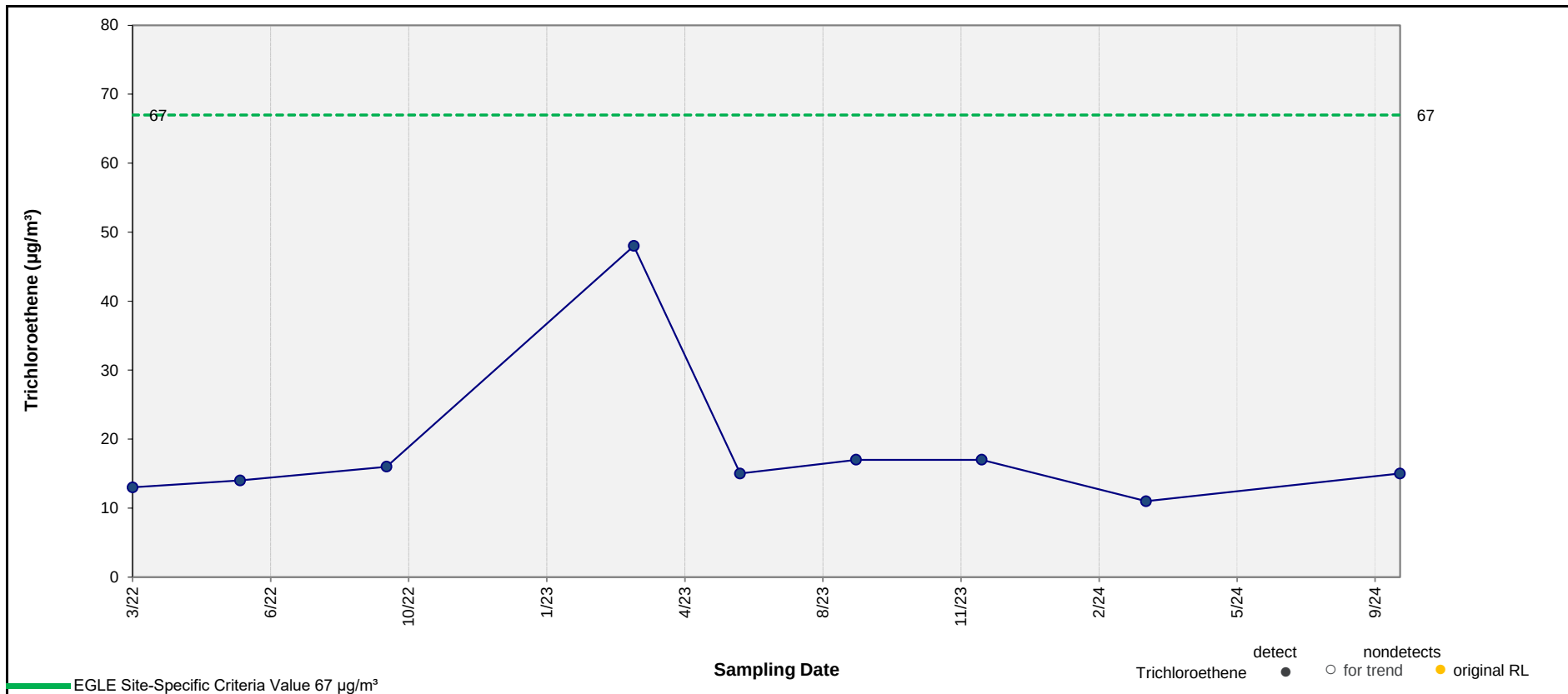
No Significant Trend

Median Slope Estimate = -1.7E-03 µg/m³ Per Day
95% Confidence Interval = -6.0E-03 to 5.3E-03 µg/m³ Per Day



Concentration vs. Time Plot – Trichloroethene in Well SV-04-21
RACER PNC Soil Vapor

Figure E-54



Results of Mann-Kendall Test for Trend:

No Significant Trend

p value = 0.381 Note: p value < 0.05 indicates a statistically significant trend (95% confidence level).

Results of Sen's Estimator of Slope:

No Significant Trend

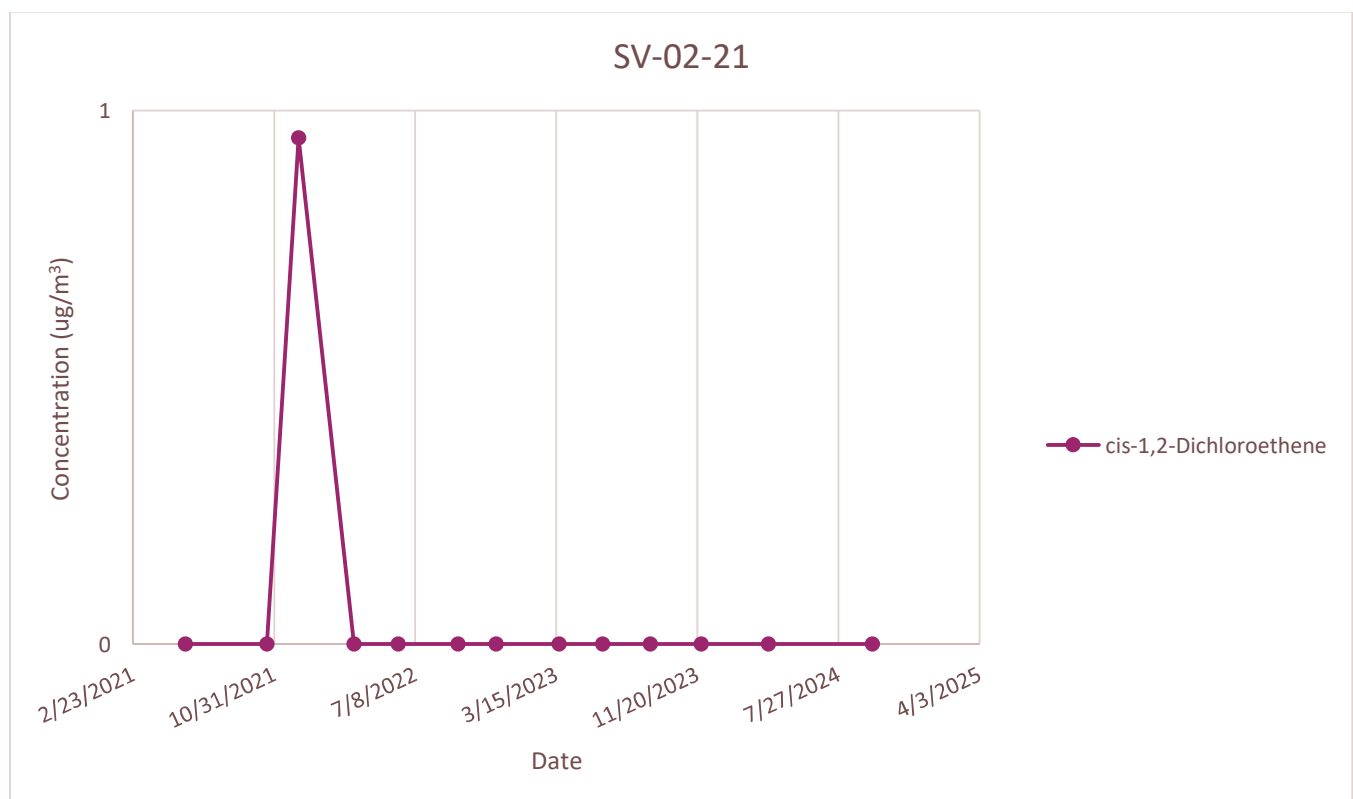
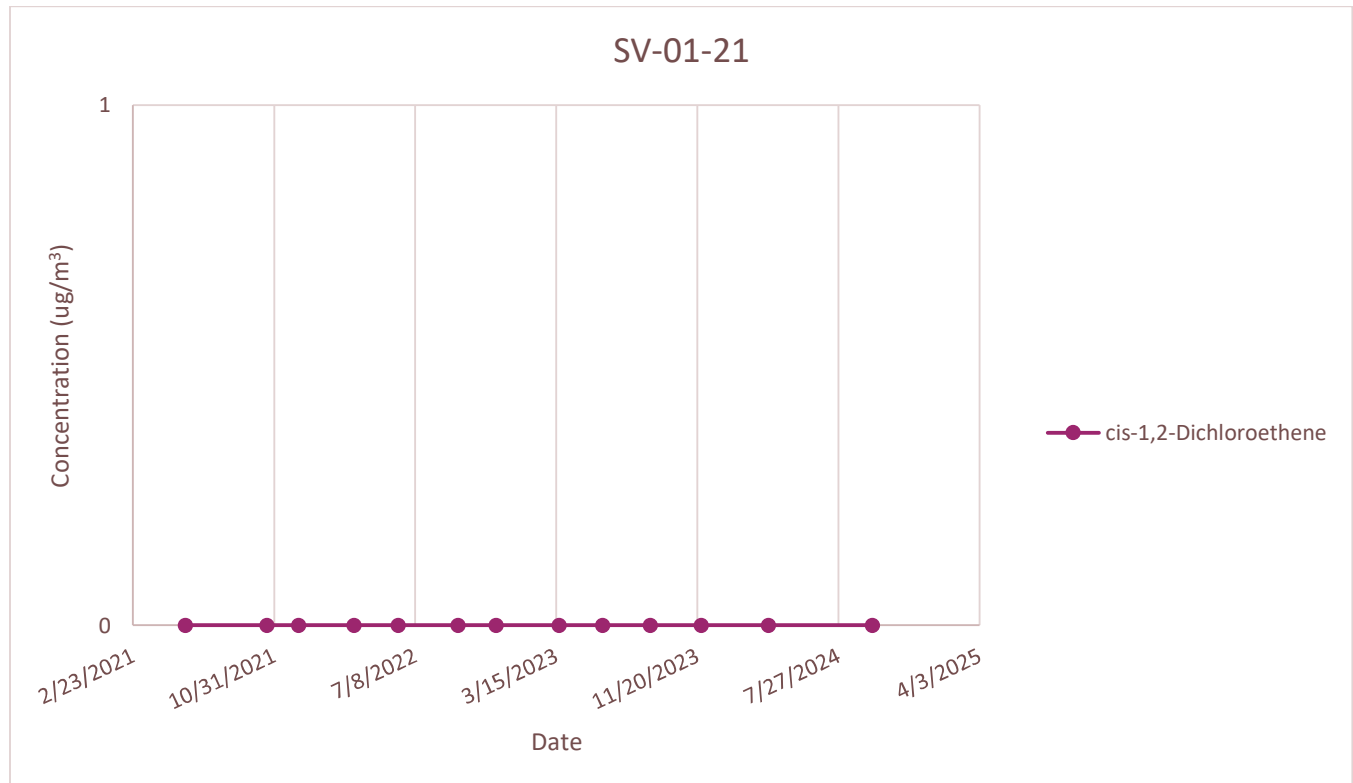
Median Slope Estimate = 1.7E-03 µg/m³ Per Day
 95% Confidence Interval = -1.0E-02 to 8.8E-03 µg/m³ Per Day



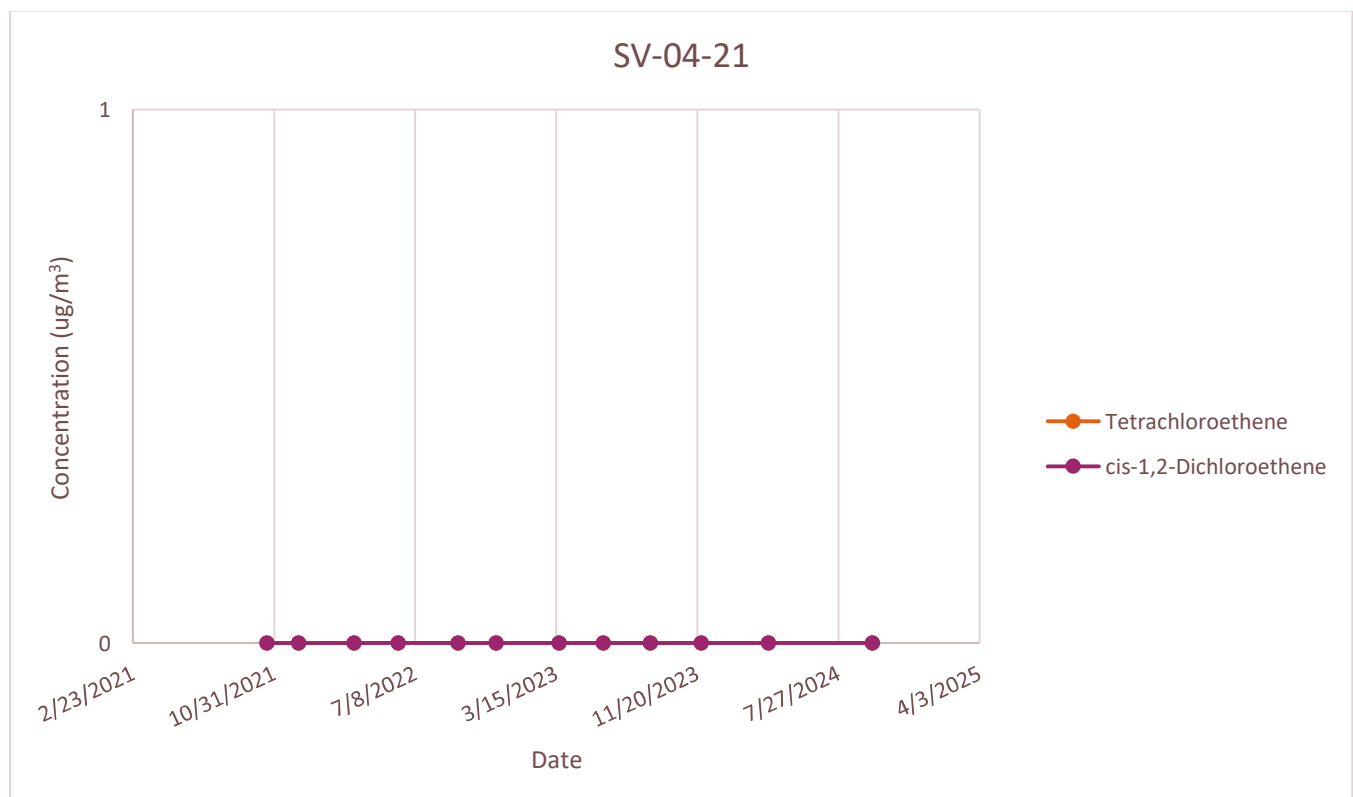
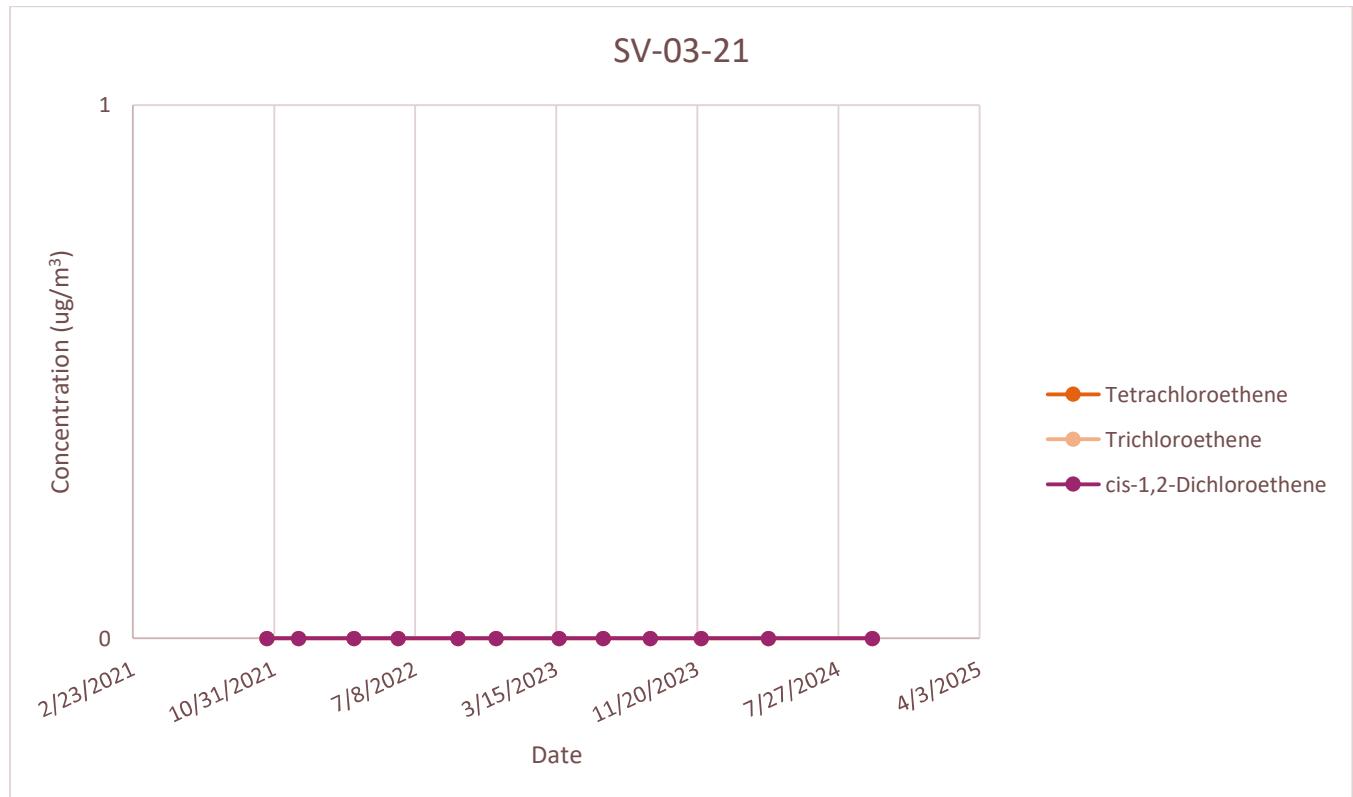
Concentration vs. Time Plot – Trichloroethene in Well SV-06-21
 RACER PNC Soil Vapor

Figure E-55

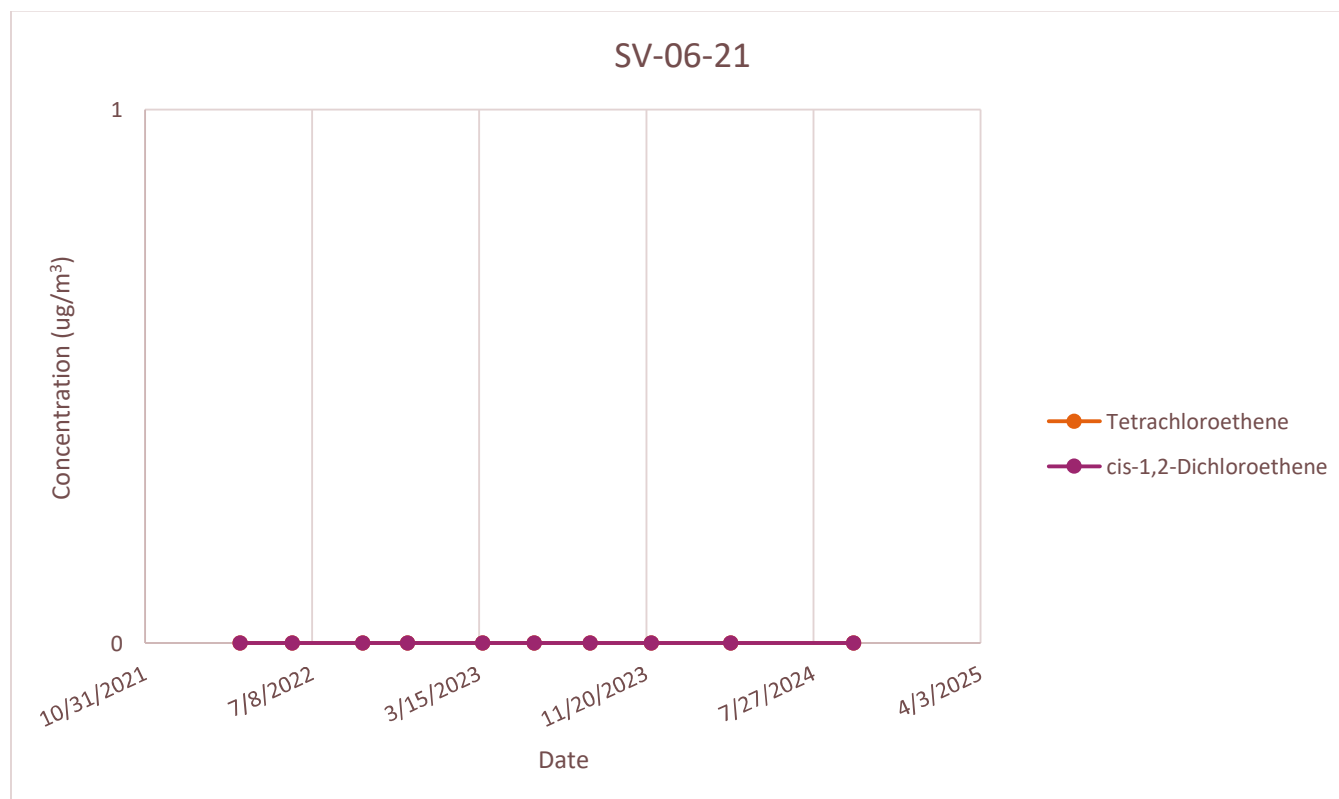
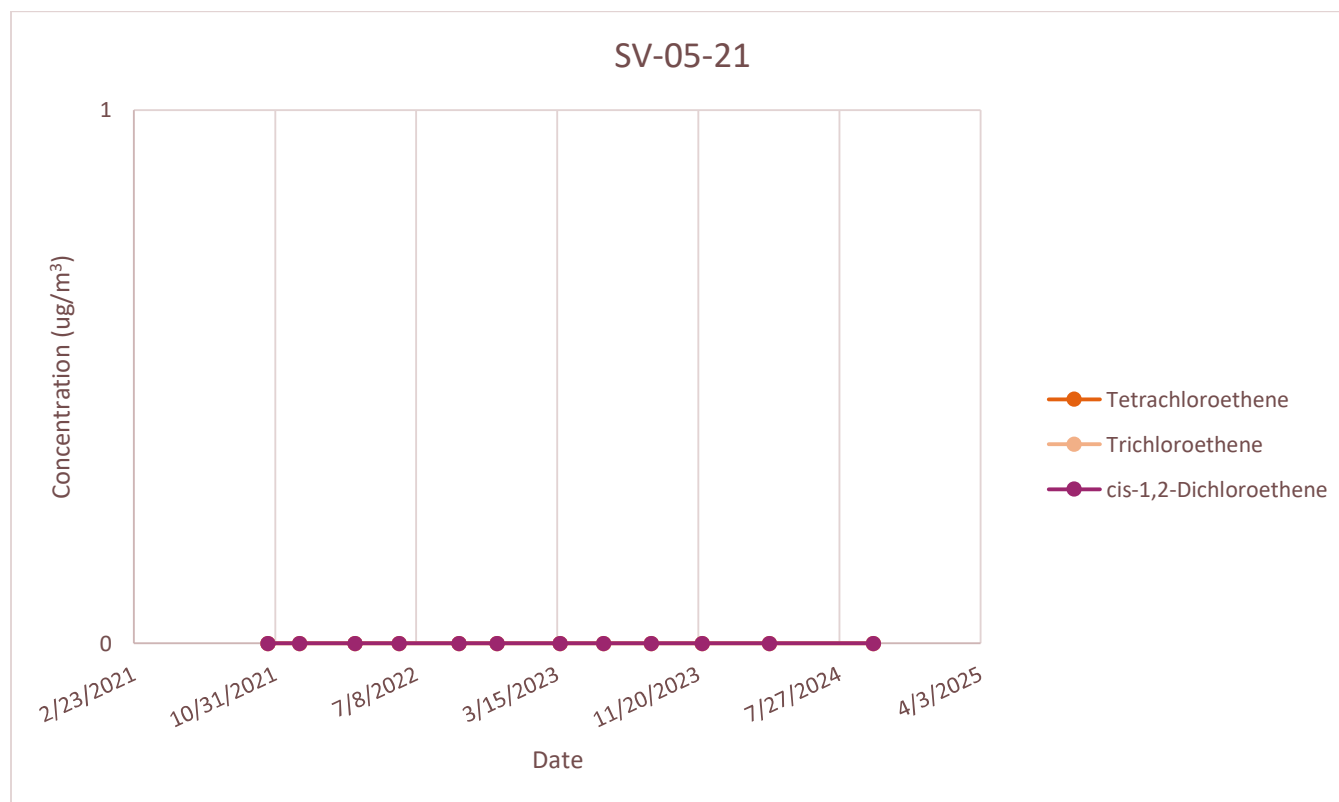
Soil Vapor Trend Graphs



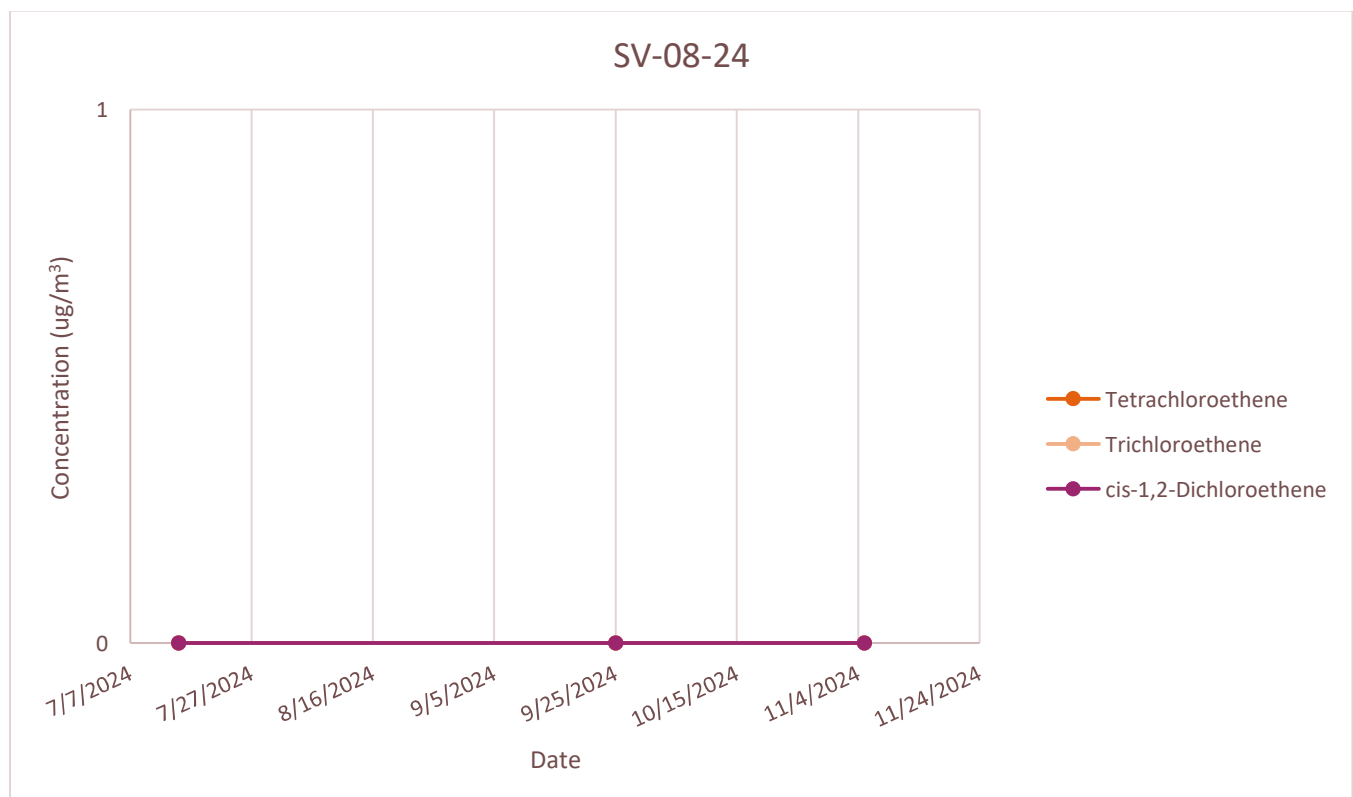
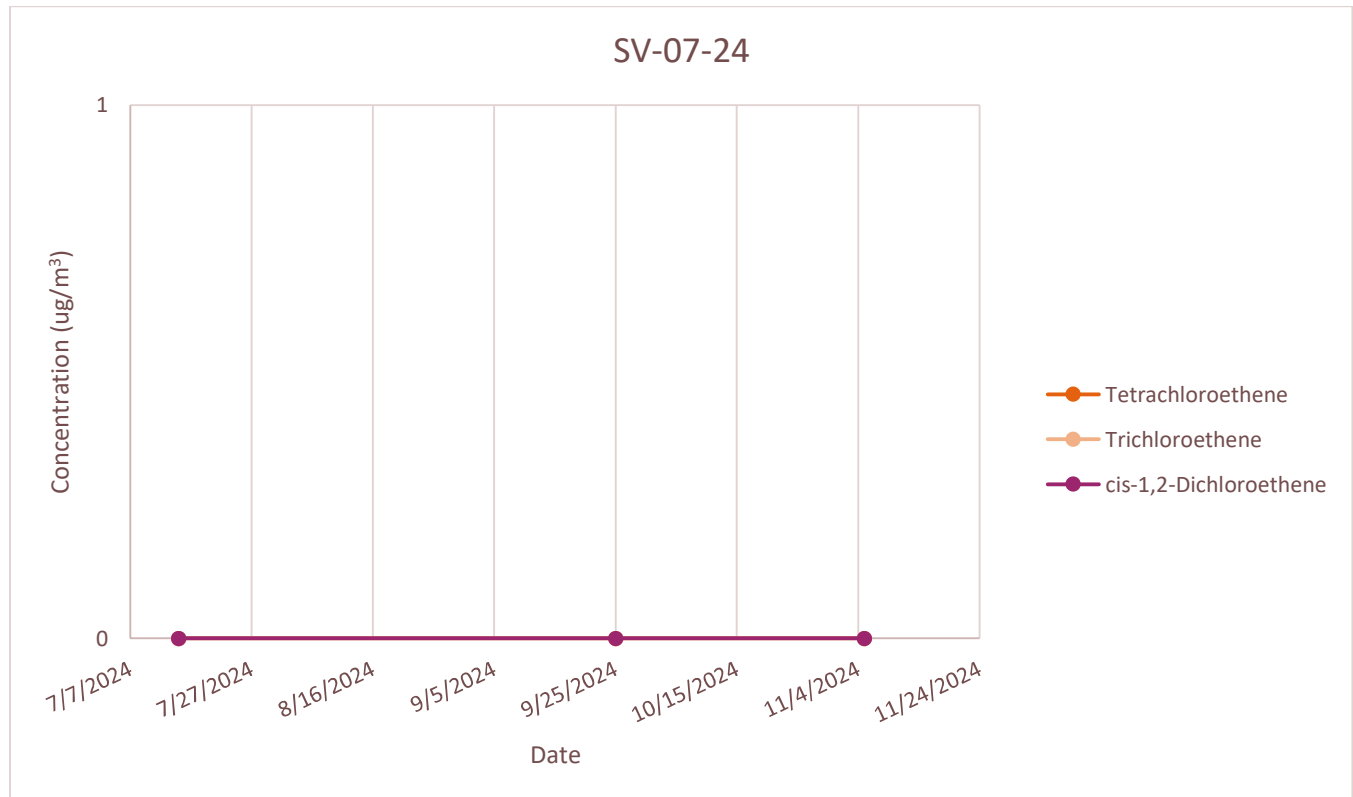
Soil Vapor Trend Graphs



Soil Vapor Trend Graphs



Soil Vapor Trend Graphs

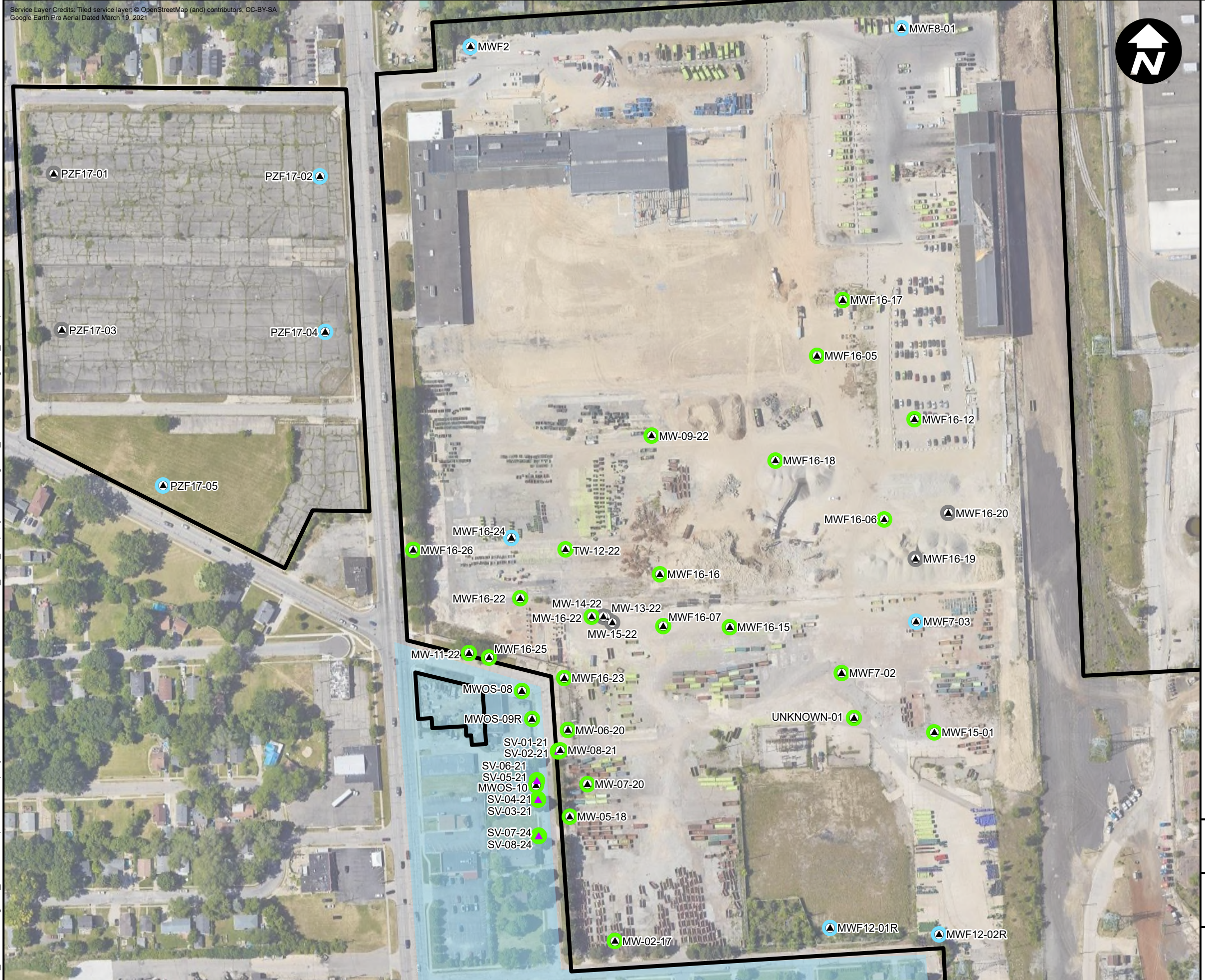


Appendix F

2025 Fiero Temporary Monitoring Plan Summary

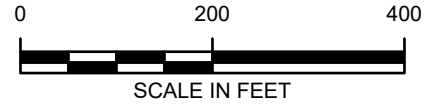
CITY: NOVI DIV: ENV DB: TRY PIC: S. INSALACO PM: T. LINDER TM: L. NICKERSON TR: PROJECT NUMBER: 30267726.00005 COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl
T: ENV NovBrighton MI Motors Liquidation Company Pontiac North Campus Documents Former Fiero Property Site Investigation_2025.aprx PLOTTED: 3/5/2025 11:47 AM BY: AKENS

Service Layer Credits: Tiled service layer: © OpenStreetMap (and) contributors, CC-BY-SA
Google Earth Pro Aerial Dated March 19, 2021



LEGEND

- ▲ EXISTING MONITORING WELL
- ▲ SOIL VAPOR MONITORING POINT
- SEMI-ANNUAL GAUGING ONLY
- SEMI-ANNUAL SAMPLING
- NOT INCLUDED IN 2025 FIERO MONITORING PLAN
- APPROXIMATE GROUNDWATER ORDINANCE EXTENT
- ▭ CURRENT OR FORMER RACER PROPERTY



RACER TRUST
PONTIAC NORTH CAMPUS
PONTIAC, MICHIGAN

**2025 TEMPORARY MONITORING
PLAN LOCATIONS**



Table 1
Fiero Temporary Groundwater Monitoring Plan Summary
March 2025
RACER Trust Pontiac North, Pontiac, Michigan



Well	Gauging	VOCs	Primary Function
MW-02-17	SA	SA	SW perimeter well to monitor for downgradient migration of CVOC impacts
MW-05-18	SA	SA	SW perimeter well to monitor for downgradient migration of CVOC impacts
MW-06-20	SA	SA	SW perimeter well to monitor for downgradient migration of CVOC impacts
MW-07-20	SA	SA	SW perimeter well to monitor for downgradient migration of CVOC impacts
MW-08-21	SA	SA	SW perimeter well to monitor for downgradient migration of CVOC impacts
MW-09-22	SA	SA	Monitoring well to monitor the concentration and stability of the CVOC plume core
MW-11-22	SA	SA	SW perimeter well to monitor for downgradient migration of CVOC impacts
MW-13-22	NM	NM	Not monitored, no longer need performance monitoring of the ZVI barrier
MW-14-22	NM	NM	Not monitored, no longer need performance monitoring of the ZVI barrier
MW-15-22	NM	NM	Not monitored, no longer need performance monitoring of the ZVI barrier
MW-16-22	SA	SA	Monitoring well to monitor the concentration and stability of the CVOC plume core
MWF12-01R	SA	NM	Gauging only to assist with GW elevation contour
MWF12-02R	SA	NM	Gauging only to assist with GW elevation contour
MWF15-01	SA	SA	Monitoring well to monitor area of historic elevated soil concentrations
MWF16-05	SA	SA	Monitoring well to monitor the concentration and stability of the CVOC plume core
MWF16-06	SA	SA	Monitoring well to monitor the concentration and stability of the CVOC plume source area
MWF16-07	SA	SA	Delineation well to monitor and define the southern plume boundary
MWF16-12	SA	SA	Delineation well to monitor and define the upgradient plume boundary
MWF16-15	SA	SA	Delineation well to monitor and define the plume boundary
MWF16-16	SA	SA	Monitoring well to monitor the concentration and stability of the CVOC plume core

Table 1
Fiero Temporary Groundwater Monitoring Plan Summary
March 2025
RACER Trust Pontiac North, Pontiac, Michigan



Well	Gauging	VOCs	Primary Function
MWF16-17	SA	SA	Delineation well to monitor and define the plume northern boundary
MWF16-18	SA	SA	Monitoring well to monitor the concentration and stability of the CVOC plume core
MWF16-19	NM	NM	Well damaged as part of new construction. To be properly abandoned. Plume boundary well understood.
MWF16-20	NM	NM	Well damaged as part of new construction. To be properly abandoned. Plume boundary well understood.
MWF16-22	SA	SA	Monitoring well to monitor the concentration and stability of the CVOC plume core
MWF16-23	SA	SA	SW perimeter well to monitor for downgradient migration of CVOC impacts
MWF16-24	SA	NM	Gauging only to assist with GW elevation contour
MWF16-25	SA	SA	Perimeter well to monitor for migration of CVOC impacts
MWF16-26	SA	SA	Perimeter well to monitor for migration of CVOC impacts
MWF2	SA	NM	Gauging only to assist with GW elevation contour
MWF7-02	SA	SA	Monitoring well to monitor the concentration and migration of the CVOC plume core
MWF7-03	SA	NM	Gauging only to assist with GW elevation contour
MWF8-01	SA	NM	Gauging only to assist with GW elevation contour
MWOS-08	SA	SA	Offsite well to monitor for downgradient migration of CVOC impacts
MWOS-09R	SA	SA	Offsite well to monitor for downgradient migration of CVOC impacts
MWOS-10	SA	SA	Offsite well to monitor for downgradient migration of CVOC impacts
PZF17-02	SA	NM	Gauging only to assist with GW elevation contour
PZF17-04	SA	NM	Gauging only to assist with GW elevation contour
PZF17-05	SA	NM	Gauging only to assist with GW elevation contour
TW-12-22	SA	SA	Monitoring well to monitor the concentration and migration of the CVOC plume core
Unknown-01	SA	SA	Delineation well to monitor and define the plume boundary
SV-01-21	NM	SA	SW perimeter - soil vapor monitoring
SV-02-21	NM	SA	SW perimeter - soil vapor monitoring

Table 1
Fiero Temporary Groundwater Monitoring Plan Summary
March 2025
RACER Trust Pontiac North, Pontiac, Michigan



Well	Gauging	VOCs	Primary Function
SV-03-21	NM	SA	SW perimeter - soil vapor monitoring
SV-04-21	NM	SA	SW perimeter - soil vapor monitoring
SV-05-21	NM	SA	SW perimeter - soil vapor monitoring
SV-06-21	NM	SA	SW perimeter - soil vapor monitoring
SV-07-24	NM	SA	SW perimeter - soil vapor monitoring. To be sampled quarterly in 1Q and 2Q to complete full year of quarterly sampling, then collected semi-annually going forward.
SV-08-24	NM	SA	SW perimeter - soil vapor monitoring. To be sampled quarterly in 1Q and 2Q to complete full year of quarterly sampling, then collected semi-annually going forward.

Notes:

SV locations will be monitored for soil vapor only

Semi-annual wells will alternate monitoring between first quarter (1Q) and third quarter (3Q)

Q = Quarterly

SA = Semi-annual (1Q and 3Q)

NM = Not Monitored

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